Bulletin of the School of Medicine

Washington University in St. Louis

2016-2017
About

Washington University School of Medicine is a world leader in medical education, research and patient care. Its graduate programs in medical education, occupational therapy and physical therapy are perennially ranked among the nation’s best by U.S. News & World Report. Faculty lead a robust research enterprise, supported by $352.3 million from the National Institutes of Health (NIH) in the fiscal year ending June 30, 2015. The school's physicians provide care for more than 430,000 children and adults each year, in partnership with nationally ranked Barnes-Jewish Hospital and St. Louis Children’s Hospital.

The Bulletin of Washington University School of Medicine represents the School's academic policies, services, and course and program offerings. For the most current information regarding academic programs and course descriptions and services available to students, please visit websites of the educational program of interest, accessible through the Programs section.

University Mission

Washington University's mission is to discover and disseminate knowledge, and protect the freedom of inquiry through research, teaching and learning.

Washington University creates an environment to encourage and support an ethos of wide-ranging exploration. Washington University's faculty and staff strive to enhance the lives and livelihoods of students, the people of the greater St. Louis community, the country, and the world.
Our goals are:

- to welcome students, faculty, and staff from all backgrounds to create an inclusive community that is welcoming, nurturing, and intellectually rigorous;
- to foster excellence in our teaching, research, scholarship, and service;
- to prepare students with attitudes, skills, and habits of lifelong learning and leadership thereby enabling them to be productive members of a global society; and
- to be an institution that excels by its accomplishments in our home community, St. Louis, as well as in the nation and the world.

To this end we intend:

- to judge ourselves by the most exacting standards;
- to attract people of great ability from diverse backgrounds;
- to encourage faculty and students to be bold, independent, and creative thinkers;
- to provide an exemplary, respectful, and responsive environment for living, teaching, learning, and working for present and future generations; and
- to focus on meaningful measurable results for all of our endeavors.

WUSM Mission and Vision

Our mission

Washington University School of Medicine will lead in advancing human health
through the best clinical care, innovative research and the education of tomorrow’s leaders in biomedicine in a culture that supports diversity, inclusion, critical thinking and creativity.

Our vision

In leading the advancement of human health, Washington University School of Medicine will:

- cultivate excellence and collegiality within an inclusive community
- attract and develop a diverse, talented, academic workforce
- lead the revolution in biomedicine
- enhance our intellectual and technological environment to foster exceptionally creative research and education
- develop and maintain excellent clinical programs to provide outstanding care
- observe the highest standards of ethics, integrity and compassionate care
- apply advances in research and medicine to the betterment of the human condition locally and globally

Approved by Executive Faculty at their September 4, 2013, meeting

History

The education of physicians at Washington University began in 1891. Under an ordinance enacted April 14, 1891, establishing a Medical Department of Washington University, the St. Louis Medical College (an independent medical college in St. Louis)
was brought under the wing of the well-established University. The faculty of the college eagerly agreed to the union, stating “Most of the great medical schools of the world have always been integrant departments of universities, and the examples which America furnishes give added testimony to the fructifying influence of the contact of students and teachers of professional schools with the workers in universities.” Eight years later, the Missouri Medical College (another independent college in the city) also joined Washington University, and thus the two most famous medical colleges in the city were merged with the University.

In 1909, Abraham Flexner began a survey of 155 medical schools in the United States and Canada for the Carnegie Foundation for the Advancement of Teaching. The survey created a national sensation. Some schools collapsed, others pooled their resources, while still others reorganized. The Medical School of Washington University did not escape criticism. In the report Flexner made to Henry Smith Pritchett, Ph.D., president of the Carnegie Foundation for the Advancement of Teaching and former professor of astronomy at Washington University, he said that one of two courses must be adopted: “The department must be either abolished or reorganized.”

Dr. Pritchett mailed the report to Robert S. Brookings, a St. Louis merchant who was president of the Board of Directors of Washington University. Brookings was shocked and immediately went to New York to see Flexner, demanding proof that the conditions were as bad as described. Both returned to St. Louis and the two men went through the School. In less than two hours, Brookings was convinced that drastic action was necessary if the School was to be one of the foremost institutions of medical education and research. The meeting in 1909 of Brookings and Flexner was of unsurpassed significance in the history of the Washington University School of Medicine, for it led to the complete reorganization of the School and the establishment of the present Medical Center. Abraham Flexner inspired the dream of a model medical school; Robert Brookings accepted the challenge, and with the energy and vision which characterized all his enterprises, made the dream a reality.

No time was lost in making changes. The Bulletin of the Medical School for July 1910
made the following statement: “The Corporation of the University, becoming
convinced that in no other direction could greater service be rendered than through a
great, modern medical school, determined to reorganize the School and to place it in
the front rank of American medical institutions. It has called to the heads of a number
of leading departments the ablest men it could secure.”

When Robert A. Barnes died in 1892, he left a will which directed the trustees of his
estate to use $840,000 for the erection and equipment of a hospital “for sick and
injured persons, without distinction of creed, under the auspices of the Methodist
Episcopal Church, South.” Investigation by the trustees into the cost of building a
modern hospital convinced them that the sum was not large enough to build an
efficient, fireproof building, and they therefore invested the trust. By 1912 the value
had increased to $2 million, a sum which permitted the building of a hospital and left
an endowment greater than the original fund.

At the same time the trustees were studying hospital construction, Robert Brookings
was studying medical schools. It was apparent to everyone concerned that the two
projects, the building of a medical school and the construction of a modern hospital,
were so interrelated that the purpose of each would be more successfully fulfilled by
an affiliation. A medical school would provide a highly trained staff and would assure
the most modern methods and superior laboratory facilities for the hospital. A
teaching hospital would give patients superior care and, at the same time, provide the
essential clinical experience consistent with modern medical teaching methods.

In the spring of 1912, construction was begun on the medical school and hospital
buildings which today form the nucleus of the present center. The laboratories were
moved from their old quarters in downtown St. Louis into the new buildings on Euclid
Avenue and Kingshighway Boulevard during the summer of 1914, and late in the fall of
the same year the activities of the Washington University Hospital were transferred to
Barnes Hospital. Concomitantly, the St. Louis Children’s Hospital, then located on
Jefferson Avenue, became affiliated with the School of Medicine and moved to its new
quarters in the Medical Center.
On April 28, 29 and 30, 1915, exercises were held to celebrate the completion of this group of buildings designed to promote the practice, the teaching and the progress of medicine. The dedication ceremonies marked what Dr. William H. Welch of The Johns Hopkins University called “one of the most significant events in the history of medical education in America.” Robert S. Brookings, the one man most responsible for the reorganization, voiced the hope that “our efforts will contribute, in some measure, to raising the standard of medical education in the West, and that we will add, through research activities, our fair quota to the sum of the world’s knowledge of medicine.” These prophetic words have been realized.

In the ensuing years, the Medical Center has continued to grow, and now its facilities are among the best in the world. With the increase in size of the physical plant there has come a substantial increase in the number of the faculty; the expansion has been made without compromise to the standards that marked the early development of the Medical Center. As a result, significant achievements in both research and clinical areas have been steadily recorded.

Administration

This section of the Bulletin presents major leadership bodies of Washington University, the School of Medicine, and Washington University Medical Center.

Board of Trustees
Please visit the Board of Trustees website for the list of current trustees and other information concerning the board.

Emeritus Trustees

Please visit the Board of Trustees website for the list of emeritus trustees and other information concerning the board.

Officers of the University Administration

Mark S. Wrighton
Chancellor

H. Holden Thorp
Provost and Executive Vice Chancellor for Academic Affairs

David T. Blasingame
Executive Vice Chancellor for Alumni and Development Programs

Michael R. Cannon
Executive Vice Chancellor and General Counsel

Larry J. Shapiro
Executive Vice Chancellor for Medical Affairs and Dean of the School of Medicine
Henry S. Webber  
*Executive Vice Chancellor for Administration*

John A. Berg  
*Vice Chancellor for Admissions*

Legail Poole Chandler  
*Vice Chancellor for Human Resources*

Barbara A. Feiner  
*Vice Chancellor for Finance*

Jill D. Friedman  
*Vice Chancellor for Public Affairs*

John L. Gohsman  
*Vice Chancellor and Chief Information Officer*

Jennifer K. Lodge  
*Vice Chancellor for Research*

Pamela S. Lokken  
*Vice Chancellor for Government and Community Relations*

James V. Wertsch  
*Vice Chancellor for International Affairs*

Lori S. White  
*Vice Chancellor for Student Affairs*

Amy B. Kweskin  
*Treasurer*
Kimberly G. Walker  
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*University Librarian*

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*Secretary to the Board of Trustees*

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**Officers of the School of Medicine**

Mark S. Wrighton  
*Chancellor*

David H. Perlmutter, MD  
*Executive Vice Chancellor for Medical Affairs and Dean; Chairman, Executive Faculty*

Jennifer K. Lodge, PhD  
*Vice Chancellor for Research and Associate Dean for Research*

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Michael A. Kass, MD
Senior Associate Dean for Human Research Protection

Mary E. Klingensmith, MD
Interim Senior Associate Dean for Education (9/5/2016)
Michael M. Awad, MD, PhD
*Associate Dean for Medical Student Education*

Koong-Nah Chung, PhD
*Associate Dean for Medical Student Research and Assistant Dean for Admissions and Student Affairs*

Diana L. Gray, MD
*Associate Dean for Faculty Affairs*

Jonathan M. Green, MD
*Associate Dean for Human Studies*

Rebecca P. McAlister, MD
*Associate Dean for Graduate Medical Education*

Lisa M. Moscoso, MD, PhD
*Associate Dean for Student Affairs*

Valerie S. Ratts, MD
*Associate Dean for Admissions*

Will R. Ross, MD, MPH
*Associate Dean for Diversity*

Paul A. Schoening
*Associate Dean and Director of the Bernard Becker Medical Library*

Allyson R. Zazulia, MD
*Associate Dean for Continuing Medical Education*

Kathryn M. Diemer, MD
*Assistant Dean for Career Counseling*
Tom Evola  
*Assistant Dean for Academic Affairs and Registrar*

Bridget O'Neal  
*Assistant Dean and Director of Financial Aid*

Lisa H. Stevenson  
*Assistant Dean for Admissions and Director of Diversity Programs*

Yi Zhang  
*Assistant Dean for Clinical Trials and Executive Director of the Center for Clinical Studies*

Karen Winters, MD  
*Director of the Student and Employee Health Services — Medical Campus*

Stephanie Brelsford  
*Assistant Registrar*

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**Board of Directors, Washington University Medical Center**

David H. Perlmutter, MD  
*President*

Michael A. DeHaven  
*Secretary*

Mary Corcoran
Treasurer

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Richard J. Stanton
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William Neaves, PhD
Philip Needleman, PhD
Andrew E. Newman
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Gordon W. Philpott, MD
Allan H. Rappaport, MD, JD
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Pejman Salimpour, MD
Kelvin R. Westbrook
William P. Wiesmann, MD
Raymond H. Wittcoff
Roma Broida Wittcoff
Pamela Gallin Yablon, MD

Officers and Committees of the Faculty
This section of the Bulletin presents faculty committees, which govern various aspects of School of Medicine activities related to research, patient care and education. Their purpose is to help ensure that the school's activities are carried out in compliance with university policies as well as state and federal law.

Executive Faculty

Voting members

David H. Perlmutter

Executive Vice Chancellor for Medical Affairs and Dean; Chairman, Executive Faculty

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Azad Bonni

Craig A. Buchman

John A. Cooper

Ralph G. Dacey Jr.

Timothy J. Eberlein

Alex S. Evers

Victoria J. Fraser

Dennis E. Hallahan
David M. Holtzman

George A. Macones

Todd P. Margolis

Jeffrey D. Milbrandt

Regis J. O'Keefe

David W. Piston

Gary A. Silverman

Lilianna Solnica-Krezel

Herbert W. Virgin

Richard L. Wahl

Charles F. Zorumski

Paul Bridgman

Vice-Chair, ECFC

Jennifer A. Dunn

Voluntary Faculty Representative

Mary E. Klingensmith

Chair, ECFC

Attending

Mark S. Wrighton
Faculty Council

The Faculty Council consists of all full-time members of the faculty with the rank of professor, associate professor, assistant professor and those instructors who have been on the faculty for at least three years. The officers and executive committee are listed below. Their service ends in June of the year in parenthesis after their name.

**Executive Committee of the Faculty Council (ECFC)**

*Chair*
Mary E. Klingensmith, MD (2017)

*Vice Chair*
Paul C. Bridgman, PhD (2017)

*Vice-Chair Elect*
Dayna S. Early, MD (2017)

*Clinical Representative to the Executive Committee of the Faculty Council*
Maria Q. Braggstrom, MD (2018)
Todd E. Druley, MD, PhD (2018)

Dayna S. Early, MD (2018)

Gregory H. Branham, MD (2019)

Mythili Srinivasan, MD, PhD (2019)

Linda M. Tsai, MD (2019)

Preclinical Representative to the Executive Committee of the Faculty Council
Kendall J. Blumer, PhD (2017)

Mike M. Mueckler, PhD (2018)

Joseph P. Vogel, PhD (2019)

Research Track Representative to the Executive Committee of the Faculty Council
Joseph W. Klaesner, PhD (2018)

Larissa B. Thackray, PhD (2019)

Program or Division Representative to the Executive Committee of the Faculty Council
Steven D. Taff, PhD (2018)

Divisional Representative to Faculty Senate Council
Scott Saunders, MD, PhD (2017)

Robert Mercer, PhD (2018)

_Elected Member of Practice Plan Board of Directors_
Ellen Lockhart, MD (2019)
Anitha Vijayan, MD (2019)

_Medical School Faculty Rights Committee_
Mary Klingensmith, MD (2017) Co-Chair
Paul Bridgman, PhD (2017) Co-Chair
Kim A. Carmichael, MD (2017-R)
Andrew Galakatos, MD (2017-R)
Gregory F. Wu, MD, PhD (2017-R)
Mauricio Lisker-Melman, MD (2019-A)
Lawrence B. Salkoff, PhD (2019-A)
Carla J. Weinheimer, MS (2019-A)

_Academic Freedom & Tenure Hearing Committee (University Committee)_
David B. Clifford, MD (2017 – R)

Steven Brody, MD (2017 – A)

Sarah England, PhD (2018 – R)

David Reichert, PhD (2018 – A)

AdHoc ECFC Members

Diana Gray, MD (Office of Faculty Affairs)

Tamara Doering, MD, PhD (Academic Women's Network)

Animal Studies Committee

Dana Abendschein
Chair

Steven L. Leary

Committee on the Academic and
Professional Evaluation of Students

Linda J. Pike, PhD
Chair

Kari Allen, MD

Paul Bridgman, PhD

Steven Cheng, MD

Erika C. Crouch, MD, PhD

Tom Evola

Dehra Harris, MD

Henry Huang, PhD

Nigar Kirmani, MD

Robert W. Mercer, PhD

Casey Pruitt, MD

Deborah Rubin, MD

David Windus, MD

Michael Awad, MD, PhD
Ex-Officio

Mary E. Klingensmith, MD
Ex-Officio

Lisa M. Moscoso, MD, PhD
Ex-Officio

Valerie Ratts, MD
Ex-Officio

Will R. Ross, MD, MPH
Ex-Officio

Alison J. Whelan, MD
Ex-Officio

Karen Winters, MD
Ex-Officio

Committee on Admissions

Valerie S. Ratts
Chair

Rebecca Aft

Natalia Akopyants

Kari Allen

Nancy Bartlett
Kevin Barton
Amy Bauernfeind
Rakhee Bhayani
Laura Bierut
Elisa Birnbaum
Thomas Blanke
Donald Bohnenkamp
Martin Boyer
Angela Brown
Bruce Bryan
Jonathan Byrd
Kirstin Campbell
Chesney Castleberry
Lewis Chase
Praveen Chenna
Camaryn Chrisman Robbins
Carrie Coughlin
Committee on Fellowships and Awards

Jeff Miner
Chair

Sharon Cresci

Fanxin Long

Committee on Student Financial Aid

Valerie S. Ratts
Chair

Tom Evola

Bridget O'Neal

Gregory Polites
Conflicts of Interest Review Committee

Robert Gropler, MD
Chair

Laura Bierut, MD

Paul Bridgman, PhD

Nichole Mercier, PhD
Ex officio

Douglas Covey, PhD

David Curiel, MD, PhD

Jonathan Green, MD

Patty Hastings, JD
Ex officio
Ex officio

R. Edward Hogan, MD

Henry Huang, PhD

Jennifer Lodge, PhD
Ex officio
Human Research Protection Office (HRPO)

Washington University Institutional Review Boards

Executive chair, IRB
Green, Jonathan, MD

Associate Dean for Human Studies and Executive Chair of the IRB Washington University School of Medicine

Human Research Protection Office (HRPO)
Jones, Martha, MA, CIP
Questions regarding committee membership should be directed to the Human Research Protection Office.

Human Research Quality Assurance/Quality Improvement Committee

Edward M. Geltman  
*Chair*

Beau Ances

Allan Doctor

Mae Gordon

Jonathan Green

Catherine Lang

Denise McCartney

Bettina Mittendorfer
Institutional Biological and Chemical Safety Committee

Michael Caparon, PhD
Co-Chair

Henry Huang, PhD
Co-Chair

Richard Buller, PhD

Michael Diamond, MD, PhD

Scott Handley, PhD

Barbara Joy Snider, MD, PhD

Bruce Backus, MS, PE
Ex officio

Kenneth Boschert, DVM
Ex officio
Susan Cook, PhD, CBSP  
_Ex officio_

Brian Dieckgraefe, MD, PhD  
_Ex officio_

Chad B. Faulkner, DVM, PhD  
_Ex officio_

Teresa Simmons  
_Alternate_

Mary Burke  
_Public member_

Robert Koehler  
_Public member_

Paul Mercurio  
_Public member_

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**MD/MA Program Committee**

Deborah C. Rubin  
_Chair_

Paul F. Austin

F. Sessions Cole
Medical School Faculty Rights Committee

Mary Klingensmith, MD (2017) Co-Chair

Paul Bridgman, PhD (2017) Co-Chair

Kim A. Carmichael, MD (2017-R)

Andrew Galakatos, MD (2017-R)

Gregory F. Wu, MD, PhD (2017-R)

Mauricio Lisker-Melman, MD (2019-A)

Lawrence B. Salkoff, PhD (2019-A)

Carla J. Weinheimer, MS (2019-A)
Medical Scientist Training Program Committee

Wayne M. Yokoyama
Program Director

Robyn S. Klein
Program Co-Director

Daniel S. Ory
Associate Director

Samuel I. Achilefu

Kyunghhee Choi

Jianmin Cui

Aaron DiAntonio

Sarah England

Christina A. Gurnett

Phyllis I. Hanson

Timothy E. Holy

Petra A. Levin

Greg D. Longmore
Radiation Safety Committee

Barry A. Siegel
Chairman

Buck E. Rogers
Vice Chairman

Susan M. Langhorst
Radiation Safety Officer and Executive Secretary

Bruce D. Backus

Perry W. Grigsby

Rojano Kashani

Andrew Johnstone

Trisha M. Lollo

Stephen M. Moerlein

David E. Reichert

Henry D. Royal
Radioactive Drug Research Committee

Barry A. Siegel, MD
Chair

Delphine L. Chen, MD
Vice Chair
Keith C. Fischer, MD
Edward M. Geltman, MD
*Ex officio*

Susan M. Langhorst, PhD
*Ex officio*

James L. Littlefield, MD

Karen D. McElvany, PhD

Stephen M. Moerlein, PhD, RPh

Marcus E. Raichle, MD
*Ex officio*

Sally Wagner Schwarz, RPh, MS

Yuan-Chuan Tai, PhD

Roger D. Yusen, MD

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**Alvin J. Siteman Cancer Center Protocol Review and Monitoring Committee**

Perry Grigsby
*Co-Chair*
Robert J. Hayashi
Richard Head
Lindsay Hladnik
Meagan Jacoby
Megan Janke
Sally Jones
A. Craig Lockhart
Esther Lu
Janelle Mann
Carolyn McCourt
Sarah Moehlmann
Russell Pachynski
John D. Pfeifer
Matthew Powell
Iskra Pusic
Cliff Robinson
Rizwan Romee
Mark Schroeder

Joshua Shimony

Rama Suresh

Benjamin Tan

Deborah Tesoro

Shana Thomas

Wade Thorstad

Tom Walsh

Andrea Wang-Gillam

Saiama Waqar

Lorri DeWitt

Ad hoc

Feng Gao

Ad Hoc

Lynne Lippmann

Ad hoc

Byron Peters

Ad hoc

Deborah Tesoro

Ad hoc
Alvin J. Siteman Cancer Center Quality Assurance and Safety Monitoring Committees

Nancy L. Bartlett  
Chair

Christopher Arp

Maria Q. Baggstrom
Faculty at a Glance

Washington University School of Medicine has one of the finest faculties of any medical school in the nation. Recognized for their distinguished achievements in original research, 13 faculty members are among the fellows of the prestigious National Academy of Sciences; 28 are members of the National Academy of Medicine. Eighteen Nobel laureates have been associated with the School of Medicine.

During fiscal year 2015, 142 members of the faculty held individual and/or institutional career development awards. Some individual faculty members may hold multiple awards:

- 89 from National Institutes of Health (including direct-pay and pass-through awards)
- 1 from Health Resources and Services Administration
- 1 from American Association for Cancer Research
● 3 from Alex's Lemonade Stand
● 3 from American Cancer Society
● 1 from American College of Rheumatology
● 2 from American College of Surgeons
● 1 from American Diabetes Association
● 1 from American Federation for Aging Research
● 1 from American Glaucoma Society
● 7 from American Heart Association
● 2 from American Society of Hematology
● 1 from American Society of Nephrology
● 1 from American Thoracic Society
● 1 from Anonymous
● 1 from Army
● 1 from Brain & Behavior Research Foundation
● 4 from Burroughs Wellcome Fund
● 1 from Cancer Research Foundation
● 1 from Central Society for Clinical Research
● 1 from Cerebral Palsy International Research Foundation
● 2 from Child Neurology Foundation
● 1 from Children's Discovery Institute
● 1 from Damon Runyon Cancer Research Foundation
● 1 from Department of Defense
● 1 from Department of Education (pass-through award)
● 1 from Dermatology Foundation
• 1 from Donor's Cure Foundation
• 5 from Doris Duke Charitable Foundation
• 1 from Ellison Medical Foundation
• 1 from Harrington Discovery Institute
• 1 from Josiah Macy, Jr. Foundation
• 1 from Leukemia and Lymphoma Society
• 1 from LUNGevity Foundation
• 1 from Lymphoma Research Foundation
• 1 from Muscular Dystrophy Foundation
• 1 from NephCure Foundation
• 1 from New York Stem Cell Foundation
• 1 from Prostate Cancer Foundation
• 2 from Research to Prevent Blindness
• 2 from Rheumatology Research Foundation
• 1 from Robert Wood Johnson Foundation
• 1 from Sarcoma Alliance for Research
• 1 from Society of Surgical Oncology
• 1 from St. Baldrick's Foundation
• 3 from Susan G. Komen Breast Cancer Foundation
• 1 from Thrasher Research Fund
• 1 from V Foundation
• 1 from Wellcome Trust (pass-through award)

The School of Medicine has 9 faculty members with Method to Extend Research in Time (MERIT) status, a special recognition given to only a few NIH grantees, which
provides long-term, uninterrupted financial support to investigators who have demonstrated superior achievement during previous research projects.

In 2016, the School employed 2,058 full-time, salaried faculty members in its 20 preclinical and clinical departments. The clinical departments are further strengthened by 1,377 voluntary and adjunct faculty members, a group of physicians who practice their medical specialties in St. Louis and are members of one or more of the staffs of the hospitals in the Washington University Medical Center.

Student Body

The School of Medicine attracts a student body of exceptional quality. The student body of the School of Medicine numbers approximately 600 medical students. Programs also are conducted for 700+ students who are pursuing graduate degrees in applied health behavior research, audiology and communication sciences, clinical investigation, occupational therapy, physical therapy, population health sciences, biostatistics, or genetic epidemiology. The Division of Biology and Biomedical Sciences has extensive graduate training programs for more than 500+ students seeking the Doctor of Philosophy degree in areas of Biochemistry; Computational and Systems Biology; Developmental, Regenerative and Stem Cell Biology; Evolution Ecology and Population Biology; Human and Statistical Genetics; Immunology; Molecular Biophysics; Molecular Cell Biology; Biochemistry; Molecular Genetics and Genomics; Molecular Microbiology and Microbial Pathogenesis; Neurosciences; and Plant Biology.

The MD Program

The 2016 first year class consisted of 124 students selected from a pool of 4,441 applicants. The School is a national institution with 48 home states typically reported,
plus the District of Columbia and Puerto Rico and approximately 12 countries represented in the current enrollment.

In the academic year 2015-16, the School conferred the MD degree upon 92 individuals. Within the MD graduate population, one received the MD/MA degree, two students received the MD/MSCI degrees, 5 students received an MD/MPHS, and 19 students graduated with the MD/PhD degrees. Graduating students who participated in the 2016 National Resident Matching Program matched in programs recognized for high quality and selectivity. In the Alphabetical List of Students area of the Register of Students section, the graduates are listed by name, hometown, undergraduate and graduate schools attended and year of degree, type of postgraduate residency program, name of hospital and the city in which it is located.

Teaching Facilities

The 164-acre Washington University Medical Center, spread over portions of 17 city blocks, is located along the eastern edge of Forest Park in St. Louis. Along the western edge of the park is the 169-acre Danforth Campus of the university. All campuses (North, West, Danforth and Medical) are connected by the MetroLink light rail system. The Danforth Campus and the Medical Campus are also connected by the Washington University Gold MetroBus. Students, faculty and staff can access both of these modes of transport with a free U-Pass, obtained from the Transportation Office, along with their Washington University identification badge.

In addition, in the last decade, major renovations to existing buildings continue, with emphasis on research facilities. The Department of Ophthalmology remodeled their
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- attract and develop a diverse, talented, academic workforce
- lead the revolution in biomedicine
- enhance our intellectual and technological environment to foster exceptionally creative research and education
- develop and maintain excellent clinical programs to provide outstanding care
- observe the highest standards of ethics, integrity and compassionate care
- apply advances in research and medicine to the betterment of the human condition locally and globally

Approved by Executive Faculty at their September 4, 2013, meeting

History

The education of physicians at Washington University began in 1891. Under an ordinance enacted April 14, 1891, establishing a Medical Department of Washington University, the St. Louis Medical College (an independent medical college in St. Louis)
was brought under the wing of the well-established University. The faculty of the college eagerly agreed to the union, stating “Most of the great medical schools of the world have always been integrant departments of universities, and the examples which America furnishes give added testimony to the fructifying influence of the contact of students and teachers of professional schools with the workers in universities.” Eight years later, the Missouri Medical College (another independent college in the city) also joined Washington University, and thus the two most famous medical colleges in the city were merged with the University.

In 1909, Abraham Flexner began a survey of 155 medical schools in the United States and Canada for the Carnegie Foundation for the Advancement of Teaching. The survey created a national sensation. Some schools collapsed, others pooled their resources, while still others reorganized. The Medical School of Washington University did not escape criticism. In the report Flexner made to Henry Smith Pritchett, Ph.D., president of the Carnegie Foundation for the Advancement of Teaching and former professor of astronomy at Washington University, he said that one of two courses must be adopted: “The department must be either abolished or reorganized.”

Dr. Pritchett mailed the report to Robert S. Brookings, a St. Louis merchant who was president of the Board of Directors of Washington University. Brookings was shocked and immediately went to New York to see Flexner, demanding proof that the conditions were as bad as described. Both returned to St. Louis and the two men went through the School. In less than two hours, Brookings was convinced that drastic action was necessary if the School was to be one of the foremost institutions of medical education and research. The meeting in 1909 of Brookings and Flexner was of unsurpassed significance in the history of the Washington University School of Medicine, for it led to the complete reorganization of the School and the establishment of the present Medical Center. Abraham Flexner inspired the dream of a model medical school; Robert Brookings accepted the challenge, and with the energy and vision which characterized all his enterprises, made the dream a reality.

No time was lost in making changes. The Bulletin of the Medical School for July 1910
made the following statement: “The Corporation of the University, becoming convinced that in no other direction could greater service be rendered than through a great, modern medical school, determined to reorganize the School and to place it in the front rank of American medical institutions. It has called to the heads of a number of leading departments the ablest men it could secure.”

When Robert A. Barnes died in 1892, he left a will which directed the trustees of his estate to use $840,000 for the erection and equipment of a hospital “for sick and injured persons, without distinction of creed, under the auspices of the Methodist Episcopal Church, South.” Investigation by the trustees into the cost of building a modern hospital convinced them that the sum was not large enough to build an efficient, fireproof building, and they therefore invested the trust. By 1912 the value had increased to $2 million, a sum which permitted the building of a hospital and left an endowment greater than the original fund.

At the same time the trustees were studying hospital construction, Robert Brookings was studying medical schools. It was apparent to everyone concerned that the two projects, the building of a medical school and the construction of a modern hospital, were so interrelated that the purpose of each would be more successfully fulfilled by an affiliation. A medical school would provide a highly trained staff and would assure the most modern methods and superior laboratory facilities for the hospital. A teaching hospital would give patients superior care and, at the same time, provide the essential clinical experience consistent with modern medical teaching methods.

In the spring of 1912, construction was begun on the medical school and hospital buildings which today form the nucleus of the present center. The laboratories were moved from their old quarters in downtown St. Louis into the new buildings on Euclid Avenue and Kingshighway Boulevard during the summer of 1914, and late in the fall of the same year the activities of the Washington University Hospital were transferred to Barnes Hospital. Concomitantly, the St. Louis Children’s Hospital, then located on Jefferson Avenue, became affiliated with the School of Medicine and moved to its new quarters in the Medical Center.
On April 28, 29 and 30, 1915, exercises were held to celebrate the completion of this group of buildings designed to promote the practice, the teaching and the progress of medicine. The dedication ceremonies marked what Dr. William H. Welch of The Johns Hopkins University called “one of the most significant events in the history of medical education in America.” Robert S. Brookings, the one man most responsible for the reorganization, voiced the hope that “our efforts will contribute, in some measure, to raising the standard of medical education in the West, and that we will add, through research activities, our fair quota to the sum of the world’s knowledge of medicine.” These prophetic words have been realized.

In the ensuing years, the Medical Center has continued to grow, and now its facilities are among the best in the world. With the increase in size of the physical plant there has come a substantial increase in the number of the faculty; the expansion has been made without compromise to the standards that marked the early development of the Medical Center. As a result, significant achievements in both research and clinical areas have been steadily recorded.

Administration

This section of the Bulletin presents major leadership bodies of Washington University, the School of Medicine, and Washington University Medical Center.

Board of Trustees
Please visit the Board of Trustees website for the list of current trustees and other information concerning the board.

Emeritus Trustees

Please visit the Board of Trustees website for the list of emeritus trustees and other information concerning the board.

Officers of the University Administration

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Jill D. Friedman  
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*Vice Chancellor and Chief Information Officer*

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*Vice Chancellor for Research*

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Associate Vice Chancellor and Associate Dean, Medical Public Affairs

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Assistant Vice Chancellor and Assistant Dean for Finance

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Assistant Vice Chancellor and Chief Counsel

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Assistant Vice Chancellor and Executive Director of Medical Corporate and Foundation Relations

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Assistant Vice Chancellor, Assistant Dean for Facilities Management

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Mary E. Klingensmith, MD

Interim Senior Associate Dean for Education (9/5/2016)
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*Associate Dean for Medical Student Education*

Koong-Nah Chung, PhD  
*Associate Dean for Medical Student Research and Assistant Dean for Admissions and Student Affairs*

Diana L. Gray, MD  
*Associate Dean for Faculty Affairs*

Jonathan M. Green, MD  
*Associate Dean for Human Studies*

Rebecca P. McAlister, MD  
*Associate Dean for Graduate Medical Education*

Lisa M. Moscoso, MD, PhD  
*Associate Dean for Student Affairs*

Valerie S. Ratts, MD  
*Associate Dean for Admissions*

Will R. Ross, MD, MPH  
*Associate Dean for Diversity*

Paul A. Schoening  
*Associate Dean and Director of the Bernard Becker Medical Library*

Allyson R. Zazulia, MD  
*Associate Dean for Continuing Medical Education*

Kathryn M. Diemer, MD  
*Assistant Dean for Career Counseling*
Tom Evola  
*Assistant Dean for Academic Affairs and Registrar*

Bridget O'Neal  
*Assistant Dean and Director of Financial Aid*

Lisa H. Stevenson  
*Assistant Dean for Admissions and Director of Diversity Programs*

Yi Zhang  
*Assistant Dean for Clinical Trials and Executive Director of the Center for Clinical Studies*

Karen Winters, MD  
*Director of the Student and Employee Health Services — Medical Campus*

Stephanie Brelsford  
*Assistant Registrar*

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Carol B. Loeb

Richard J. Mahoney

James S. McDonnell III

Walter L. Metcalfe Jr.

Marilyn Moffat, PhD
Officers and Committees of the Faculty
This section of the Bulletin presents faculty committees, which govern various aspects of School of Medicine activities related to research, patient care and education. Their purpose is to help ensure that the school's activities are carried out in compliance with university policies as well as state and federal law.

Executive Faculty

Voting members

David H. Perlmutter

*Executive Vice Chancellor for Medical Affairs and Dean; Chairman, Executive Faculty*

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Azad Bonni

Craig A. Buchman

John A. Cooper

Ralph G. Dacey Jr.

Timothy J. Eberlein

Alex S. Evers

Victoria J. Fraser

Dennis E. Hallahan
David M. Holtzman
George A. Macones
Todd P. Margolis
Jeffrey D. Milbrandt
Regis J. O'Keefe
David W. Piston
Gary A. Silverman
Lilianna Solnica-Krezel
Herbert W. Virgin
Richard L. Wahl
Charles F. Zorumski
Paul Bridgman
*Vice-Chair, ECFC*

Jennifer A. Dunn
*Voluntary Faculty Representative*

Mary E. Klingensmith
*Chair, ECFC*

**Attending**

Mark S. Wrighton
Faculty Council

The Faculty Council consists of all full-time members of the faculty with the rank of professor, associate professor, assistant professor and those instructors who have been on the faculty for at least three years. The officers and executive committee are listed below. Their service ends in June of the year in parenthesis after their name.

Executive Committee of the Faculty Council (ECFC)

Chair
Mary E. Klingensmith, MD (2017)

Vice Chair
Paul C. Bridgman, PhD (2017)

Vice-Chair Elect
Dayna S. Early, MD (2017)

Clinical Representative to the Executive Committee of the Faculty Council
Maria Q. Braggstrom, MD (2018)
Todd E. Druley, MD, PhD (2018)

Dayna S. Early, MD (2018)

 Gregory H. Branham, MD (2019)

 Mythili Srinivasan, MD, PhD (2019)

 Linda M. Tsai, MD (2019)

Preclinical Representative to the Executive Committee of the Faculty Council
Kendall J. Blumer, PhD (2017)

Mike M. Mueckler, PhD (2018)

Joseph P. Vogel, PhD (2019)

Research Track Representative to the Executive Committee of the Faculty Council
Joseph W. Klaesner, PhD (2018)

Larissa B. Thackray, PhD (2019)

Program or Division Representative to the Executive Committee of the Faculty Council
Steven D. Taff, PhD (2018)

Divisional Representative to Faculty Senate Council
Scott Saunders, MD, PhD (2017)

Robert Mercer, PhD (2018)

*Elected Member of Practice Plan Board of Directors*

Ellen Lockhart, MD (2019)

Anitha Vijayan, MD (2019)

*Medical School Faculty Rights Committee*

Mary Klingensmith, MD (2017) Co-Chair

Paul Bridgman, PhD (2017) Co-Chair

Kim A. Carmichael, MD (2017-R)

Andrew Galakatos, MD (2017-R)

Gregory F. Wu, MD, PhD (2017-R)

Mauricio Lisker-Melman, MD (2019-A)

Lawrence B. Salkoff, PhD (2019-A)

Carla J. Weinheimer, MS (2019-A)

*Academic Freedom & Tenure Hearing Committee (University Committee)*
David B. Clifford, MD (2017 – R)

Steven Brody, MD (2017 – A)

Sarah England, PhD (2018 – R)

David Reichert, PhD (2018 – A)

AdHoc ECFC Members

Diana Gray, MD (Office of Faculty Affairs)

Tamara Doering, MD, PhD (Academic Women's Network)

Animal Studies Committee

Dana Abendschein
Chair

Steven L. Leary

Committee on the Academic and
Professional Evaluation of Students

Linda J. Pike, PhD
   Chair

Kari Allen, MD

Paul Bridgman, PhD

Steven Cheng, MD

Erika C. Crouch, MD, PhD

Tom Evola

Dehra Harris, MD

Henry Huang, PhD

Nigar Kirmani, MD

Robert W. Mercer, PhD

Casey Pruitt, MD

Deborah Rubin, MD

David Windus, MD

Michael Awad, MD, PhD
   Ex-Officio

Mary E. Klingensmith, MD
*Ex-Officio*

Lisa M. Moscoso, MD, PhD  
*Ex-Officio*

Valerie Ratts, MD  
*Ex-Officio*

Will R. Ross, MD, MPH  
*Ex-Officio*

Alison J. Whelan, MD  
*Ex-Officio*

Karen Winters, MD  
*Ex-Officio*

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**Committee on Admissions**

Valerie S. Ratts  
*Chair*

Rebecca Aft

Natalia Akopyants

Kari Allen

Nancy Bartlett
Ramaswamy Govindan
Rosanna Gray-Swain
Russell Groener
Ann Gronowski
Andrea Hagemann
Ian Hagemann
Laura Hall
Anjum Hassan
Cynthia Herrick
Gary Hirshberg
Lori Holtz
Eva Hurst
Catherine Ifune
Aimee James
Michael Jarvis
Cylen Javidan-Nejad
Shannon Joerger
Kenneth Remy

Marvin Rennard

Noor Riaz

Joan Riley

Will Ross

Cary Siegel

Sarah Stanage

Lisa Stevenson

Angele Theard

Adetunji Toriola

Linda Tsai

Alvin Wenneker

Andy White

Karen Winters

Fay Womer

Jennifer Yu

Darryl Zuckerman
Committee on Fellowships and Awards

Jeff Miner
Chair

Sharon Cresci

Fanxin Long

Committee on Student Financial Aid

Valerie S. Ratts
Chair

Tom Evola

Bridget O'Neal

Gregory Polites
Conflicts of Interest Review Committee

Robert Gropler, MD
Chair

Laura Bierut, MD

Paul Bridgman, PhD

Nichole Mercier, PhD
Ex officio

Douglas Covey, PhD

David Curiel, MD, PhD

Jonathan Green, MD

Patty Hastings, JD
Ex officio
Ex officio

R. Edward Hogan, MD

Henry Huang, PhD

Jennifer Lodge, PhD
Ex officio
Ex officio
Denise McCartney
*Ex officio*

Peter Michelson, MD

D. Michael Nelson, MD, PhD

Brian Nussenbaum, MD

Daniel Ory, MD

Luis Sanchez, MD

Tim Schedl, PhD

Anshuman Sharma, MD

Human Research Protection Office (HRPO)

Washington University Institutional Review Boards

Executive chair, IRB

Green, Jonathan, MD

*Associate Dean for Human Studies and Executive Chair of the IRB Washington University School of Medicine*

Human Research Protection Office (HRPO)

Jones, Martha, MA, CIP
Questions regarding committee membership should be directed to the Human Research Protection Office.

Human Research Quality Assurance/Quality Improvement Committee

Edward M. Geltman
Chair

Beau Ances

Allan Doctor

Mae Gordon

Jonathan Green

Catherine Lang

Denise McCartney

Bettina Mittendorfer
Michael Strube

Patty Hastings

*Ex officio*

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**Institutional Biological and Chemical Safety Committee**

Michael Caparon, PhD

*Co-Chair*

Henry Huang, PhD

*Co-Chair*

Richard Buller, PhD

Michael Diamond, MD, PhD

Scott Handley, PhD

Barbara Joy Snider, MD, PhD

Bruce Backus, MS, PE

*Ex officio*

Kenneth Boschert, DVM

*Ex officio*
Susan Cook, PhD, CBSP  
*Ex officio*

Brian Dieckgraefe, MD, PhD  
*Ex officio*

Chad B. Faulkner, DVM, PhD  
*Ex officio*

Teresa Simmons  
*Alternate*

Mary Burke  
*Public member*

Robert Koehler  
*Public member*

Paul Mercurio  
*Public member*

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**MD/MA Program Committee**

Deborah C. Rubin  
*Chair*

Paul F. Austin

F. Sessions Cole
Medical School Faculty Rights Committee

Mary Klingensmith, MD (2017) Co-Chair

Paul Bridgman, PhD (2017) Co-Chair

Kim A. Carmichael, MD (2017-R)

Andrew Galakatos, MD (2017-R)

Gregory F. Wu, MD, PhD (2017-R)

Mauricio Lisker-Melman, MD (2019-A)

Lawrence B. Salkoff, PhD (2019-A)

Carla J. Weinheimer, MS (2019-A)
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Program Director

Robyn S. Klein
Program Co-Director

Daniel S. Ory
Associate Director

Samuel I. Achilefu

Kyunghhee Choi

Jianmin Cui

Aaron DiAntonio

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Christina A. Gurnett

Phyllis I. Hanson

Timothy E. Holy

Petra A. Levin

Greg D. Longmore
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Barry A. Siegel
Chairman

Buck E. Rogers
Vice Chairman

Susan M. Langhorst
Radiation Safety Officer and Executive Secretary

Bruce D. Backus

Perry W. Grigsby

Rojano Kashani

Andrew Johnstone

Trisha M. Lollo

Stephen M. Moerlein

David E. Reichert

Henry D. Royal
Radioactive Drug Research Committee

Barry A. Siegel, MD  
Chair

Delphine L. Chen, MD  
Vice Chair
Alvin J. Siteman Cancer Center Protocol Review and Monitoring Committee

Perry Grigsby
Co-Chair
Robert J. Hayashi
Richard Head
Lindsay Hladnik
Meagan Jacoby
Megan Janke
Sally Jones
A. Craig Lockhart
Esther Lu
Janelle mann
Carolyn McCourt
Sarah Moehlmann
Russell Pachynski
John D. Pfeifer
Matthew Powell
Iskra Pusic
Cliff Robinson
Rizwan Romee
Chrisann Winslow
Ad hoc

Nancy L. Bartlett
Ex officio

Jeff M. Michalski
Ex officio

Jeffrey F. Moley
Ex officio

Stephen Ristvedt
Ex officio

Barry Siegel
Ex officio

Alvin J. Siteman Cancer Center Quality Assurance and Safety Monitoring Committees

Nancy L. Bartlett
Chair

Christopher Arp

Maria Q. Baggstrom
Faculty at a Glance

Washington University School of Medicine has one of the finest faculties of any medical school in the nation. Recognized for their distinguished achievements in original research, 13 faculty members are among the fellows of the prestigious National Academy of Sciences; 28 are members of the National Academy of Medicine. Eighteen Nobel laureates have been associated with the School of Medicine.

During fiscal year 2015, 142 members of the faculty held individual and/or institutional career development awards. Some individual faculty members may hold multiple awards:

- 89 from National Institutes of Health (including direct-pay and pass-through awards)
- 1 from Health Resources and Services Administration
- 1 from American Association for Cancer Research
- 3 from Alex's Lemonade Stand
- 3 from American Cancer Society
- 1 from American College of Rheumatology
- 2 from American College of Surgeons
- 1 from American Diabetes Association
- 1 from American Federation for Aging Research
- 1 from American Glaucoma Society
- 7 from American Heart Association
- 2 from American Society of Hematology
- 1 from American Society of Nephrology
- 1 from American Thoracic Society
- 1 from Anonymous
- 1 from Army
- 1 from Brain & Behavior Research Foundation
- 4 from Burroughs Wellcome Fund
- 1 from Cancer Research Foundation
- 1 from Central Society for Clinical Research
- 1 from Cerebral Palsy International Research Foundation
- 2 from Child Neurology Foundation
- 1 from Children's Discovery Institute
- 1 from Damon Runyon Cancer Research Foundation
- 1 from Department of Defense
- 1 from Department of Education (pass-through award)
- 1 from Dermatology Foundation
• 1 from Donor’s Cure Foundation
• 5 from Doris Duke Charitable Foundation
• 1 from Ellison Medical Foundation
• 1 from Harrington Discovery Institute
• 1 from Josiah Macy, Jr. Foundation
• 1 from Leukemia and Lymphoma Society
• 1 from LUNGevity Foundation
• 1 from Lymphoma Research Foundation
• 1 from Muscular Dystrophy Foundation
• 1 from NephCure Foundation
• 1 from New York Stem Cell Foundation
• 1 from Prostate Cancer Foundation
• 2 from Research to Prevent Blindness
• 2 from Rheumatology Research Foundation
• 1 from Robert Wood Johnson Foundation
• 1 from Sarcoma Alliance for Research
• 1 from Society of Surgical Oncology
• 1 from St. Baldrick's Foundation
• 3 from Susan G. Komen Breast Cancer Foundation
• 1 from Thrasher Research Fund
• 1 from V Foundation
• 1 from Wellcome Trust (pass-through award)

The School of Medicine has 9 faculty members with Method to Extend Research in Time (MERIT) status, a special recognition given to only a few NIH grantees, which
provides long-term, uninterrupted financial support to investigators who have demonstrated superior achievement during previous research projects.

In 2016, the School employed 2,058 full-time, salaried faculty members in its 20 preclinical and clinical departments. The clinical departments are further strengthened by 1,377 voluntary and adjunct faculty members, a group of physicians who practice their medical specialties in St. Louis and are members of one or more of the staffs of the hospitals in the Washington University Medical Center.

Student Body

The School of Medicine attracts a student body of exceptional quality. The student body of the School of Medicine numbers approximately 600 medical students. Programs also are conducted for 700+ students who are pursuing graduate degrees in applied health behavior research, audiology and communication sciences, clinical investigation, occupational therapy, physical therapy, population health sciences, biostatistics, or genetic epidemiology. The Division of Biology and Biomedical Sciences has extensive graduate training programs for more than 500+ students seeking the Doctor of Philosophy degree in areas of Biochemistry; Computational and Systems Biology; Developmental, Regenerative and Stem Cell Biology; Evolution Ecology and Population Biology; Human and Statistical Genetics; Immunology; Molecular Biophysics; Molecular Cell Biology; Biochemistry; Molecular Genetics and Genomics; Molecular Microbiology and Microbial Pathogenesis; Neurosciences; and Plant Biology.

The MD Program

The 2016 first year class consisted of 124 students selected from a pool of 4,441 applicants. The School is a national institution with 48 home states typically reported,
plus the District of Columbia and Puerto Rico and approximately 12 countries represented in the current enrollment.

In the academic year 2015-16, the School conferred the MD degree upon 92 individuals. Within the MD graduate population, one received the MD/MA degree, two students received the MD/MSCI degrees, 5 students received an MD/MPHS, and 19 students graduated with the MD/PhD degrees. Graduating students who participated in the 2016 National Resident Matching Program matched in programs recognized for high quality and selectivity. In the Alphabetical List of Students area of the Register of Students section, the graduates are listed by name, hometown, undergraduate and graduate schools attended and year of degree, type of postgraduate residency program, name of hospital and the city in which it is located.

### Teaching Facilities

The 164-acre Washington University Medical Center, spread over portions of 17 city blocks, is located along the eastern edge of Forest Park in St. Louis. Along the western edge of the park is the 169-acre Danforth Campus of the university. All campuses (North, West, Danforth and Medical) are connected by the MetroLink light rail system. The Danforth Campus and the Medical Campus are also connected by the Washington University Gold MetroBus. Students, faculty and staff can access both of these modes of transport with a free U-Pass, obtained from the Transportation Office, along with their Washington University identification badge.

In addition, in the last decade, major renovations to existing buildings continue, with emphasis on research facilities. The Department of Ophthalmology remodeled their
wet labs and offices on the 1st, 10th, 11th and 12th floors of McMillan Hospital Building. The Department of Biochemistry and Molecular Biophysics renovated research labs on half of the second floor of the McDonnell Sciences Medical Building and created a chemistry-intensive open laboratory on the 2nd floor of the Cancer Research Building. Renovations to the Clinical Sciences Research Building (CSRB) were done to create space for the Center for the Study of Itch. A world-class zebrafish facility was built in the basement of the McDonnell Sciences Medical Building. Half of the 8th floor of the McDonnell Sciences Medical Building was overhauled into modern, open laboratories to create additional space for Anatomy and Neurobiology and Internal Medicine.

A major renovation of the Maternity Hospital was completed for the Department of Obstetrics, floors two through six are completely renovated into new office space for Obstetrics faculty and administration. The recently acquired building at 4533 Clayton Ave. has been renovated into office space for the departments of Anesthesiology, Radiology and Obstetrics. The sixth floor of the Bernard Becker Library has been overhauled to make way for the Center for the History of Medicine. The Taylor Avenue Building was purchased and renovations and relocations for Public Health Sciences, the Institute of Public Health and the Department of Medicine have been made. Floors three through five have been renovated for administration space in the Wohl Clinic. A new Cyclotron has been installed in an expansion of the East Building.

In addition, major maintenance projects continue to be done to keep existing buildings in good functional shape.

Ongoing improvements to the campus infrastructure are being made through the Public Realm Project, which is focused on landscape, street lighting and streetscape enhancements.

Unprecedented growth has occurred at the medical center over the past 15 years. At the School of Medicine alone during the past five years, almost $270 million has been expended on capitalized infrastructure, renovation and new construction. Capital improvements and strategic purchases have added approximately 1.5 million square
In the most recent fiscal year, more than $150 million of capitalized expenditures were made at the School.

In the last 15 years, School of Medicine expansion has included the Genome Sequencing Center (GSC) Data Center; the Northwest Tower; the school’s first dedicated teaching facility, the Farrell Learning and Teaching Center; the Specialized Research Facility — East; the Southwest Tower/Charles F. Knight Emergency Center; the Center for Advanced Medicine; the McDonnell Pediatric Research Building; two parking garages; and the acquisition of the Central Institute for the Deaf buildings.

The BJC Institute of Health at Washington University School of Medicine (2009) was built to support the Washington University BioMed 21 initiative. Construction is now complete and consists of approximately 675,000 square feet. It is an eleven- and six-story building (the building is also structured to add an additional ten stories above the six story portion of the building). The top five floors, totaling 215,000 square feet, are wet labs to support the six research centers associated with BioMed 21 along with lab space for Pathology and Immunology, Obstetrics and Gynecology, and Pediatric Surgery. There is also a 30,000-square-foot vivarium in the lower level. BJC HealthCare occupies the first five floors, which houses dietary services, offices, pharmacy and clinical labs.

The GSC Data Center (2008) is a state-of-the-art data center located across Newstead Avenue from its parent department in the 4444 Forest Park Building. A 14,000-square-foot building houses a 3,000-square-foot data room capable of populating 120 high-speed blade center racks and disk racks. This facility will allow the GSC to expand their research capability in the demanding world of sequencing grants and projects for years to come. A 16,500-square-foot expansion of this facility, supporting research, funded by an ARRA grant, was completed in 2012.

The eight-story Northwest Tower (2006) resides above the seven-level Children’s Hospital Garage. This new 190,000-square-foot building provides faculty office space.

The Farrell Learning and Teaching Center (2005), a 110,000-square-foot, six-story
facility, located at the corner of Scott and Euclid avenues, is the home for all of the School of Medicine teaching labs; ER, patient room and OR simulation training rooms; small-group and seminar rooms; and all individual student study areas. A lecture hall, case-study hall and café are on the first floor of the building.

**The Specialized Research Facility — East** (2004) is a 56,000-square-foot barrier facility supporting several research study programs.

**The Center for Advanced Medicine** (2001), at the corner of Euclid and Forest Park avenues, is a shared facility between the school and BJC. This building brings all of the medical center's clinics together under one roof. The School of Medicine occupies 243,400 square feet in the Center for Advanced Medicine and 75,000 square feet on three floors in the new Southwest Tower. Located in the heart of the Center for Advanced Medicine is the 66,150-square-foot Alvin J. Siteman Cancer Center. The Siteman Cancer Center is the only NCI-designated comprehensive cancer center in the region.

**The McDonnell Pediatric Research Building** (2000) added 230,000 square feet of state-of-the-art research facilities — four and a half floors for the Department of Pediatrics, three floors for the Department of Molecular Microbiology, and one-half floor for the Department of Medicine — on the corner of Euclid Avenue and Children's Place. This building includes a Barnes & Noble bookstore with a coffee shop on the ground level.

The School of Medicine is divided into two segments. Clinical departments are predominantly located on the west side of the Medical Center, adjacent to hospital and patient areas. Preclinical departments are to the east. Research and instructional endeavors occupy the greater portion of the facilities, with more than 1.8 million gross square feet devoted to these activities. In the aggregate, the medical school occupies nearly 6 million gross square feet of space on this campus.

The focal point of the preclinical teaching activities is the **McDonnell Medical Sciences Building**, the center of activity for entering medical students. This building, with
300,000 square feet of research laboratories, was made possible by James Smith McDonnell III, a generous benefactor of Washington University. Rising nine floors above ground, it contains administrative offices and two lecture halls on the first floor. Three floors of wet lab space were completely renovated in the last five years. Offices and research laboratories for the seven basic science departments are located on the upper floors. Modern centralized animal quarters are housed in the basement.

**The North and South Buildings**, in which the work of several Nobel laureates has centered, have been renovated extensively. Along with the Cancer Research Building, they continue to provide space for laboratories, offices and some departmental facilities.

**The East Building** houses an MRI facility, a cyclotron, computer installations and other components of the Mallinckrodt Institute of Radiology. The East Building also houses several administrative office suites.

A network of pedestrian bridges provides the ability to move freely among the major facilities, enhancing the interaction of all medical center institutions and benefiting research and patient care.

Other facilities owned or operated by Washington University include:

The 45,160-gross-square-foot **Eric P. Newman Education Center** accommodates non-degree professional education for the medical center. The education center provides auditoriums, classrooms, meeting space and lecture halls to support and enhance a comprehensive education program.

The five-story **Biotechnology Center** supports laboratories for the departments of Psychiatry, Medicine, Neurology, and Mallinckrodt Institute of Radiology.

**McMillan Hospital Building** houses offices and research laboratories for the departments of Neurological Surgery, Neurology, Ophthalmology and Visual Sciences, and Otolaryngology.
The Edward Mallinckrodt Institute of Radiology (MIR) is internationally recognized for excellence in teaching, research and clinical services. Housed in its own 13-story building, MIR has satellite facilities in Barnes-Jewish Hospital, St. Louis Children's Hospital, the Clinical Sciences Research Building, the East Building, the Scott Avenue Imaging Center, the Center for Advanced Medicine, the Charles F. Knight Emergency Center and the South County Siteman Cancer Center. Services also are provided at Barnes-Jewish West County Hospital, Progress West Hospital, and Barnes-Jewish St. Peters Hospital and at the Washington University Orthopedics and Barnes-Jewish Hospital Outpatient Orthopedic Center.

With consolidation of psychiatric patient care services in the West Pavilion, the eight-story Renard Hospital provides additional office and laboratory space for the Department of Psychiatry.

Maternity Hospital provides offices for the departments of Obstetrics and Gynecology and Ophthalmology and Visual Sciences. A Perinatal Center and some Psychiatry clinical research are located in this building.

The West Building contains administrative offices and research laboratories for the Department of Pathology and Immunology and research labs for the Department of Medicine.

Wohl Hospital Building provides offices and laboratories for the Department of Medicine and the Department of Surgery.

Wohl Clinic The lower five floors contain the Chromalloy American Kidney Dialysis Center, space for translational research and faculty & administrative offices. The upper five floors are devoted to research facilities for several departments of the School of Medicine.

The 294,302-gross-square-foot building at 4444 Forest Park houses administrative offices of various medical school departments plus the Program in Physical Therapy, the Program in Occupational Therapy and the Genome Sequencing Center, including
the new Center for Genomics and Human Genetics.

The **4511 Forest Park Medical Building** houses administrative offices and research labs for the Department of Radiation Oncology. The third-floor clinic and office area has recently been renovated into wet lab research space.

The 136,977-gross-square-foot, seven-story **East McDonnell Specialized Research Facility** is a maximum-barrier research facility to accommodate higher brain function research and transgenic studies.

The 10-story **Clinical Sciences Research Building (CSRB)**, 357,768 gross square feet and **North Tower Research Addition**, 201,349 gross square feet, consolidates medical school specialized research into one structure. The top three floors of the addition house wet lab research space.

The new **4515 McKinley Research Building** (2015) 215,755 gross square feet accommodates the consolidated Department of Genetics as well as new recruitments for the Center for Genomic Science, the Department of Medicine, and Regenerative Medicine. A Cellular Imaging Core is located in the basement and will draw people from across the School of Medicine and Danforth campuses. The building was designed with an open concept to encourage collaborative and interdisciplinary communications among researchers.

The **4488 Forest Park Parkway Building** houses, among other things, the recently completed administrative offices, and research labs for the Washington University Knight Alzheimer’s Disease Research Center (ADRC). The ADRC is one of 29 centers funded or otherwise supported by the National Institute on Aging with the collective aim of facilitating advanced research on clinical, genetic, neuropathological, neuroanatomical, biomedical, psychosocial, and neuropsychological aspects of Alzheimer’s disease and related brain disorders.

The second floor of the **Taylor Avenue Building (TAB)** was renovated in 2012 to create office and teaching space for the Division of Public Health Sciences in the Department
of Surgery. This renovation adds ten teaching rooms, each named for a pioneer in public health sciences who opened new fields, paths to study, or applied research to improve population health. The largest teaching space holds fifty people, and many of the rooms are equipped with state-of-the-art video conference technology. The rooms are used to support exceptional population health sciences and clinical research training through the Master of Population Health Sciences (MPHS) degree program for clinicians, clinical doctorates, and medical/health services students. The space also accommodates professional meeting space for clinicians and researchers across Washington University campuses for groups including Siteman Cancer Center Prevention and Control, the Transdisciplinary Research on Energetics and Cancer Center (TREC@WUSTL), and for community partner events through the Program for the Elimination of Cancer Disparities (PECaD). Additional renovations were completed in 2015 to create space for Psychiatry research, including the Mindfulness Based Stress Reduction and Exercise projects. The space was designed to offer long-term flexibility for future research as priorities and grant funding changes.

The 2-story, 25,000 square foot 620 S. Taylor building was completed in 2015. The ACTU, Weight Management, Neurology and Infectious Disease clinics occupy this space.

Founded in 1911, the Bernard Becker Medical Library is one of the oldest and most comprehensive medical libraries west of the Mississippi. The library serves as an information hub for the Washington University Medical Center and extends its services and resources to the global health science community.

Becker Medical Library’s mission is to bring together resources, information and expertise to deliver innovative support for advancing discovery and improving human health. Among the resources it offers focusing on health and biological sciences are 6,783 full text e-journals; 21 specialized databases; and 41,028 e-books. Subject expertise and support comes from library divisions focusing on specific areas aligned with the school's mission.

The Translational Research Support Division of the library provides specialized
knowledge, customized programs and services, and unique information resources to support Washington University's broader goals of connecting basic research to patient care. The division includes a science support program to provide instruction, consultation services and support for specialized software and databases for the genomic and basic science research community. Its community outreach and health communication program focuses on ways to foster health literacy and seeks opportunities to partner with the School of Medicine; and medical center groups to improve the communication skills of our clinicians and researchers and enhance the creation and delivery of reliable and credible health information. The division also includes a scholarly communications program to support authors and researchers on a wide range of issues including publishing options, public access mandates, copyright and author rights, assessment of research impact and dissemination of research findings.

The Health Information Services Division offers a broad range of biomedical resources and training services to faculty teaching the next generation of health care leaders, to students learning evidence-based medical skills and to clinicians on the front lines providing quality patient care. This division works closely with the school's education programs in support of their curricula and the affiliated teaching hospitals to support evidence-based practice. Its librarians conduct complex literature reviews and collaborate closely with researchers on systematic reviews.

The Collection Management Services Division supports teaching, research and patient care by arranging access to the primary journals, databases and books which faculty require. Negotiating affordable contracts with a wide variety of publishers and making purchased resources discoverable through the library catalog and electronic portal ensure that basic information needs can be expeditiously fulfilled. Interlibrary loan services complement the library's own collection when necessary by obtaining materials from other libraries.

Special Collections (Archives and Rare Books) is a unique and important unit of the library's resources. The Archives preserve and make accessible 905 archival collections, comprising institutional records, manuscripts, visual items and oral histories that
document the medical center’s institutional history, ongoing progress and many significant contributions of its faculty. Among the manuscript collections are papers of William Beaumont, Joseph Erlanger, E.V. Cowdry, Evarts Graham and Carl Cori. There are nine distinct rare book collections containing 16,001 books available for scholarly use. These acclaimed collections include the Bernard Becker Collection in Ophthalmology and Optics, the CID-Max Goldstein Collection in Speech and Hearing, the H. Richard Tyler Collection in Neurology and the Robert E. Schlueter Paracelsus Collection of the St. Louis Medical Society.

The Bernard Becker Medical Library takes pride in providing the latest biomedical information and services to the Medical Center. For detailed information about the library’s programs and services, visit https://becker.wustl.edu.

The library is open to the general public Monday through Friday, 7:30 a.m. to 6 p.m. Library hours for faculty, students and staff affiliated with Medical Center:

Monday-Thursday: 7:30 a.m. – midnight
Friday: 7:30 a.m. – 10 p.m.
Saturday: 9 a.m. – 6 p.m.
Sunday: 11 a.m. – 11 p.m.

Telephone numbers:
Circulation Services: (314) 362-7080
Information Services: (314) 362-7085
Interlibrary Loan: (314) 747-0029
Archives and Rare Books: (314) 362-4236

**Barnes-Jewish Hospital** has a premier reputation in patient care, medical education, research and community service, and is the adult teaching hospital of Washington University School of Medicine, which is ranked among the top medical schools in the country. The 9,573 Barnes-Jewish team members include professional nurses, technicians, service and support personnel, plus more than 1,534 physicians and 829 residents, interns and fellows. Barnes-Jewish is licensed for 1,315 beds and in 2014
had 53,397 inpatient admissions, along with 80,136 emergency department visits. In
2003, Barnes-Jewish Hospital was the first adult hospital in Missouri to earn Magnet
recognition, the highest award given by the American Nurses Credentialing Center,
and was redesignated in 2008 and 2013. Barnes-Jewish Hospital has been consistently

For 135 years, St. Louis Children's Hospital has been at the forefront of pediatric
medicine, with physicians, nurses and staff who dedicate their lives to the care of
children. The hospital provides a full range of services to children and their families
throughout its 300-mile service area, as well as to children from all fifty states and 80
countries around the world. Children's Hospital offers comprehensive services in every
pediatric medical and surgical specialty, including newborn medicine, cardiology,
orthopedic surgery, neurosurgery and one of the nation's largest pediatric transplant
programs. St. Louis Children's Hospital-Washington University is currently ranked in all
10 specialties on the U.S. News 2016-75 list of America's Best Children's Hospitals. St.
Louis Children's Hospital is one of only 100 hospitals worldwide to be designated as a
Magnet hospital for nursing excellence by the American Nurses Credentialing Center®
(ANCC), and has had that unique distinction since 2005.

St. Louis Children's Hospital provides an array of community outreach services,
including three pediatric mobile health vans, injury prevention programs, educational
classes on parenting and child development, as well as patient and parent support
groups. The hospital also operates a Family Resource Center, which provides free child
health information services, a physician referral phone line, a mobile phone app called
Kid Care, and a parenting blog, www.childrensmomdocs.org. For more information on
accessing these, or any hospital services, visit www.stlouischildrens.org.

BJC HealthCare is one of the largest nonprofit health care organizations in the United
States, delivering services to residents primarily in the greater St. Louis, southern
Illinois and mid-Missouri regions. BJC serves urban, suburban and rural communities
and includes 12 hospitals and multiple community health locations. Services include
inpatient and outpatient care, primary care, community health and wellness,
workplace health, home health, community mental health, rehabilitation, long-term
care and hospice.

Through a collaboration among the Barnard Cancer Institute, Barnes-Jewish Hospital and Washington University, medically indigent patients with cancer or diseases of the skin receive care at no cost to them from Washington University physicians at the Alvin J. Siteman Cancer Center and Barnes-Jewish Hospital. **Barnard Hospital** also houses the Washington University Clinical Research Unit, part of the Institute for Clinical and Translational Sciences (ICTS) Center for Applied Research Sciences (CARS), a support center for Washington University clinical investigators.

**CID – Central Institute for the Deaf** is an internationally recognized center for deaf education that teaches children to listen, talk and read so they can attend general education schools in their communities with their hearing peers without the use of sign language. CID’s mission includes the continued professional development of teachers of the deaf, speech-language pathologists, audiologists and other professionals who help children acquire speech and spoken language.

CID’s acoustically enhanced “quiet school” features the Joanne Parrish Knight Family Center, serving children and their families from birth to 3. CID Anabeth and John Weil Early Childhood Center and Virginia J. Browning Primary School serve students ages 3 to 12. CID schoolchildren and their families have come from 48 U.S. states and 33 other countries.

CID services for professionals include continuing education e-courses and workshops, consulting services and in-service training for schools and school districts, and educational curricula that have been used to help children in all U.S. states and many countries throughout the world.

CID is financially independent from, but closely affiliated with, CID at Washington University School of Medicine, which continues to operate CID-developed adult clinic, research and academic programs that benefit children and adults with hearing loss. The university acquired these programs in September 2003 along with state-of-the-art facilities at the CID campus, 4560 Clayton Ave. with CID’s entrance at 825 S. Taylor. CID
continues to provide faculty and practicum sites for the university's graduate degree programs in deaf education and audiology. CID teachers and pediatric audiologists continue to work closely with its speech and hearing scientists in studies involving children who are deaf and hard of hearing.

**The Alvin J. Siteman Cancer Center at Barnes-Jewish Hospital and Washington University School of Medicine** is designated by the National Cancer Institute as a Comprehensive Cancer Center, the only such center in Missouri. Siteman is world-renowned for its basic science, translational, and prevention and control research. Siteman enhances, promotes and supports interactions among cancer research efforts throughout the campus and has provided an organizational focus and stimulus for researchers to continue to produce cutting-edge institutional research.

The center holds nearly $145 million in extramural funding for cancer research and supports seven research programs (Breast Cancer Research, Cell-to-Cell Communications in Cancer Hematopoietic Development and Malignancy, Oncologic Imaging, Prevention and Control, Solid Tumor Therapeutics Tumor Immunology). Siteman also provides 120 shared resource facilities to its more than 250 research members. Shared resource facilities include: Center for Biomedical Informatics (CMBI); Siteman Biostatistics Shared Resource (SBSR); Siteman Flow Cytometry Core (SFC); Imaging Response Assessment Core (IRAC); Genome Technology Access Core (GTAC); Biologic Therapy Core Facility (BTCF); Proteomics Shared Resource; Small Animal Cancer Imaging (SACI); Immunomonitoring Laboratory (IML); Genome Engineering and iPSC Center (GEiC); and Tissue Procurement Core (TPC).

Siteman is integrated with The McDonnell Genome Institute at Washington University, the Institute for Public Health and the Mallinckrodt Institute of Radiology. In partnership with the community, Siteman's Program for the Elimination of Cancer Disparities (PECaD), addresses racial, ethnic, socioeconomic and other disparities in cancer awareness, screening, treatment and research.

Siteman offers a wide range of educational and training opportunities in cancer research, including seminars, conferences, retreats, a summer student program and a
pre/postdoctoral training program in cancer biology research.

For more information regarding Siteman’s research programs, shared resources and educational opportunities, please visit www.siteman.wustl.edu/research.aspx.

A current listing of upcoming seminars is available at www.sitemanseminars.wustl.edu.

Other hospitals. The following hospitals and facilities also are associated with the School of Medicine, and Washington University physicians treat patients at these locations:

- Barnes-Jewish West County Hospital
- Barnes-Jewish St. Peters Hospital
- Christian Hospital Northeast
- Missouri Baptist Medical Center
- Veterans Administration Medical Center
- Shriners Hospital for Children
- Parkland Health Center
- Progress West HealthCare Center
- Phelps County Regional Medical Center
- Southeast Missouri Hospital

Research Activities
Grants and contracts totaling more than $531 million supported faculty research efforts at the School of Medicine during the fiscal year ending June 30, 2015. Substantial additional support was provided directly to faculty investigators by the Howard Hughes Medical Institute. Gifts and grants from private sources, including alumni, individuals, foundations, corporations and other organizations, totaled $157 million.

During the Washington University fiscal year ending June 30, 2015, the School of Medicine received $352.3 million from the National Institutes of Health. This amount includes direct-pay and pass-through awards.

The many firsts at the School of Medicine include:

- Served as a major contributor of genome sequence data to the Human Genome Project, providing the foundation for personalized medicine.
- Developed a genetic test that detects whether an individual will develop a form of thyroid cancer and would benefit from thyroid removal — the first surgical prevention of cancer based on genetic test results.
- Developed screening tests used worldwide to diagnose Alzheimer’s disease.
- Created the first positron emission tomography (PET) scanner, a device that images the brain at work.
- Helped pioneer the use of insulin to treat diabetes.
- Proposed the now-common practice of taking aspirin to help prevent heart attacks.
- Performed the world’s first nerve transplant using nerve tissue from a cadaver donor.
- Developed a blood test that quickly and safely identifies whether a patient needs invasive treatment for a heart attack.
- Decoded the entire genome of a cancer patient and used the results to alter the course of treatment, which put the cancer into remission.
Demonstrated that severely malnourished children given antibiotics along with a therapeutic peanut butter based food are far more likely to recover and survive than children who only receive the therapeutic food.

Ongoing research includes:

- Participating in the National Children's Study, the largest U.S. study of child and human health ever conducted.
- Seeking new ways to diagnose and treat stroke as part of a national network of state-of-the-art stroke treatment centers.
- Decoding the genomes of hundreds of cancer patients and their tumors to understand the genetic roots of the disease and to find better treatments.
- Leading an international research collaboration to study inherited forms of Alzheimer's disease and one of the first clinical trials to evaluate whether the disease can be prevented before memory loss and dementia develop.
- Developing and using nanoparticles for molecular imaging and targeted drug delivery for cancer and heart, lung and vascular diseases.
- Mapping the major circuits in the human brain to understand normal brain function and connectivity errors involved in alcoholism, autism and schizophrenia.
- Exploring the links that connect obesity and malnutrition to the community of microbes that live in the gut.
- Searching for clues in the brain and spinal cord to help physicians diagnose Alzheimer’s disease before symptoms develop.
- Leading research, teaching and community engagement to improve population health through Washington University’s Institute for Public Health.
- Investigating changes to the brain in soldiers exposed to roadside blasts and athletes who have suffered repeated concussions to understand their long-term mental and physical consequences.
- Exploring the genetic influences at play in alcohol, smoking and drug addiction.
- Leading research to improve care for heart failure and cardiovascular disease, including clinical trials to evaluate mechanical assist devices and studies to look at the link between diabetes and aggressive heart disease.

**BioMed 21**

Launched in 2003, BioMed 21 creates a multidisciplinary and translational-research imperative for basic scientists and clinician-researchers from many medical disciplines.

BioMed 21 reorganizes the life sciences at Washington University to address the biggest questions about disease: their origins, how they affect us and how we can cure them. Its goal is to reshape the university culture to rapidly convert the knowledge of the genetic blueprint of human beings into effective, individualized treatments.

To successfully make those discoveries and develop those therapies, BioMed 21 advances on many fronts:

It aims to collect and dedicate resources, including NIH support and gifts from friends and supporters. Recent grants include:

- $50 million grant to enhance clinical and translational research
- $14 million in two grants for neuroscience research
- $16 million grant for nanomedicine research

It defines new spaces to house promising research and educational programs, including:

- 240,000 square feet of new research space in the new BJC Institute of Health at Washington University School of Medicine in the center of the medical campus
- the Farrell Learning and Teaching Center, an important teaching component of BioMed 21
• a 40,000-gross-square-foot facility designed to spur development of mouse models for human diseases

• a 16,000-square-foot data center to meet the massive computing needs of The Genome Center

• 15,000 square feet of space added to the previously established Center for Genome Sciences & Systems Biology to support new investigators

In addition to the Center for Sciences & Systems Biology, it establishes five new Interdisciplinary Research Centers (IRCs) housed in the BJC Institute of Health at Washington University School of Medicine. The IRCs are central in promoting scientific and educational innovations across school boundaries. IRCs have the primary goal of promoting innovative interdisciplinary, inter-departmental research and education in the biological and medical sciences. The mission of the IRCs is to assemble talented faculty and students to address key and emerging scientific problems, and to understand fundamental biological processes with broad implications for human health.

• The BRIGHT Institute (Bridging Research with Imaging, Genomics and High-Throughput)

• Center for the Investigation of Membrane Excitability Disorders — The EXCITE Center

• Center for Women's Infectious Disease Research (cWIDR)
  Diabetic Cardiovascular Disease Center (DCDC)

• Hope Center Program on Protein Aggregation and Neurodegeneration (HPAN)

See biomed21.wustl.edu to learn more.

Research training

The School of Medicine offers many degree programs focused on research training. Please visit the Programs section or the links below for more information.
Combined degrees

Doctor of Medicine/Doctor of Philosophy (MD/PhD)

Doctor of Medicine/Master of Arts (MD/MA)

Doctor of Medicine/Master of Science in Clinical Investigation (MD/MSCI)

Doctor of philosophy programs

Biomedical Sciences

Audiology and Communication Sciences

Occupational Therapy

Physical Therapy

Masters degree programs

Master of Science in Applied Health Behavior Research

Master of Population Health Sciences

Postdoctoral research training

Postdoctoral research fellowships

Medical student research opportunities

Summer Research Program

Year-long research activities
Medical Alumni and Development Programs works with individuals and organizations to secure the human and financial resources necessary to help the School of Medicine achieve and maintain excellence in research, teaching and patient care.

Washington University Medical Center Alumni Association

The Washington University Medical Center Alumni Association WUMCAA was organized more than 60 years ago to foster a continuing spirit of fellowship among graduates, and to maintain and enhance the tradition of excellence of the School of Medicine. Membership is free and provided to graduates and former house staff of the medical center.

The association complements the goals and purposes of the School of Medicine through a variety of programs for its members and current students. Involvement in these activities also provides the opportunity to continue the relationships begun as students and to develop rewarding professional associations.

Student-alumni programs

The Office of Medical Alumni and Development Programs and the WUMC Alumni Association assist students in a variety of ways. The association makes a substantial financial commitment each year to support 16 Distinguished Alumni Scholars. These promising medical students receive full-tuition, four-year scholarships in honor of great teachers and mentors who were also alumni of the School of Medicine. The association also provides an activity fund for both the first- and second-year classes and sponsors a reception for the graduating class, their families and faculty.

In addition, the association provides financial support to a number of student-initiated
community service activities, including a variety of health-education programs in public schools and clinics.

Medical Alumni and Development coordinates an alumni resource bank that arranges more formal contacts between alumni and students. Alumni volunteers host students who wish to spend time with a practicing physician, provide information to help students choose a specialty, serve as preceptors for clerkships and electives, and provide overnight lodging to fourth-year students going on residency interviews.

Reunions and other events

The School of Medicine’s Reunion is held in May for medical classes who return at five-year intervals, beginning with the class observing its 10th year following graduation and continuing through the class celebrating its 55th reunion and all emeritus alumni (all classes beyond their 55th reunion). The reunion schedule includes a scientific program, social events, tours of the medical center and the presentation of Alumni Achievement, Faculty Achievement, Resident/Fellow Alumni Achievement and Distinguished Service awards. Award recipients are chosen on the basis of personal accomplishment, professional achievement and/or service to the School of Medicine. Members of the graduating class are special guests at the awards banquet and are officially welcomed into the Alumni Association.

The Alumni Office sponsors special alumni activities in selected cities across the United States. Volunteers from each area assist in sponsoring these events, which help alumni stay abreast of the educational and research activities at the School of Medicine. The Alumni Office also compiles class newsletters for selected classes, including recent graduates and Emeritus alumni.

Alumni support

Supporting their school generously is a tradition for a large percentage of alumni of the medical school and the health professions programs. Each year alumni and friends make gifts to the Annual Fund, which supports the medical school's departments,
divisions and health care professional programs, as well as scholarships and low-interest loan programs for students. Alumni also designate gifts for special purposes within the medical school, including specific research, education and training programs.

During the 1977-78 school year, the Executive Council of the Washington University Medical Center Alumni Association voted to establish the Alumni Endowed Professorship Program. The first alumni professorship was awarded in 1982. Ten professorships have been created thus far.

**Schools of Washington University**

All schools are located on the Danforth Campus at One Brookings Drive, St. Louis, Mo., 63130, except the School of Medicine, which is at 660 S. Euclid Ave., St. Louis, Mo., 63110. A University-sponsored shuttle bus travels between the Danforth Campus and the Medical Center at regular intervals.

**Arts & Sciences**

- College of Arts & Sciences
- Graduate School of Arts & Sciences
- University College

**Sam Fox School of Design & Visual Arts**

- College of Architecture
- Graduate School of Architecture & Urban Design
Washington University offers some of the nation's finest degree programs in medicine, biomedical research, allied health and public health. An outstanding education from the School provides graduates with solid opportunities for highly sought-after residencies and fellowships, engaging and challenging research endeavors, and successful, rewarding careers in medicine and related fields.

The Bulletin of the School of Medicine provides an overview of the courses, curriculum and faculty of each degree program. For complete information, please visit the program websites, accessible via the links at left.
MD Programs

Washington University School of Medicine offers several programs and combined degree programs:

- Doctor of Medicine (four-year program)
- Doctor of Medicine (five-year program)
- Doctor of Medicine and Master of Arts
- Doctor of Medicine and Master of Science in Clinical Investigation
- Doctor of Medicine and Master of Population Health Sciences
- Doctor of Medicine and Master of Public Health
- Doctor of Medicine and Doctor of Philosophy (MSTP)

Doctor of medicine

By conferring the MD degree, the University certifies that the student is competent to undertake a career as a doctor of medicine. It certifies further that, in addition to medical knowledge and skills, the graduate possesses qualities of personality — compassion, emotional stability and a responsible attitude — essential to an effective professional life.

Four-year program

A course of medical education for the MD degree ordinarily consists of a minimum of four years of study. Students recommended for the Doctor of Medicine degree must be of good moral character, they must have completed an entire academic course of instruction as matriculated medical students, they must have passed all required subjects or the equivalent and have received satisfactory grades in the work of the full academic course, and they must have discharged all current indebtedness to the University. The School requires that students take the USMLE Step 1 and Step 2 (CS
and CK) examinations. All students must take and pass the School's Comprehensive Clinical Examination (CCX) prior to graduation.

At the end of the final academic year, students who have fulfilled these requirements will be eligible for the MD degree.

**Five-year program**

In addition to the regular four-year program leading to the MD degree and the MD/MA degree program, students are permitted to spend one additional year in an academic program in a medical or medically related field. In exceptional circumstances, a further additional year may be permitted. The student may receive a stipend but may not be considered an employee of the University. The program must be arranged with an academic adviser and is subject to the approval of the Associate Dean for Medical Student Research. The Student Research Opportunities brochure provides additional important information about participating in this program. Students enrolled in the five-year program must maintain coverage through Student Health while in St. Louis.

**Doctor of medicine and master of arts**

The objective of the MD/MA program is to provide one full year of individual, full-time, in-depth research experience for medical students in preparation for a career in academic medicine. Program participants absent themselves from medical school and spend 12 months working on basic biomedical research or hypothesis-driven clinical research in the lab of a faculty member. Degree requirements include a presentation before a research advisory committee, submission of a publication-quality manuscript and participation in a research ethics seminar.

No academic credit toward the MD degree will be given, but research may be continued as senior elective for credit. Fellowship stipends and other support are available through the Howard Hughes Medical Institute (basic science research), National Institute of Diabetes and Digestive and Kidney Diseases (GI, hepatology, endocrinology, nutrition, nephrology and hematology research), and the Clinical
Research Training Center – Predoctoral Program (clinical research). Students unable to qualify for one of these awards may also apply for Institutional Funding. Funding amounts may vary, and some of these sources have deadlines in early January. Please contact the MD/MA program administrator at (314) 362-7190 or visit the website at http://mamd.wustl.edu for details.

Doctor of medicine and master of science in clinical investigation

The School of Medicine offers a combined MD/MSCI program. Please visit the MSCI section of this site for more information.

Doctor of medicine and master of population health sciences

The School of Medicine offers a combined MD/MPHS program. Please visit the MPHS section of the Bulletin for more information.

Doctor of medicine and master of public health

The School of Medicine offers a combined MD/MPH program. Please visit the MPH section of the Bulletin for more information.

Doctor of medicine and doctor of philosophy (MSTP)

Washington University offers a combined MD/PhD degree program that draws on the resources of the Graduate School of Arts & Sciences, the School of Engineering and the School of Medicine under the auspices of the Medical Scientist Training Program (MSTP). The purpose of the program is to train individuals in medicine and biomedical research to prepare them for careers as physician scientists. The program was inaugurated in 1969 and is one of the oldest and largest in the country. The program, normally completed in seven or eight years, has been highly successful; more than 80 percent of those who have completed postgraduate training are actively involved in research programs at leading institutions.
All students in the program receive financial support in the form of stipends (currently $29,500 per year), health coverage, disability and life insurance, and full tuition remission for both the MD and PhD phases of training.

Only students who have spent the equivalent of at least two years or four semesters in laboratory research should apply to the Medical Scientist Training Program. Applicants must meet the requirements for admission to both the School of Medicine and the graduate program of their choice. The Graduate Record Examination is not required. Students planning to concentrate in disciplines related to the chemical or physical sciences should have completed mathematics through calculus, physics and physical chemistry, and advanced organic chemistry. A course in differential equations also is recommended. For those students whose major interests are in the more biological aspects of medical science, the quantitative requirements for chemistry are less extensive, but a strong background in mathematics, chemistry and physics is still important. Although most individuals enter the program as first-year students, applications will be accepted from students in their first or second year at this medical school. The program matriculates approximately 25 new students each year, which represents one-fifth of the entering medical school class.

The program consists of three parts: 1) two years of an enhanced medical curriculum, 2) at least three years of original research toward a thesis to satisfy the requirements for the PhD degree, and 3) at least 15 months of clinical training based on a student’s career goals. Both degrees are awarded upon the completion of the program.

While the Medical Scientist Training Program includes all medical courses required for the MD degree, it incorporates a high degree of flexibility for individuals through a wide range of electives and graduate courses, some of which may be taken during the first year of the medical curriculum. Every effort is made to individualize each student’s curriculum based on previous background and current interests. The medical and PhD curricula are integrated, which permits students to take PhD course work in lieu of certain medical school course work. In this way, students may substantially meet the course work requirements of the PhD program during the first two medical school years.
The MSTP Committee monitors the performance of each student, and a high scholastic standing as well as a commitment to research is expected.

Students normally spend between three and five years in doctoral studies satisfying the following requirements:

1. Completion of required graduate course work;
2. Successful performance in qualifying examinations;
3. Execution of original research suitable for a dissertation;
4. Defense of the thesis; and
5. Completion of a teaching assistantship.

The PhD degree may be obtained in the Program in Biomedical Engineering, the Division of Biology and Biomedical Sciences or in other research-oriented departments such as Anthropology or Physics. The largest contingent of MSTP students is trained under the auspices of the Division of Biology and Biomedical Sciences. The division, now in its 44th year, is a leader in interdisciplinary biomedical education. Member departments of the division include all clinical and preclinical departments of the medical school, as well as the Departments of Biology and Chemistry. These departments jointly provide training in the following interdisciplinary programs:

- Biochemistry
- Computational and Molecular Biophysics
- Computational and Systems Biology
- Developmental, Regenerative and Stem Cell Biology
- Evolution, Ecology and Population Biology
- Human and Statistical Genetics
- Immunology
- Molecular Cell Biology
- Molecular Genetics and Genomics
- Molecular Microbiology and Microbial Pathogenesis
- Neurosciences
- Plant Biology

The MSTP also permits students to undertake doctoral studies in other disciplines, provided that the resulting thesis is a rigorous, hypothesis-based body of work that is medically relevant.

A series of weekly seminars featuring physician scientists is held for MD/PhD students. These seminars are aimed at stimulating student interest in clinical medicine, increasing awareness of major research problems in clinical medicine and exposing students to diverse career paths in academic medicine.

MD/PhD students attend an annual weekend retreat during which students present their research. The retreat also features discussions led by experts on topics selected by students.

To keep students in the PhD phase of training up to date on their clinical skills, monthly opportunities are offered for clinical interactions. Students are matched individually with a clinical mentor in the specialty of their choice. These interactions include going on rounds and attending conferences.

A two-week non-graded tutorial for MD/PhD students facilitates their transition into the clinical phase of training.

MSTP students are required to complete a minimum of 15 months of clinical training. Opportunities exist to meet part of the requirement while engaged in PhD training. Students may opt to extend clinical training up to 22 months. The intensive clinical training is the last formal requirement for the MD degree.

Application Procedure: Individuals interested in applying to the Medical Scientist
Training Program must complete the MD-PhD section on the AMCAS and the Washington University School of Medicine secondary application. The MSTP requires letters of recommendation from the applicant's research mentor(s).

Individuals wishing additional information about the program may contact:

Medical Scientist Training Program
Washington University School of Medicine
Campus Box 8226
660 S. Euclid Ave.
St. Louis, MO 63110-1093
(800) 852-4625
www.mstp.wustl.edu

Learning Objectives

*Washington University School of Medicine medical student competency-based learning objectives*

*Washington University School of Medicine* provides students with a supportive, stimulating and challenging environment in which to acquire a thorough foundation in scientific medicine and develop skills and professional attitudes necessary for the practice of medicine at the highest possible level of excellence. In addition, the medical school fosters a commitment to collegiality, respect of individuality, community involvement and leadership through many extracurricular organizations and activities supported by the school. The educational program is designed to ensure that each student will demonstrate the following:
I. Medical knowledge

Medical students must demonstrate knowledge of core concepts and principles of human biology and genetics, the scientific foundations of medicine and the causations, epidemiology, diagnosis and treatment of diseases in individuals and diverse populations.

MK-1 Demonstrate knowledge of normal human structure and function at the molecular, genetic, cellular, tissue, organ-system and whole-body level in growth, development, and health maintenance.

MK-2 Describe the basic mechanisms involved in the causation and treatment of human disease and their influence on clinical presentation and therapy.

MK-3 Demonstrate knowledge of the epidemiology of common diseases.

MK-4 Demonstrate knowledge of the impact of ethnicity and culture, socioeconomic factors, and other social factors on health, disease, and individual patient approaches to health care.

MK-5 Describe the basic scientific and ethical principles of clinical and translational research.

II. Patient care

Medical students must demonstrate the ability to provide appropriate patient care in a multidisciplinary setting for the promotion of health and treatment of health problems across the human life span.

PC-1 Obtain appropriate medical histories that include psychosocial and behavioral factors that influence health.

PC-2 Perform accurate physical examinations.
PC-3 Perform basic procedures necessary for the practice of medicine.

PC-4 Apply the scientific method to the practice of medicine including the processes of problem identification, data collection, hypothesis formulation, and the application of deductive reasoning to problem solving, clinical reasoning, and decision-making.

PC-5 Integrate collected clinical information, including history, physical examination, and relevant laboratory, radiologic, and other studies, to develop and carry out with supervision, appropriate, individualized diagnostic and treatment plans for patients across the broad spectrum of acute and chronic conditions.

PC-6 Perform basic risk assessments and formulate plans to promote patient wellness across the human lifespan.

PC-7 Counsel and educate patients and their families based upon consideration of patient lifestyle, culture, concomitant medical conditions, psychosocial, and socioeconomic factors.

III. Interpersonal and communication skills

Medical students must demonstrate their ability to communicate effectively with members of the medical community and with patients and their families from all socioeconomic and cultural backgrounds. (ED-10)

ICS-1 Demonstrate respectful and effective verbal and non-verbal interpersonal communication skills with patients.

ICS-2 Discuss diagnostic and treatment options in a manner that will facilitate the participation of patients and their families in shared decision-making.

ICS-3 Communicate effectively with members, including both physician and non-physician professionals, of the health care team.

ICS-4 Maintain accurate and thorough medical records and written documents.
IV. Professionalism

Medical students must demonstrate a commitment to professional responsibilities, adherence to ethical behaviors, and sensitivity to patients of diverse backgrounds.

PROF-1  Maintain a professionally appropriate demeanor, exhibit high standards of professional integrity, and demonstrate an awareness of potential conflicts of interest.

PROF-2  Apply legal and ethical principles governing the physician-patient relationship to interactions with patients and their families.

PROF-3  Act in the patient’s best interest and serve as a patient advocate.

PROF-4  Work collaboratively and effectively in interprofessional teams.  
PROF-5  Treat all patients and patients’ family members respectfully and compassionately with respect for privacy.

V. Systems-based practice

Medical students must demonstrate an awareness of the larger context and system of health care and its impact on patients and the practice of medicine.

SBP-1  Demonstrate a knowledge of the U.S. health care delivery system, including the impact of financing, health policy, and the regulatory structure on health care.

SBP-2  Describe how health care disparities impact access and delivery of medical care for individuals and describe strategies for addressing these disparities.

SBP-3  Recognize the need for cost awareness and the role of risk benefit analysis in patient and population-based care.

SBP-4  Define patient safety and quality improvement, and discuss strategies to maximize the safety and quality of patient care.
VI. Practice-based learning and improvement

Medical students must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve their patient care skills based on external feedback and self-evaluation.

PBLI-1 Demonstrate the skills needed for life-long learning including the ability to identify and address personal strengths and weaknesses to incorporate formative feedback, and to self-assess knowledge and performance to develop a self-improvement plan.

PBLI-2 Apply an evidence-based approach to medical practice through selecting, appraising, and utilizing evidence from scientific studies related to clinical questions and patients’ health problems.

PBLI-3 Participate in the education of peers and other members of the health care team.

PBLI-4 Identify and address biases (both personal and in others) that may impact health care delivery.

Curriculum

The curriculum is an evolving product of prolonged and continuing study, by both faculty and students, of the present and probable future course of medical science and medical practice, and of the ways in which medical education can be kept abreast of this course. Our students enter medical school with diverse backgrounds and interests and upon graduation undertake a wide variety of careers. The curriculum provides the basic knowledge and skills essential for their further professional
development. Modern medical education can no longer hope to be comprehensive; it must be selective. Yet students must develop facility in the understanding and use of several related technical languages: those of anatomy, chemistry, physiology and clinical medicine. They must share responsibility for the care of the patient. They also must learn how these areas of endeavor are interrelated, how the organization and needs of society influence the methods of providing medical care, and how new knowledge is acquired and old knowledge re-evaluated.

The curriculum includes a core experience based upon a sequence of courses that introduces students to the many domains and disciplines of medicine. The principles, methods of investigation, problems and opportunities in each of the major disciplines of medical science and medical practice are presented in such a way as to help students select the career best suited to their abilities and goals.

In the final year of the medical school curriculum, the required elective program helps students to decide where major interests lie. It also enables them to benefit from the wide range of specialized knowledge and skills found in the faculty and lays the foundation for lifelong learning and application of principles. The elective program permits students to select, according to their desires, the areas they wish to explore or to study in depth.

Visit Learning Objectives for information about the Competency-Based Learning Objectives of the medical degree program.

Description of undergraduate medical education program by year

First year

The first-year curriculum focuses on the acquisition of a core knowledge of human biology, as well as on an introduction to the essentials of good patient care. Diversity among matriculants in undergraduate background and in approaches to learning is recognized and fostered. The courses are graded Pass/Fail, and a variety of didactic
means are made available including lectures, small groups, extensive course syllabi, clinical correlations and an online learning management system. The Practice of Medicine I course uses regular patient interactions and integrative cases to teach students to skillfully interview and examine patients, as well as the fundamentals of bioethics, health promotion/disease prevention, biostatistics and epidemiology. An optional summer research program between the first and second year provides an opportunity for students to explore various areas of basic science or clinical research.

Second year

The second-year curriculum is focused on human pathophysiology and pathology. Through lectures, small group discussions, laboratory exercises and independent study, students acquire broad, detailed knowledge of mechanisms of disease pathogenesis, clinopathological relationships and fundamental principles of therapy. The Practice of Medicine II course continues students’ introduction to the fundamentals of patient care and emphasizes organizing and interpreting clinical information to form a problem list, differential diagnosis and treatment plan. Students also learn how to accurately document and concisely present clinical information. Supervised clinical experiences and small group discussions further engender development of the professional attitudes and high ethical standards required for the third-year clinical clerkships.

Third year

The overall goal of the third year is implementation of fundamental interactive clinical skills necessary for the practice of medicine at the highest possible level of excellence. Students achieve this goal by participating in intensive, closely supervised training experiences in the core clinical clerkships involving inpatient and ambulatory settings and interactions with patients who present a spectrum of emergent, urgent, routine and chronic clinical problems. Through these experiences, students exhibit growth and maturation in their abilities to take medical histories, perform complete physical examinations, synthesize findings into a diagnosis, formulate treatment plans and document and present information in a concise, logical and organized fashion. During
the clinical clerkships, students learn to use the biomedical literature and other educational resources in the service of their patients and in self-directed learning. Students also use their personal experiences and rapidly expanding knowledge of human behavior and ethnic, cultural, socioeconomic and other social factors to develop their own personal standards of compassionate, respectful and ethical behavior in the practice of medicine.

**Fourth year**

The overall goals of the fourth year are to consolidate, enhance and refine the basic clinical skills developed during the clinical clerkships and to explore specialty areas within the field of medicine. This is accomplished by providing each student with optimal preparation for selecting and pursuing graduate medical education opportunities in his/her chosen field of medical practice and/or research. Students may select from a broad array of clinical rotations and research experiences and may arrange extramural experiences. Fourth year is also an opportunity to synthesize the learning from third year in preparation for clinical residency. Towards this end, students are required to complete a Capstone course prior to graduation.

**Courses and Course Directors**

**2016-17**

**First year**

First-year courses are taught during the 39-week academic year.

M80 502 WU Medical Plunge
Will Ross, MD, MPH

M75 501 Physiology
Robert Mercer, PhD

M05 502A Histology and Cell Biology
Paul C. Bridgman, PhD

M05 501B The Human Body: Anatomy, Embryology, Imaging
Glenn C. Conroy, PhD

M30 523 Immunology
Andrey S. Shaw, MD

M30 511 Medical Genetics
Sabrina Nunez, PhD

M30 526 Microbes and Pathogenesis
Henry V. Huang, PhD
Scott J. Hultgren, PhD

M15 502 Molecular Foundations of Medicine
Linda J. Pike, PhD

M35 554 Neural Sciences
David C. Van Essen, PhD
Timothy E. Holy, PhD

M25 507 The Practice of Medicine I
Timothy Yau, MD
  • Clinical Skills
Alan Glass, MD
  • Ethics and Health Policy
First-year selectives

The Selective Program provides first-year medical students with opportunities for enrichment and in-depth focus on areas beyond the core curriculum. All first-year medical students are required to take and successfully complete at least four 10-hour Selective courses with a maximum number of six. Students must enroll in a minimum of one selective in humanities, one in the basic sciences, and one in a clinical area. They must also choose one additional selective from the clinical or basic science category.

Selective category descriptions:

**Basic**: Content or experience primarily deals with issues of cell biology, physiology, pathophysiology of diseases, and scientific and statistical methods.

**Clinical**: Content or experience primarily related to patient care in the inpatient or outpatient setting, communications, public or global health, palliative care or health care policy.

**Humanities**: Content or experience primarily deals with ethics, medicine as the subject of literature or the arts, or the history of medicine.
Examples of selective offerings from last year include:

598H Advanced Interdisciplinary Bioethics Seminar-Ethical Issues in Human Reproduction
582 Alzheimer’s Disease in the Clinic and the Lab
5881 Analysis of Clinical Data
520H Art and Medicine
587Z Beyond the Diagnosis: Social Perspectives on Mental Health
537 Cardiovascular Control Mechanisms
587V Clin Anat & Physio Sherlock Holmes’ Way
587X Clinical Challenges in Health Literacy & Health Communication
5017 Clinical Correlations in Neurosciences
5351 Complementary and Alternative Medicine
530 Contemporary Molecular Immunology
500C Developmental Biology and Disease
538H Doctors on Film
5302 Frontiers in Leukemia
586H Health and Human Rights
5885 Health Street: Hands-On Comm Based Res-I
587L International Health
5878 Introduction to Clinical Neurosurgery
587W Introduction to Dentistry and Oral Medicine
5013 Introduction to Emergency Medicine-I
5016 Introduction to Emergency Medicine-II
581H Introduction to Medical Anthropology
587S Introduction to Newborn Medicine
524H Major Religious Traditions
5009 Medical Spanish
5061 Medicine of Laughter
5667 Microcirculation
588H Music and Medicine
5875 Olin Grand Rounds
516H Patient, Physician and Drama
582H Philosophy of Medicine
587A Physician as Health Protector and Patient Advocate
587N Public Health
587U Saturday Neighborhood Clinic
587T SPOTS (Sun Protection Outreach Teaching by Medical Students)
587D Students Teaching AIDS to Students (STATS)
528H Terminal Illness and Death
580H The Healer’s Art
5876 Topics in Orthopaedic Surgery
533 Tropical Medicine
5863 Underserved Areas: Urban, Rural, Abroad

Second year

Second-year courses are taught during the 36-week academic year.

Course no./course title

M25 611B Cardiovascular Disease
Dana R. Abendschein, PhD
Justin Sadhu, MD

M25 614 Dermatology
David Sheinbein, MD

M35 632 Diseases of the Nervous System
Allyson Zazulia, MD

M55 660B Clinical Topics in Otolaryngology
Joseph Bradley, MD

M25 615A Endocrinology and Metabolism
William E. Clutter, MD

M25 620A Gastrointestinal and Liver Diseases/Nutrition
Deborah C. Rubin, MD

M25 625A Hematology and Oncology
Meagan Jacoby, MD, PhD
Eric Knoche, MD

M25 605A Infectious Diseases
Nigar Kirmani, MD
Steven Lawrence, MD

M45 635B Obstetrics/Gynecology
Kenan Omurtag, MD

M60 665 Pathology
Erika C. Crouch, PhD, MD

M65 640A Physicians, Patients & Society: Pediatrics
Amanda Emke, MD
Erika Hayes, MD

M25 607 The Practice of Medicine II
Megan Wren, MD
• Clinical Skills
Alan Glass, MD
• Ethics and Health Policy
  Richard Brasington, MD
• Community and Public Health
  Aimee S. James, PhD, MPH
• Interpreting Illness
  Colleen Wallace, MD
• Medicine Patient Sessions
  Alan Glass, MD
• Neurology Patient Sessions
  Allyson Zazulia, MD
• Ophthalmology
  Colin McClelland, MD
• Communication Skills
  Dehra Glueck, MD
• Radiology
  Catherine Appleton, MD
• Clinical Epidemiology & Evidence Based Medicine
  Jay Piccirillo, MD

M85 676A Diseases of the Nervous System: Psychiatry
Marcie Garland, MD

M25 612B Pulmonary Diseases
Adrian Shifren, MD

M25 613B Renal and Genitourinary Diseases
Steven Cheng, MD

M25 606A Rheumatology
Richard D. Brasington, Jr., MD

Third year
Clinical clerkship (third) year is a 48-week academic year.

Course no./course title

Required Clerkships:

M95 790 Integrated Surgical Disciplines Clerkship (12 weeks)
John Kirby, MD
Eleanor Drew, MD

M25 710 Medicine Clerkship (12 weeks)
Thomas M. De Fer, MD

M35 720 Neurology Clerkship (4 weeks)
Robert Naismith, MD

M45 730 Obstetrics/Gynecology Clerkship (6 weeks)
Tammy Sonn, MD

M65 760 Pediatrics Clerkship (6 weeks)
Michele Marie Estabrook, MD
Colleen Wallace, MD

M25 707 The Practice of Medicine III
Timothy Yau, MD

M85 770 Psychiatry Clerkship (4 weeks)
Brendan O'Connor, MD

Selective clerkships: (choice of one block)

M25 714 Ambulatory: Emergency Medicine Clerkship (4 weeks)
Mark Levine, MD
M26 712 Ambulatory: Family Medicine Clerkship (4 weeks)
Kirsten Brandt, MD

M85 771 Ambulatory: Psychiatry for Generalists Clerkship (4 weeks)
Fay Y. Womer, MD

M90 701 General Radiology Clerkship (4 weeks)
Matthew Parsons, MD
Michael Friedman, MD

M25 740 Dermatology Clerkship (4 weeks)
Lynn Cornelius, MD

M25 750 Geriatrics Clerkship (4 weeks)
Ellen Binder, MD

M60 702 Laboratory Medicine Clerkship (4 weeks)
Mitchell Scott, MD

M25 730 Physical Medicine and Rehabilitation Clerkship (4 weeks)
Neringa Juknis, MD

M90 740 Radiation Oncology Clerkship (4 weeks)
Jeffrey Olson, MD, PhD

M60 750 Surgical Pathology Clerkship (4 weeks)
Samir El-Mofty, DMD, MS, PhD

Fourth year

Fourth year is a 44-week academic year.

M80 849 01 Capstone Course
Gina LaRossa, MD
To qualify for the Doctor of Medicine degree at Washington University School of Medicine, fourth-year students are required to participate in a minimum of 32 weeks of electives (full-time clinical or research courses) and a required four-week Capstone course. Twenty weeks of the minimum required time for the elective year must be taken exclusively in residence in the Washington University School of Medicine elective course program. A complete listing of fourth-year elective offerings at Washington University School of Medicine is available through the Office of the Associate Dean for Medical Student Education. Students may participate in clinical electives of four weeks duration. If a student takes a research elective, that elective must be of at least six weeks duration.

A maximum of 12 weeks of credit is allowed for full-time elective coursework taken at other academic institutions. These may be clinical or research electives. Students desiring credit for work to be done at other institutions must petition the Associate Dean for Medical Student Education. Absolutely no credit will be granted for electives undertaken prior to approval from the appropriate administrative committees.

Credit may be given for elective work done at any point in the standard four-year Doctor of Medicine degree program as long as participation conforms to current elective guidelines, and a) the student is a duly registered, full-time student for a minimum of three years and nine months, including scheduled vacation time, and tuition is paid for four complete academic years; or b) if transferring into the third-year class, the student is a duly registered, full-time student for a minimum of 22 months and tuition is paid for two complete academic years.

Students are encouraged to take lecture-seminar elective courses, but such offerings are optional. Clock hours for the year total 1,386 (36 weeks). Remuneration for work done while participating in electives for credit is prohibited.

Course Descriptions by Department

Anesthesiology
Biochemistry and Molecular Biophysics
Cell Biology and Physiology
Developmental Biology
Genetics
Medicine
Molecular Microbiology
Neurology
Neuroscience
Neurosurgery
Obstetrics and Gynecology
Ophthalmology and Visual Sciences
Orthopaedic Surgery
Otolaryngology
Pathology and Immunology
Pediatrics
Psychiatry
Radiation Oncology
Interdisciplinary and Capstone Courses

M80 899 Medical Student Education Special Study

Instructor(s): Michael Awad, MD, PhD, FACS
Location: Office of Medical Student Education, Becker Medical Library
Elective Contact: Melanie Smigielski, 314-747-3854, smigielskim@wusm.wustl.edu
Other Information: Students should contact Melanie Smigielski to schedule this four-week Special Study Elective.

Enrollment limit per period: 1

This course is a student-designed project under the direction of the Associate Dean for Medical Student Education, Michael Awad, MD, PhD, FACS. It is intended for students who are interested in medical education as an aspect of their future career. The overarching goals are to introduce students to the principles of curriculum development. These principles will then be applied to the review and improvement of the current WUSM medical student curriculum.

Potential topics include: how students learn at WUSM, literature review of emerging technologies, collaborating with a course master for curriculum development and/or
syllabus review. The end product will depend on the nature of the project but potentially the development of a white paper or revised curriculum/course materials. All students will present their work in poster format during the annual spring Office of Medical Student Education’s Med Ed Day.

Student time distribution:
Major teaching responsibility: Michael Awad, MD, PhD, FACS
Patients seen/weekly: N/A
On call/weekend responsibility: N/A

M80 849 Fourth Year Capstone

Instructor(s): Gina LaRossa, MD.
Elective Contact: Gina LaRossa, MD.
Other Information: Additional details will be provided at a later date.
Enrollment limit per period: 65

Valid start weeks for this 4-week course are Weeks 33 and 37

The Fourth Year Capstone Course is highly structured and is schedule sensitive. In order to provide students with the absolute best experience possible, students are REQUIRED to attend ALL sessions. In general the morning sessions will start at 8:00 a.m. and run until approximately 12 noon. Afternoon sessions will generally run from 1:00 p.m. until about 5:00 p.m. The afternoons are hands-on activities which are faculty/staff intensive.

By the end of this four-week course, students should be able to demonstrate improved cognitive and clinical skills needed to enter the internship year of graduate medical training. The target group for this course is primarily students entering clinical residency training positions. As outlined in the course objectives, topics to be covered include acute clinical problems commonly faced on the inpatient service or emergency room, review of key diagnostic testing, basic procedural skills and patient and family communications regarding informed consent and end-of-life issues. Coursework will
be divided between self-study, didactic and small group discussions and “hands-on” skills practice and simulation. Parts of the course will be tailored to individuals entering internal medicine, pediatrics and surgical disciplines. Students will be assessed by performance on simulation exercises and a written exam.

**Learning Objectives:**

By the end of this course:

1. The student will be able to respond to common acute patient problems as tested with simulation by rapidly assessing the patient, requesting relevant information from the patient, medical record, and nursing staff, generate a differential diagnosis and order appropriate diagnostic testing and initial treatment for the problem.

2. Demonstrate competence in a set of designated technical skills commonly needed in residency including basic suturing, chest tubes, central line, thoracentesis, and IV placement.

3. Demonstrate the ability to interpret diagnostic tests, such as chest- x-ray and EKG, commonly used for initial evaluation of acute medical problems.

4. Demonstrate and discuss the key elements of obtaining informed consent, dealing with difficult patient and family situations, end-of-life issues, and pain management.

Alternative clinical skills sessions will be offered on an ad hoc basis for students. These will be available in March and April depending on demand and faculty availability. These will not be “for credit”.

Student time distribution: N/A
Major teaching responsibility: N/A
Patients seen/weekly: N/A
On call/weekend responsibility: None.
M80 851 The Business of Medicine

Instructor(s): William A. Peck, MD, 314-935-9108; Daniel Moon, MD, MS, MBA; Joshua Saef, MD
Location: Washington University Center for Health Policy
Elective Contact: Connie Mushill, 314-935-9108, and Daniel Moon, MD, MS, MBA, moond@wudosis.wustl.edu
Other Information: Farrell Learning and Teaching Center, Room TBD
Enrollment limit per period: 60

This course will be offered in Weeks 41-42 only.

This two-week, interactive course enhances medical students’ “Healthcare System Literacy”, i.e. their understanding of how the healthcare system is structured, financed, operated, and regulated. They will learn how clinical decisions and options are tied to market forces, business structures, and health policy. From clinical practice management issues up to ‘big picture’ views of healthcare, the course modules help prepare students for the challenges they will face in their own practices as well as for leadership roles in improving patient care on a large scale. The course will be a blend of case-method sessions, targeted mini-lectures, expert panels, and field trips; all designed to invite student participation and engagement with representatives from a broad spectrum of the healthcare industry.

Course Objectives
The primary purpose of this course is to equip future physicians with a functional awareness of the market forces influencing patient care and to prepare them for an active role in healthcare delivery improvement.

By the end of the course, students should be able to:

- Understand the Healthcare System, outlining key institutions, corporations, and individual players.
- Analyze the basic ‘nuts & bolts’ of operating a medical practice across the most
prevalent models of practice organization, e.g., how physicians get paid, key cost drivers, and pros/cons of different models.

- Connect physicians’ clinical decisions to a hospital's financial bottom line.
- See healthcare insurance issues and reform from the patient perspective.
- Follow how emerging science and technology innovations progress from the bench to the bedside.
- Recognize how a medical degree can be utilized across a variety of career paths.
- Prepare for common personal finance challenges and milestones facing young physicians.

Grading & Evaluation
The course will be graded on a Pass/Fail basis. There is no final exam. The following criteria will be applied to the final grade:

- Participation during class discussion.
- Students are expected to have read cases and/or pre-reading in order to take advantage of the expert speakers and case protagonists in attendance.
- Assigned question formation and ‘warm calls’. Students will be assigned specific modules for which they are expected to prepare questions for the speaker and other modules where they will have a greater likelihood on being called upon to participate in the discussion.
- Self-assessment – At the end of the course, students will submit a piece describing personal takeaways and key learnings.
- Course evaluation – Student must complete a final survey on the course, rating specific modules and speakers.
- Attendance – Given the importance of class interaction, absences are excused only at the organizers’ discretion.

Student time distribution: Conferences/Lectures/Field Trips/Reading 100%
Major teaching responsibility: Coursemaster, course organizers and case protagonists
Patients seen/weekly: 0
On call/weekend responsibility: None

**M04 582 01 Alzheimer’s Disease in the Clinic and in the Lab**

Instructors: John C. Morris, MD, and other faculty affiliated with the Knight Alzheimer’s Disease Research Center, Department of Neurology. For information, contact Jennifer Phillips at 286-2882 or phillipsj@abraxas.wustl.edu.

Alzheimer’s disease (AD) affects more than 5 million Americans, and will increase substantially as our population ages. Of the top 10 causes of death in the United States, AD is the only disease without any way to prevent, cure or slow the progression. The cost of caring for AD patients has been estimated at over $172 billion annually, and the human toll on patients and family members can be devastating. Patients and families turn to primary care and specialist physicians (e.g., neurologists, psychiatrists, geriatricians) for answers to their plight. The good news for physicians is that research on AD is moving at a rapid pace. Exciting advances in our understanding of AD etiology, early diagnosis and treatment are changing the landscape of dementia care.

Students in this course are offered a dynamic and interactive overview of the most exciting areas of AD clinical and science research from one of the top Alzheimer’s disease research centers in the world. Find out how amyloid plaques and other AD-related abnormalities form in the brain and new discoveries about their possible reversal! The course includes lecture and student presentation components, plus opportunities to observe patients and families in an active neurology memory disorder clinic, participate in neuropathology evaluations of demented individuals, experience and administer psychometric evaluation tools and interact with investigators from the fields of molecular genetics, cell biology and neuropathology.

**M35 851 Clinical Aspects of Aging and Dementia**
Instructor(s): Joy Snider, MD, PhD, and John C. Morris, MD

Location: Knight Alzheimer’s Disease Research Center (ADRC), 4488 Forest Park Ave. (two-story brick building at intersection with Taylor)
Elective Contact: Jennifer Phillips, MPA (coordinator), 314-286-2882, phillipsj@wustl.edu.
Other Information: Please contact Jennifer Phillips to discuss what type of elective experience you would like to have.
Enrollment limit per period: 1
Valid start weeks for 4-week blocks are: Weeks 9, 13, 17, 21, 33, 37 and 41.

This elective provides the opportunity to learn about clinical research and clinical care in health brain aging and dementia. Students should contact Dr. Morris or Dr. Snider to discuss this, as this elective is customized based on student interests. This can be a two-week or four-week elective. Students can gain proficiency in interviewing techniques and in the neurologic examination of the geriatric patient, and be introduced to neuropsychology, neuropathology, biomarkers, neuroimaging, genetics, and other biomedical procedures important in the diagnostic evaluation of older adults. The Knight ADRC is an interdisciplinary group, so students have the opportunity to interact with physicians, nurse clinicians, psychologists, and social workers, and to explore the neuropsychology, neuropathology, biomarkers, neuroimaging, genetics, and other biomedical procedures used in the diagnosis of dementing disorders such as Alzheimer’s disease, dementia with Lewy bodies, frontotemporal dementias, cerebrovascular disorders, and affective disorders.

Student time distribution: Varies based on student interest: a typical distribution would be Research and Clinical Patient Evaluation 80%, Conferences/Lectures 20%, Subspecialty Care 100%
Major teaching responsibility: Attending neurologists, psychiatrists, and geriatricians involved in the evaluation of memory and aging
Patients seen/weekly: 6-12
On call/weekend responsibility: None
Course Evaluations

Systematic course evaluation is performed for each year of the curriculum by faculty peers, teaching faculty and students. This system permits problem identification, ensures timeliness of feedback, promotes discussion of new teaching methodologies, allows curriculum inventory, recommends changes in course offerings and provides better integration of the curriculum. These reviews are guided through the Preclinical Curriculum Committee and the Clinical Curriculum Committee.

The Office of Medical Student Education (OMSE) oversees the course evaluation system. The collected data are forwarded to the respective course masters, the Committee on Medical Education and the Academic Affairs Committee.

Program for Humanities in Medicine

The Program for Humanities in Medicine is a University-wide program directed by Dr. Colleen Wallace and dedicated to providing students with a broadened exposure to areas other than the biological sciences during their medical education. The mission of the program is to generate an appreciation of the relationship of human experience, culture, institutions and values to medicine and thereby help to educate professionals who will apply that understanding to their activities as practicing physicians, researchers, educators, and medical administrators. This program is an enhancement of an already strong curriculum to prepare medical students to pursue their
professional careers more effectively. It takes a major role in the Practice of Medicine course integrated over the first three years of medical school. In addition, all students take one to two Humanities Selectives during their first year, and several electives are offered during the fourth year for interested students as well.

Courses

M80 541 TOPICS IN MEDICINE/MEDICAL HUMANITIES
Instructor: Colleen Wallace, MD, 454-6299

This is a required course for the first year of medical school. Students select topics of interest for in-depth study initiated by discussions in a small-group seminar format. Development of topics includes input from a broad range of disciplines, including sociology, philosophy, music, literature, ethics, history, and communications. Selectives are offered as a menu of mini-courses, each consisting of five 2-hour or six 1.5-hour sessions with a faculty member devoted to an individual subject. Each student must select one course from the menu, and may choose a second course if desired.

MD Academic Calendar

2016

June

17 Friday: Clinic orientation for new third-year students.

20 Monday: Academic year begins for third- and fourth-year classes.

24 Friday: Deadline for registration and initial payment of tuition for the third- and
fourth-year classes.

July

3 Sunday: Independence Day holiday begins at 5 p.m.

4 Monday: Independence Day observance.

August

1 Monday: Orientation, registration, matriculation and initial fee payment for the first-year class.

2 Tuesday: Academic year begins for the first-year class.

15 Monday: Academic year begins for the second-year class.

19 Friday: Deadline for registration and initial payment of tuition for the second-year class.

September

4 Sunday: Labor Day holiday begins at 5 p.m.

5 Monday: Labor Day observance.

November

23 Wednesday: Thanksgiving Day holiday begins at 5 p.m.

24 Thursday: Thanksgiving Day observance.

25 Friday: Holiday for all classes.
December
16 Friday: Winter recess begins at 5 p.m. for all classes.

2017

January
3 Tuesday: Classes resume for all students.
6 Friday: Deadline for payment of the balance of tuition for all classes.
15 Sunday: Martin Luther King Jr. Day holiday begins at 5 p.m.
16 Monday: Martin Luther King Jr. Day observance.

March
24 Friday: Spring break begins at 5 p.m. for first- and second-year classes.
30 Thursday: Spring break begins at 5 p.m. for third- and fourth-year classes.

April
3 Monday: Classes resume for all students.

May
7 Sunday: Academic year ends at 5 p.m. for graduating students.
12 Friday: Academic year ends at 5 p.m. for the second-year class.
19 Friday: Commencement
26 Friday: Academic year ends at 5 p.m. for the first-year class.

28 Sunday: Memorial Day holiday begins at 5 p.m.

29 Monday: Memorial Day observance.

June

2 Friday: Academic year and clinical clerkships end at 5 p.m. for students in clinical clerkships.

Please note: Beginning and ending dates of each academic term will be published with individual class schedules.

Schedule of Clerkship and Elective Intervals 2016-2017

Final examinations for clinical clerkships are administered at the end of each clerkship. Exact date, time and location are announced by the course master.

Weeks/Dates

1-4: June 20, 2016 – July 17, 2016

5-8: July 18, 2016 – Aug. 14, 2016


(Winter recess 5 p.m. December 16, 2016 – January 2, 2017)


37-40: March 13, 2017 – April 9, 2017

41-44: April 10, 2017 – May 7, 2017

45-48: May 8, 2017 – June 2, 2017*

*Clinical clerkships end June 2, 2017.

Lectureships and Visiting Professorships

Several established lectureships enable the School to bring to the Medical Center each year distinguished guests who contribute significantly to the richness of student life.

**Ben T. Abelson Memorial Lectureship in Pediatrics.** Established by Mrs. Ben T. (Ann) Abelson, the first lecture was held on January 8, 1988.

**Dr. Adolfo & Fanny Rizzo Endowed Lectureship.** Established in 2015 by Dr. Adolfo and Fanny Rizzo to support child psychiatry.
Harry Alexander Visiting Professorship Endowment Fund. Established in 1964 by former house staff and friends of Dr. Harry Alexander to provide an annual visiting professor in the Department of Medicine.

Michael Beardslee Memorial Lectureship. Established in 2015 by friends and colleagues to honor Dr. Michael Beardslee and recognize his extraordinary impact on cardiology.

Dr. David C. Beebe Lectureship Endowment Fund. Established in 2015 by colleagues, students, and friends in memory of Dr. David Beebe, who held the Janet and Bernard Becker Professorship in Ophthalmology and Visual Sciences.

Daniel R. Biello Memorial Lectureship. Established in 1986 by friends, students and colleagues of Dr. Daniel R. Biello to provide an annual lectureship devoted to advances in radiology and nuclear medicine.

George H. and Ethel Ronzoni Bishop Fund and Lectureship. Supported by funds made available by friends interested in the advancement of neurology.

Bohigian Lectureship in Ophthalmic History and Visual Sciences. Established in 2010 by Dr. and Mrs. George Bohigian to focus on the history of ophthalmology and visual science.

Dr. John P. Boineau Memorial Lectureship. Established to honor one of the giants in the field of cardiac electrophysiology, Dr. John P. Boineau, who died in 2011. The lectureship was created to bring to Washington University internationally recognized speakers whose careers have been focused on either surgical or medical therapies related to the treatment of cardiac arrhythmias.

Dr. William “Grif” Bowen Endowed Lectureship. Established in 2014 through gifts from colleagues and friends to honor Dr. Bowen, a distinguished primary care physician and a faculty member in the Department of Internal Medicine.
Estelle Brodman Lectureship Fund. Established in 1981 by friends and colleagues of Dr. Brodman in honor of her distinguished contributions to the School of Medicine.

The James Barrett Brown Visiting Professorship. Created in 1969 by patients, friends, colleagues and former students to honor Dr. Brown.

Thomas Burford Lectureship. Founded in 1971 by friends of Dr. Burford.

H. Marvin Camel Annual Lecture in Gynecologic Oncology. Established in 1999 by family, friends and colleagues to honor Dr. H. Marvin Camel's retirement.

Glover H. Copher Research Fund. Founded in 1971 with endowment provided by Dr. Copher and friends.

Carl and Gerty Cori Visiting Professorship. Established in 1985 in honor of Nobel Laureates Carl and Gerty Cori by the Edward Mallinckrodt, Jr. Foundation, colleagues, faculty and former students.

Dr. William S. Coxe Memorial Lectureship Fund. Established by colleagues and friends in memory of Dr. William S. Coxe, a highly-esteemed Washington University neurosurgeon who died in 2012. The lectureship was created to bring to the School of Medicine internationally recognized speakers whose careers have been focused on neurological surgery.

Philip E. Cryer, MD Lectureship. Established in 2015 by colleagues, students, and friends to honor the career of Dr. Philip Cryer, Professor Emeritus and former Director of the Division of Endocrinology, Diabetes and Metabolism and the second Irene E. and Michael M. Karl Professor of Endocrinology and Metabolism in Medicine.

Philip R. Dodge, MD Visiting Lectureship. Established in 1987 by friends and colleagues to provide an annual lectureship in the Department of Pediatrics.

The Professor and Dean Jay M. Enoch and Rebekah Enoch Endowed Lecture on

Joseph Erlanger Lectureship. Established in 1989 by the Department of Cell Biology and Physiology to honor Dr. Erlanger.

I. Jerome Flance Endowed Visiting Professorship. Established in 1977 by former students and friends of Dr. Flance to provide annually a visiting professor in the Division of Pulmonary Diseases.

Julia Hudson Freund Oncology Lecture. Established in 1982 by S.E. Freund in memory of his wife to provide a visiting lectureship in clinical oncology in the Division of Oncology. This was endowed in 2002 by the Harry and Flora D. Freund Memorial Foundation.

Harvey A. and Dorismae Hacker Friedman Lecture on Aging. Established in 2001 to honor the Friedmans for their instrumental role in helping to create the Center for Aging and for their ongoing leadership and support.

Edwin F. Gildea, Jr. Endowed Lectureship Fund. Established in 1978 by friends, colleagues and former students of Dr. Gildea.

Joseph J. Gitt Visiting Professorship. Established in 1971 by his family and friends to honor Dr. Gitt.

Sidney Goldring Lectures. Established in 1992 upon the death of Dr. Sidney Goldring, who was the founder of the Division of Pediatric Cardiology.

Graham Colloquium. A gift from Mr. and Mrs. Evarts Graham, Jr., in 1963 to encourage opportunities for students to expand their views on social, philosophical, artistic and political topics.
Evarts A. Graham Lectureship. Established in 1985 by the Washington University Alumni of the Phi Beta Pi medical fraternity to honor the memory of Dr. Evarts A. Graham.

Samuel B. Guze Lectureship. Established in 1990 by friends and colleagues to honor Dr. Guze.

Carl Gayler Harford Lectureship. Established in 1977 by the family of one of Dr. Harford's patients in gratitude for his contributions to teaching clinical medicine and virology.

Alexis F. Hartmann, Sr. Lectureship Fund. Established in 1960 by friends interested in pediatrics to provide an annual lecture in Dr. Hartmann's honor.

Alex H. Kaplan Visiting Professorship/Lectureship. Established in 1986 by Dr. and Mrs. Alex H. Kaplan to support a visiting psychoanalyst.

Michael M. and Irene E. Karl Lectureship in General Internal Medicine. Created in 1983 by Mr. and Mrs. Meyer Kopolow to provide an annual lectureship in honor of Drs. Michael and Irene Karl.


The Charles Kilo, MD Lectureship. Established in 1998 by Mrs. Ola H. Blodgett to pay tribute to the expert and compassionate care provided by Dr. Charles Kilo.

David M. Kipnis Lectureship. Established in 1998 to provide an annual lecture in
Rosalind Kornfeld Endowed Memorial Lectureship. Established in memory of Dr. Rosalind Kornfeld, a faculty member for 35 years, who died in 2007. She was very involved in promoting the careers of women faculty and was a founding member and first president of the Women’s Academic Network. The fund was features lectures by outstanding women scientists.

Korsmeyer, Stanley Memorial Lectureship. Established by colleagues, family and friends in 2005 in memory of Dr. Stanley J. Korsmeyer, a renowned cancer cell researcher and former Washington University School of Medicine faculty member.


Paul E. Lacy Lecture and Kilo Foundation Award. Established in 1987 by The Kilo Diabetes and Vascular Research Foundation in honor of Dr. Lacy's many contributions to pathology and diabetes research, and to recognize his collaboration over the years with the co-founders of The Kilo Foundation.

Landau Lectureship Fund. This lectureship was established in 1995 by friends, family and colleagues of Dr. Landau.

Irwin Levy Memorial Fund. Supports the Dr. Irwin Levy Visiting Lectureship in Neurology, which was established in 1978 by Mr. and Mrs. Meyer Kopolow.

Oliver H. Lowry Lectureship Fund. Established in 1978 by friends, colleagues and former students of Dr. Lowry.

H. Relton McCarroll Visiting Professorship in Orthopaedic Surgery Fund. Created in 1972 by patients, friends, colleagues and former students in honor of Dr. McCarroll.

Edward Massie Lectureship Fund. Established in 1981 by Edward J. Simon, MD,
Bernard Shanker and other grateful colleagues and patients.

**G. Leland Melson II Lectureship Fund.** Established in 1993 in memory of Dr. Melson by his friends and colleagues.

**J. Neal and Lois Middelkamp Lectureship Fund.** Established in 2001 by Dr. J. Neal and Lois Middelkamp to support a pediatric lectureship in infectious diseases and advances in pediatric education for medical students, residents and pediatricians, all life-long interests of Dr. Middelkamp.

**Dr. and Mrs. William B. Mill, Jr. Lectureship.** Established in 2001 in the Department of Radiation Oncology by Dr. and Mrs. William B. Mill, Jr. This was given in recognition of the career accomplishments of Carlos A. Perez, MD, and the impact he had on the professional development of Dr. Mill.

**Carl V. Moore Lectureship in Medicine.** Established in 1973 by friends and patients of Dr. Carl V. Moore.

**Carl A. Moyer Visiting Professorship of Surgery.** Established in 1978 by The Harry Freund Memorial Foundation to support an annual lecture in honor of Dr. Moyer's contribution to surgery.

**National Kidney Foundation — Saulo Klahr, MD Lectureship.** Established in 1991 by the Kidney Foundation to honor Dr. Klahr, past president of the National Kidney Foundation and the John E. and Adaline Simon Professor and Vice Chair of the Department of Medicine at Washington University.

**Joseph H. Ogura Endowed Lectureship Fund.** Established in 1977 by friends and colleagues of Dr. Ogura as a tribute to his numerous scientific accomplishments and contributions to the School of Medicine and graduate medical education, and his commitment to patient care.

**Charles W. Parker Lecture in Allergy & Immunology.** Established in 2014 by friends
and colleagues of Dr. Parker to honor his legacy as a pioneer in the field of allergy and immunology and as a dedicated educator.

Carlos A. Perez Endowed Lectureship in Oncology. Established in 2002 in the Department of Radiation Oncology by Dr. Perez's friends, colleagues and current and former trainees in grateful recognition for his inspiration, guidance and leadership.

Petrie, Dr. Roy H. Lectureship. Established in 2000 with gifts from various donors in memory of Roy H. Petrie, MD.

Rose and Samuel Pollock Surgical Lectureship. Established in 1976 by Dr. Joseph H. Pollock in memory of his parents.

Probstein Oncology Visiting Lectureship. Established in 1985 by Mr. and Mrs. Norman K. Probstein in appreciation of professional services provided by William Fair, MD, former head of the urology division of the Department of Surgery, and Carlos Perez, MD, professor emeritus of radiology and head of radiation oncology at the medical center's Mallinckrodt Institute of Radiology.

James A. Purdy Endowed Lectureship. Established by Elekta Oncology Systems, Ltd. in 2002 to honor Dr. James Purdy for his contributions to the field of Radiation Oncology.

Eli Robins Lectureship in Psychiatry. Established in 1977 by friends, colleagues and former students of Dr. Robins.

The Peggy Sansone Memorial Lectureship. Created in 2002 by Anthony F. Sansone, Jr. and the Peggy Sansone Special Angel Foundation to promote the exchange of ideas and scientific information on the topic of depression and the role of spirituality in personality development, happiness and mental health. The lecture is a memorial to Mr. Sansone's wife, Peggy Sansone.

Julio V. Santiago Fund, Department of Pediatrics. Established in 1999 by the Department of Pediatrics as a lasting tribute to Julio V. Santiago, MD, for his long-
standing contributions to the areas of diabetes, endocrinology and metabolism.

**Rena Schechter Memorial Lectureship in Cancer Research in the Department of Medicine.** Established in 1996 by Dr. Samuel E. Schechter to create a lectureship in cancer research in memory of his wife, Rena Schechter.

**Dr. Alexander & Helena Schonfeld Lectureship in Medicine Fund.** This lectureship was established in 1994 by Mrs. Helena Schonfeld, in honor of her son, Gustav Schonfeld, Professor of Medicine at Washington University School of Medicine.

**Henry G. Schwartz Lectureship Fund.** Created in 1983 by former residents and colleagues from the neurosurgery department to honor Dr. Schwartz.

**Wendell G. Scott Lectureship Fund.** Established in 1972 by friends and colleagues of Dr. Wendell G. Scott.

**Major G. Seelig Lectureship.** Established in 1948 in the field of surgery by friends of Dr. and Mrs. Seelig.

**Philip A. Shaffer Lecture Fund.** Founded in 1957 by friends of Dr. Shaffer in recognition of his accomplishments in biochemistry.

**Earl E. & Wilma Shepard Orthopedics/Otolaryngology Memorial Lecture Series.** Established in 1994 through a bequest by Dr. and Mrs. Shephard.

**Frank O. Shobe Lectureship.** Established in 1986 by friends of Dr. Shobe to honor him as a physician and teacher.

**Donald C. Shreffler Memorial Lectureship.** Established in 1995 by Mrs. Donald C. Shreffler as a memorial to her husband.

**Eduardo Slatopolsky Lectureship Fund.** Established in 1988 by Mr. and Mrs. William Wolff in honor of Dr. Slatopolsky's 25-year association with the School.
The Karl and Sue Smith Lecture in Pediatrics. Established in 2007 by Dr. Carl Smith, School of Medicine Professor of Pediatrics, with a focus on pediatric lab medicine.

Dr. Burton P. Sobel Memorial Lectureship. Established in 2013 through gifts from faculty and alumni of the Cardiovascular Division in memory of Dr. Sobel, past director of the division whose revolutionary work in the care of acute coronary syndromes laid the groundwork for ongoing discoveries and outstanding patient care.

Spector Lectureship Endowment. Established in 2015 by the Department of Otolaryngology and by colleagues and students as a tribute to Dr. J. Gershon Spector’s 44 years of service and the spirit of exploration and collaboration he exemplifies. The lecture will bring to campus internationally recognized speakers whose work focuses on the biology of the head and neck and oncologic research.

C. Ronald Stephen Lectureship and Clinical Research. Established in 1986 by former students, residents, faculty and friends in honor of Dr. Stephen, first Head of the Department of Anesthesiology.

The Sterling Visiting Professorship. Established in 1986 to honor Ernst Zander, MD, former medical director of Sterling Drug, Inc.

Arthur W. Stickle, MD Lectureship Fund. Established by Arthur and Emily Stickle in 1995 with their generous gift in recognition of Dr. Stickle’s medical training in the Department of Ophthalmology and Visual Sciences and his special professional contribution to the field of pediatric ophthalmology.

The Strunk Family Lectureship in Asthma. Established in 2005 by Dr. Robert C. Strunk and his family to provide lectures in the area of pediatric asthma.

Dr. Richard A. and Elizabeth Henby Sutter Visiting Professorship. Established in 1985 by Dr. and Mrs. Sutter to encourage opportunities for students, faculty, other physicians and the St. Louis community to expand the understanding and practice of occupational medicine.
Dr. Jessie L. Ternberg Pediatric Surgery Visiting Lectureship Fund.
Made possible from a fund established in 1977 by Mr. Meyer Kopolow to honor Dr. Ternberg.

Robert J. Terry Endowment for the Advancement of an Appreciation of Gross Anatomy.
Established by alumni and Charles S. Terry, his son, respectively, “for the purpose of fostering greater appreciation of the study of anatomy.”

Don L. Thurston Memorial Lectureship. Established in 1988 by his wife, Dr. Jean Holowach Thurston, and his colleagues and friends, the lectureship is devoted to the history of biomedical advances.

Leonard J. Tolmach Lectureship. Established in 1995, this lectureship was endowed by friends and colleagues to honor the legacy of Dr. Tolmach. The lecture theme is radiation biology in clinical radiation oncology.

Dr. Mildred Trotter Lectureship Fund. Established in 1975 by friends and former students of Mildred Trotter to bring a distinguished woman scientist to the School of Medicine each year.

Rudolph A. Tuteur Pulmonary Lectureship. This lectureship is endowed by family, friends, patients and colleagues of the Tuteur family to memorialize Rudolph A. Tuteur. The goal of this annual fall event is to promote further understanding of problems associated with chronic pulmonary disease from which he suffered.

Todd Wasserman Endowed Visiting Lectureship. Established in 2004 by Dr. Wasserman and funded by MedImmune, Inc. and friends and colleagues of Dr. Wasserman.
Primary Care Summer Preceptorships

Since 1996 the school has sponsored a primary care preceptorship program for students during the summer between their first and second years of classes. Students select a preceptor in internal medicine, pediatrics or family practice and spend up to eight weeks observing that physician’s clinical practice. A stipend is provided to the student. Although many of the preceptors are in St. Louis, others, particularly alumni, are located in cities throughout the country.

Student Research Fellowships

Student research is an important part of the educational program. Fellowships in basic science or clinical areas will be awarded each year to selected students who undertake research projects under the direction of faculty members. Research allows students to discover firsthand the problems and rewards of obtaining and assessing new information, thus adding another dimension to their experience as investigators.

Most students take the opportunity for research during the summer after their first year of classes. All research must be conducted at the School of Medicine. Students will be awarded a fellowship for the 2.5-month program.

Inquiries should be made to:

Koong-Nah Chung, PhD
Associate Dean for Medical Student Research
Director of the Office of Medical Student Research
Washington University School of Medicine
Advising

Student academic advising occurs within two broad programs.

1. Advising: First-year students are assigned to academic societies upon matriculation. Each academic society has an Advisory Dean. This advisory dean meets with all 1\textsuperscript{st} and 2\textsuperscript{nd} year students individually in the 1\textsuperscript{st} and 2\textsuperscript{nd} year. In addition, advisory deans will meet with their students in small groups several times throughout the year. Advisory Deans meet and discuss with their students how to succeed in medical school, the opportunities and challenges they may face as a medical student, career paths and how to select among them.

2. Career Advisers: As they prepare for their final year of medical school, students have the opportunity to select a career adviser from a list of faculty in the field in which the student plans to seek a residency appointment. The career advisers have responsibility for reviewing the student’s choice for fourth-year electives and making appropriate recommendations for the structure and content of the elective year. In addition, at the beginning of their final year of medical school, students are required to meet with the Assistant Dean for Career Counseling in preparation for writing their Medical Student Performance Evaluation (MSPE or Dean’s Letter). At this meeting and throughout their final year, the assistant dean discusses the student’s long-term educational and career goals, helps choose residency programs that meet these goals, reviews their residency application
and personal statement, and supports construction of their program rank list. The Assistant Dean for Career Counseling is also available to students at any point in their medical school career to provide individual counseling in planning for choosing a specialty, as well as the residency application and match process. For more information visit the Career Counseling Office website and the Postgraduate Training section of the Bulletin.

In addition to the advising programs described, students seek informal advising from faculty with whom they have had contact, either through classroom work, research or clerkships. Students also have faculty contact through membership in the academic societies. Many of the specialty specific student interests groups and other student run programs provide opportunities for clinical shadowing and informal advising.

Alpha Omega Alpha

Alpha Omega Alpha is a national medical honor society. Members are selected by a standing AOA committee during the final year of medical school. Selection is based upon academic performance during the first three years, in addition to other qualities such as leadership. Approximately one-sixth of the class is elected to AOA.

Students elected to AOA are honored at an awards dinner during the final year and at a special AOA lecture.

Awards and Prizes
Washington University School of Medicine publicly recognizes and rewards at two annual events outstanding scholarship, research accomplishments and community service of individual students. In December, the Student Awards Luncheon acknowledges academic excellence earned during the first three years of study. As part of the festive commencement activities in May, graduates are recognized for meritorious research and clinical achievements accomplished during their medical school careers.

Morris Alex, MD Prize. Awarded each year to the medical student who is outstanding among his or her peers in the second-year Practice of Medicine course. The November 2015 recipient: Lindsay Burton

Alpha Omega Alpha Book Prize. Awarded to a member of the graduating class who has performed outstandingly for the entire medical course. The May 2016 recipient: Jeffrey Alan Gluckstein

American Academy of Neurology Medical Student Prize for Excellence in Neurology. Awarded to a member of the graduating class for excellence in clinical neurology and outstanding personal qualities of integrity, compassion and leadership. The May 2016 recipient: Jeffrey Alan Gluckstein.

American College of Physicians Michael M. Karl, MD Book Award. Presented annually to a member of the graduating class committed to a career in internal medicine, in recognition of highest achievement in the field of internal medicine. The May 2016 recipient: Ryan Brent Day.

American College of Physicians Award for Excellence in Physical Diagnosis. Given to a student annually for outstanding performance in the second-year Practice of Medicine course. The November 2015 recipient: Julia Lange.

American College of Physicians Clerkship Award. Established in 1992 to be awarded to a student completing the third year of study with meritorious achievement in the
American Medical Women’s Association Glasgow-Rubin Memorial Award. Presented to the woman graduating first in her class.

American Medical Women’s Association Glasgow-Rubin Memorial Achievement Citations. Presented to women medical students graduating in the top 10 percent of their class. The May 2016 recipients: Caroline Rose Fischer, Brianna Rachel Fram, Celina Rose Jacobi, Johanna Rose Kaufman, Katherin Eliza Leckie, Cherise Meyerson, Gina Nicole Sacks, Ema Zubovic.

The Ruth Bebermeyer Award. Established in 2001 by the WUMCAA executive council to honor Ruth Bebermeyer for her many years of dedicated service to WUMCAA (1990-2000) and to the students of the School of Medicine. The award is given to “a student who has shown extraordinary kindness and sensitivity to the needs of others,” whether those others be fellow students, patients or just people in general. The November 2015 recipient: Bayan Jalalizadeh.

Alexander Berg Prize. Awarded to the student presenting the best results in research in molecular microbiology. The May 2016 recipients: Sarah Elizabeth Greene, Jane Wadsworth Symington.

The James and Philip Brasington Memorial Prize. Awarded to a medical school student who has demonstrated excellent preclinical and clinical academic performance in psychiatry and who has the potential to make significant contributions to the field. The May 2016 recipient: Celina Rose Jacobi.

Jacques J. Bronfenbrenner Award. Provided by Dr. Bronfenbrenner’s students in memory of his inspiration as a teacher and a scientist, and awarded to the member of the graduating class who, as judged by the Department of Medicine, has done the most outstanding work in infectious diseases or related fields. The May 2016 recipient: Punit Akshaya Vachharajani.

Dr. Harvey Butcher Prize in Surgery. Awarded annually in memory of Dr. Harvey Butcher to the members of the graduating class who, as judged by the Department of Surgery, show the greatest promise for general surgery. The May 2016 recipient: Katherine Carol Altheide Ott.


Class of 2001 Award. Established by the Class of 2001 as its gift to the medical school. Awards are to be given to third-year medical students in recognition of outstanding performance in the areas of community service and student group activities in the first two years of medical school. The November 2015 recipients: Harleen Grewal and Jessica Holttum.

Class of 2003 Award. Dedicated to the memory of three classmates who died in a car accident, and is awarded to a first-year student recognized by peers as being selfless, exceptionally kind to others and dedicated to the highest standards in medicine, traits for which these classmates will be remembered. The November 2015 recipients: Seren Gedallovich and Radhika Jain.

Carl F. and Gerty T. Cori Prize in Biochemistry. Awarded at the end of the first year to the class member who has demonstrated superior scholarship in Biochemistry. The November 2015 recipient: Lingling Huang.
Edmund V. Cowdry Prize in Histology. Established in 1969 to honor Dr. Cowdry; awarded to a medical student in the first-year class who has performed meritoriously in Microscopic Anatomy. The November 2015 recipient: Lingling Huang.

Antoinette Frances Dames Award in Cell Biology and Physiology. Awarded annually to members of the first-year class who have demonstrated superior scholarship in these fields. The November 2015 recipient: Lingling Huang.

Elisabeth L. Demonchaux Prize in Pediatrics. Established in 1985, the prize is awarded annually to a graduating student who has done outstanding work in pediatrics. The May 2016 recipient: Paul Edward George.

Steven Dresler Prize. Awarded to a graduating student who has demonstrated a commitment to promoting social good, civil rights and civil liberties through social action and volunteerism. The November 2015 recipient: Miriam Ben Abdallah.

Dr. William Ellis Award. Established in 1990 by Dr. Ellis and awarded to a senior student in recognition of meritorious research in ophthalmology. The May 2016 recipient: Michel Muzi Sun.

The Endocrine Society Medical Student Achievement Award. Recognizing a graduating medical student who has shown special achievement and interest in the general field of endocrinology. The May 2016 recipient: Sophia Mengting Li.

The Family Health Foundation of Missouri Scholarship Award. Awarded to the top graduating student entering the specialty of family medicine. The May 2016 recipient: Brian Andrew Bouchard.

George F. Gill Prize in Pediatrics. Awarded to a member of the graduating class who has demonstrated superior scholarship in pediatrics. The May 2016 recipient: Jane Wadsworth Symington.

Alfred Goldman Book Prize in Diseases of the Chest. Created in 1972 as an annual
award to be given to a student selected by the faculty for outstanding clinical work or research in diseases of the chest or pulmonary physiology. The May 2016 recipient: Lawrence Nathaniel Philip Benjamin.

**Max and Evelyn Grand Prize.** Established in 1985 by Dr. M. Gilbert Grand, the prize is awarded annually to a member of the graduating class for excellence in ophthalmic research or clinical ophthalmology. The May 2016 recipient: Owen Qi.

**Peter Halstead Hudgens Award.** Established by Dr. Richard W. Hudgens in memory of his son, this award recognizes a graduating student for excellence in research and clinical psychiatry. The May 2016 recipient: Emily Hunt Olfson.

**R. R. Hannas Award for Excellence in Emergency Medicine.** Offered annually by the Missouri Chapter of the American College of Emergency Physicians for exceptional performance in emergency medicine. The May 2016 recipient: Daniel Seth Greenstein.

**Nathan Edward Hellman, MD, PhD, Memorial Award.** Recognizes a second-year student selected through a vote of fellow classmates. The recipient is distinguished as a student with a strong track record of accomplishments and an interest in academic medicine, and whose humanism, collegiality, humor and compassion are an inspiration to members of the class. The November 2015 recipient: Michael Snavely.

**Herrmann Prize.** Created by Dr. Paul Herrmann (MD ?61) and his wife, Susan, to recognize a student who is considered a thoughtful and sensitive communicator in the clinical arena and whose listening and communication skills every patient hopes their physician will possess. The November 2015 recipient: Brian Bouchard.

**Dr. John Esben Kirk Scholastic Award.** Established in 1975 and awarded to a graduating student of high scholastic standing. The May 2016 recipient: Cherise Meyerson.

**Rosalind Kornfeld Student Leadership Award.** Presented to a woman or women in the graduating class who has or have demonstrated outstanding leadership in service
to or advancement of women in the community. The May 2016 recipient: Lauren Therese Josiah Martin.

**Louis and Dorothy Kovitz Senior Prize in Surgery.** Senior award in surgery recognizing members of the graduating class who have shown the most outstanding ability, zeal and interest in surgical problems. The May 2015 recipient: Robert Warren DesPain.

**Wallace Leibner Award.** Established in 1988 in memory of Dr. Leibner, the award is given to the member of the graduating class who has not only demonstrated excellence in diagnosis and therapeutics, but also an understanding of human nature and needs, and an active nurturing of both patient and family. The May 2016 recipient: Paul Joseph Scheel III.

**Irwin Levy Prize in Neurology and Neurological Surgery.** Established in 1980 by friends of Dr. Levy as a tribute to his commitment to clinical teaching. Provides a prize for the student who presents the best performance in the neurology and neurological surgery clerkships. The November 2015 recipient: Josiah Gerdts.

**Edward Massie Prize for Excellence in Cardiology.** Awarded to the member of the graduating class, selected by the director of the Division of Cardiovascular Disease in the Department of Medicine, who has done the most outstanding clinical or basic research work in the field of cardiovascular disease. The May 2016 recipient: Andrew Scott Perry.

**Howard A. McCordock Book Prize in Pathology.** Awarded at the end of the second year to a member of that class for general excellence in pathology. The November 2015 recipient: Rose Tang.

**McGraw-Hill/Lange Medical Student Book Award.** Awarded annually to medical students for high scholastic standing. The November 2015 recipients: Brianna Fram and Caroline Fischer.

**Medical Center Alumni Scholarship Fund Prize.** Given annually to students who have
shown excellence in their work during the preceding year. The November 2015 recipient: Johanna Kaufman.

**Medical Fund Society Prize in Medicine.** One prize awarded annually to a graduating student who has excelled in the study of internal medicine. The May 2016 recipient: Daniel Scott Feng.

**Medical Fund Society Prize in Surgery.** One prize awarded annually to a graduating student who has excelled in the study of surgery. The May 2014 recipient: Charles Robert Hong.

**Merck Academic Excellence Award.** Given to three graduating medical students for scholastic achievement in medical studies. The May 2016 recipients: George Olen Denny, Jonathan Randolph Weese, Johnny Zhao.

**Missouri State Medical Association Award.** Presented annually to honor School of Medicine graduates for outstanding achievement in the study of medicine. The May 2016 recipients: Johanna Rose Kaufman, Brianna Rachel Fram.

**The Missouri State Medical Association Student Scholarships.** Awarded annually to first-year medical students who graduated from Missouri high schools in recognition of their high undergraduate academic achievement. The November 2015 recipients: Radhika Jain, Nicholas Karlow, Shamaita Majumdar, Alexander Markov, Kunal Mathur, Michael Rizzo Jr., Derek Schloemann and Alec Wright.

**Dr. Helen E. Nash Academic Achievement Award.** Given annually to a student who has exhibited to an unusual degree the qualities of industry, perseverance, determination and enthusiasm. The prize is given in honor of Dr. Helen Nash, a pediatrician noted in the St. Louis community for her commitment to excellence, tireless advocacy on behalf of children and endless enthusiasm for the field of medicine. The November 2015 recipient: Lauren Martin.

**The Dr. Philip Needleman Pharmacology Prize.** Established by his family in 1989 to
honor Dr. Needleman, who was chairman of the Department of Pharmacology from 1976-89. This annual award is given to a member of the graduating class for outstanding research in pharmacology. The May 2015 Recipient: Kirk Kohwa Hou.

The Doctor James L. O’Leary Neuroscience Prize. Awarded annually to a student who demonstrates the best accomplishment in the Neuroscience course. The November 2015 recipient: Lauren Broestl.


The Richard and Mildred Poletsky Education Fund. Established in 1995 by the family of Mr. Richard Poletsky, an alumnus of Washington University. A prize is awarded annually to a professional student in the health sciences whose interest is in research on dementia and care of demented patients.

The Dr. Frank O. Richards Medical Student Scholarship Prizes. Provided by African-American alumni and friends of Washington University School of Medicine. The prizes embrace diversity efforts and are awarded in recognition of achievements in the first and second year of the curriculum. The November 2015 recipients: Abiye Ibibebele and Ana Rivera.

Dr. Philip Rosenblatt Award in Pathology. Given to a senior medical student for distinguished performance during an elective in pathology or laboratory medicine. The May 2016 recipient: Cherise Meyerson.

Dr. William A. Rubenstein Award in Medicine. Awarded to a fourth year student who shows a serious interest in pursuing a career in internal medicine and who demonstrates the exceptional qualities of a gifted physician, including compassion, caring, and the pursuit of scientific knowledge. The November 2015 recipient: David Qualls.
St. Louis Pediatric Society Senior Prize. Presented to the senior student showing the greatest promise in clinical pediatrics. The May 2016 recipient: Johanna Rose Kaufman.

David F. Silbert Outstanding Teaching Assistant Award. Established in memory of Dr. David Silbert, it is awarded to a teaching assistant in a medical school course in recognition of a commitment to teaching. The November 2015 recipient: Damien Abreu.

John R. Smith Memorial Fund Award. Created in 1982, it is awarded to a medical student who has done meritorious clinical and/or research work in the Division of Cardiovascular Disease within the Department of Medicine. The May 2016 recipient: Natalia Brito Rivera.

Dr. Margaret G. Smith Award. Given to a woman medical student for outstanding achievement in the first two years of medical school. The November 2015 recipient: Alyssa Kronen.

Society for Academic Emergency Medicine Excellence in Emergency Medicine Award. Based on demonstrated excellence in the specialty of emergency medicine, it is awarded to a senior medical student at Commencement. The May 2016 recipient: Daniel Saul Brenner.

Samuel D. Soule Award in Obstetrics and Gynecology. Presented to a member of the fourth-year class for meritorious achievement in either basic or clinical investigation in obstetrics and gynecology. The May 2016 recipient: Ann Catherine Frisse.

Jessie L. Ternberg Award. Presented to a woman graduating from the School of Medicine who best exemplifies Dr. Ternberg's indomitable spirit of determination, perseverance and dedication to her patients. The November 2015 recipient: Lindsey Moses.

Washington University Internal Medicine Club Research Award. Awarded to the
member of the graduating class who has done the most significant research in any area of internal medicine. The May 2016 recipient: Matthew James Crisp.

**Washington University Summer Research Prize.** The award recognizes students for meritorious research in the Summer Research Fellowship Program at Washington University School of Medicine. The November 2015 recipients: Joshua Page and Aaron Zuckerman.

**Samson F. Wennerman Prize in Surgery.** Donated by his wife, Zelda E. Wennerman, and awarded annually to the fourth-year student who has demonstrated promise in the field of surgery. The May 2015 recipient: Faye Hwa-Young Yu.

**Doris P. and Harry I. Wexler Fund.** Established in 1998 by a bequest from Mrs. Wexler, the prize is awarded annually for research in multiple sclerosis and in alternate years research in eye disease. The May 2014 recipient: Cynthia Lee Montana.

**The Park J. White, MD Prize.** Created in 1992 in honor of the centennial of the birth of Dr. White, who was a distinguished pediatrician, social activist and pioneer teacher of medical ethics. He introduced the first course on medical ethics to students in 1927. The prize is awarded to students for outstanding performance in the ethics elective offered by the Program for the Humanities in Medicine. The May 2016 recipient: Brian Andrew Bouchard.

**Hugh M. Wilson Award in Radiology.** Given annually to a graduating medical student in recognition of outstanding work in radiology-related subjects, either clinical or basic science. The May 2016 recipient: Francis Deng.

**The Wynder Prize in Preventive Medicine.** An annual prize established in 1994 and awarded to senior medical students who have done the best research in preventive medicine. The May 2016 recipient: Paul Edward George.

**James Henry Yalem Prize in Dermatology.** Established by Charles Yalem in memory of his son and awarded annually to members of the fourth-year class for outstanding
work in dermatology. The May 2016 recipient George Olen Denny.

Liability Insurance

Washington University provides general liability insurance for all students or practicums while participating in required clinical experiences. In addition, Washington University voluntarily provides a defense and indemnification benefit for matriculated students who are candidates for the MD degree at the School of Medicine (WUSM).

The benefit is provided to WUSM students for defense and indemnification of claims arising out of activities which are part of academic programs and only while a student is acting in his or her capacity as a medical student enrolled in the undergraduate medical program at the School of Medicine. This policy is subject to terms, conditions, limitations and exclusions, and each request for defense/indemnification will be decided on a case-by-case basis at the sole discretion of the university.

Defense/indemnification will not be provided for any criminal acts, acts committed while under the influence, acts in violation of law, or where the injury or damage resulted from intentional malicious conduct or wrongdoing, or in the event that the action or proceeding is brought by or on behalf of Washington University. This indemnification does not cover any liability which is insured elsewhere, but it may be in excess of any amount payable under any other such insurance.

Reporting an incident

Any incident, either actual or alleged involving patient injury which could lead to a claim, which you have knowledge of must be reported immediately to the Risk Management Office of the School of Medicine, (314) 362-6956.
For more information
If you have any questions about Washington University’s professional liability program, please feel free to call the Risk Management Office.

Student Constitution and Bylaws

Article I:
Name, Purpose, and Membership

A. The name of this organization shall be the Medical Student Government of The Washington University School of Medicine.

B. The purpose of the Medical Student Government shall be the advancement of student interests and welfare to achieve excellence in academic pursuits and professional interactions.

C. The Medical Student Government shall represent all students pursuing a medical degree who are in good standing with the University.

Article II:
Class Officers

A. Offices: Each Class shall elect the following officers: President, Medical Education Representative (MER), Representative to the Organization of Student Representatives (OSR Rep) of the Association of American Medical Colleges (AAMC), Representative to the Graduate-Professional Council (GPC Rep), and a Social Chair/Committee.
B. Duties: Each class officer shall have specific responsibilities:

1. President: Each class shall elect one President. This person shall serve as the official spokesperson for the class in dealings with the Student Government and with the University. The President shall disseminate information regarding medical student affairs and activities. The President shall have oversight and approve of all moneys spent by the Social Chair/Committee. The President shall perform any and all duties that are unique to the class represented.

2. MER: The MER shall represent the class at all meetings of the MERs and Curriculum Evaluation Committee and serve as a liaison between students and faculty on curricular matters. The MER shall poll the class as needed regarding course evaluations and selection of recipients for the various Faculty Awards presented each year.

3. OSR Rep: The OSR Rep shall keep class members up to date with news from the OSR and from the AAMC. The OSR Rep shall represent the University at regional and national meetings of the OSR under an agreement with the University.

4. GPC Rep: The GPC representatives shall represent the School of Medicine at GPC meetings and shall inform the GPC of issues affecting the School of Medicine, learn about issues affecting other schools, discuss and find solutions to problems affecting the whole graduate and professional student population, and plan and advertise social activities that foster communication between all graduate and professional students. The Reps shall be the liaison to the other programs within the School of Medicine, as well as to the rest of the University community. In addition, the four Reps will divide the responsibilities of serving on the Professional and Graduate Students Coordinating Committee (ProGrads), the Medical Campus Committee (temporarily named), and other inter-school/division committees as needed. Specifically in regards to the Health Professional Student Leadership Council
(HPSLC), two of the four GPC representatives will serve as voting members on HPSLC. One of these voting members must be the 1st or 2nd year GPC representative. The selection of MSG’s voting members on HPSLC must be made before the end of the sixth week of first-semester classes in the academic year.

5. Social Chair/Committee: The Social Chair/Committee shall organize social functions for class members and interact with other Social Chairs/Committees to organize social functions with other classes and within the University community. The Social Chair/Committee shall consult and obtain approval from the class President for all moneys spent on such functions.

C. Elections: An Election Official designated by the Student Government shall be responsible for the organization and execution of all elections held for offices specified under the Constitution, including President, MER, OSR, GPC, and social chair. Elections shall be held for each of the class officer positions according to the following format:

1. Voting Eligibility: All students who will be a member of the class during the term for which the elected officers will serve will be eligible to vote in the election. Efforts should be made by the appointed election official to extend the opportunity to vote to students who will be entering their respective classes in the upcoming year, including but not limited to the large number of MD/PhD students returning for their clinical clerkships.

   a. First and second year offices: A member of the class will be considered to be an individual who is currently planning on taking the MD course of study for the upcoming year.

   b. Third and fourth year offices: A member of the class will be considered to be an individual who is planning on taking the MD course of study anytime during the upcoming two years, including any individual planning to pursue an MA degree for one year after either the second or third year of medical school.
2. Nominations: Nominations for each office shall be held starting at least one week prior to the election and ending no later than three days prior to the election. Nominations shall be submitted in writing to the Election Official. Any student eligible to run for office may nominate him/herself or another medical student in good standing. Candidates must have the firm intention of carrying out all the duties and obligations of the office for the entire term.

3. Candidate Eligibility: All students who will be a member of the class during the term for which the elected officers will serve, as defined in Article II.C.1, will be eligible to be nominated for election except as described below:

   a. President: The class president does not need to be taking the same course of study as the classmates he or she represents. Any individual who meets the criteria defined in Article II.C.1 will be eligible to serve.

   b. MER

      i. Third year MER: Due to the duties of the third year MER, it is essential that the third year MER be an individual who is currently taking the MD course of study with the rest of his or her classmates.

      ii. Fourth year MER: The fourth year MER rep does not need to be taking the same course of study as the classmates he or she represents. Any individual who meets the criteria defined in Article II.C.1 will be eligible to serve.

   c. OSR Rep: An OSR rep does not need to be taking the same course of study as the classmates he or she represents. Any individual who meets the criteria defined in Article II.C.1 will be eligible to serve.

   d. GPC Rep: A GPC rep does not need to be taking the same course of study as the classmates he or she represents. Any individual who
meets the criteria defined in Article II.C.1 will be eligible to serve.

e. Off-Campus Students: Students who have chosen to pursue a course of study that results in his or her not being in Saint Louis will not be eligible to retain or be nominated for a position. This exclusion does not apply to students who will off-site temporarily for an away rotation.

4. Elections and Terms: All terms shall begin upon election. Regular elections shall be held according to the following schedule:

   a. First Year: Elections shall be held within three to six weeks of the beginning of the first-semester classes. Each position carries a term of one academic year.

   b. Second Year: Elections shall be held within six weeks prior to the completion of the first academic year. Each position carries a term of one academic year.

   c. Third and Fourth Year: Elections shall be held within six weeks prior to the completion of the second academic year. Each position carries a term of two academic years.

5. Class Officer Balloting: To be elected a candidate must receive a simple majority (greater than 50 percent) of the votes cast for that particular office by at least a quorum of one-half of the eligible voters. Write-in candidates shall be allowed on this ballot. Absentee ballots shall be allowed if they are given in writing to the Election Official prior to the day of election. Ballot counting shall be the responsibility of the Election Official under the observation of a witness agreeable to all candidates.

6. Class Officer Runoff Procedures: If no candidate receives a simple majority for a particular position, a runoff between the top two candidates shall be
held within three days of the initial election. Write-in candidates will not be allowed on this ballot. To be elected a candidate must receive the most votes cast for that particular office by at least a quorum of one-half of the eligible voters.

7. Social Chair Election Procedure: Social chair elections will be conducted in conjunction with MSG class officer elections. A maximum of four social chairs can be elected into office. Candidates do not have to receive a majority of votes to be elected into office. All other MSG election procedures apply.

8. Appeals: All decisions are made by the Election Official during the election period. Appeals may be made by a candidate in writing to the Chair of the Medical Student Government and will be reviewed and ruled on by a group consisting of the current President, MER, OSR, and GPC from each of the four classes; the decisions of this group will be considered final.

9. Vacant Offices: If any office is vacated before its set term, an election will be held for that office using the procedures outlined above within three weeks of the vacancy. If a current class officer runs for the vacated office, that officer must vacate the post he/she occupies.

10. Removal from Office: In the unfortunate event that a class officer is not fulfilling his/her obligations and duties, MSG by a two-thirds majority of a quorum of one-half may vote to recommend that an officer be removed from office to the class that elected the officer. A vote of recall shall then be held within one week. If a three-fourths majority of a quorum of two-thirds of a class votes to recall the officer, the officer shall be removed from office. An election for vacant office shall then be held.

D. MD/PhD Research Students: There shall be two Representatives of the MD/PhD students who are outside the core medical curriculum. These Representatives shall be selected by a method chosen by the Medical Scientist Training Program (MSTP.) In addition, these individuals shall be full voting members of the MSG. Each
Representative shall serve a two-year term, with elections for one Representative each summer, so the terms of the two Representatives overlap by one year.

E. Technology Liaison: The responsibilities of the class appointed Technology Liaison include serving as the representative to the administration regarding the availability and utilization of technology and addressing related class concerns. In addition, the Technology Liaison will work with Instructional Technologies and Library Systems (ITLS) to provide new services and assist the MER with technology-related education initiatives. One Technology Liaison will be appointed for each medical school class after the class-wide elections have taken place. After a call for applications from the class, the four (4) elected MSG members of that class review each application and select the Technology Liaison by consensus. The term of the Technology Liaison will be the same as the elected officials of that class.

Article III:

The Medical Student Government

A. Membership: The Student Government shall consist of the President, the MER, the OSR Rep, and the GPC Rep from each of the four classes, as well as two representatives of MD/PhD Students.

1. Additional voting members: Any student who has served on MSG for a minimum of two years and is no longer eligible to serve as a class representative due to departure from the traditional four-year MD curriculum may be remain on MSG as a voting member in an advisory role. All students will only be eligible to serve as a voting member for up to five total years.

2. Non-voting members: In addition, the Student Government may offer a non-voting position to a duly elected representative of any student group which is recognized nationally, regionally or within the Medical School so long as such a group is open to all medical students without discrimination and that such a group is not in conflict with the goals of the Student Government.
B. Purpose and Responsibilities: The Student Government shall carry out the business of the Student Government pursuant to the goals stated in Article I. The purpose of the Student Government shall be to represent and promote the interests and concerns of the medical student body through activities including but not limited to:

1. Forming and representing official student body opinions for interaction with the University, its Administration and other groups associated with medical education.

2. Serving as a forum for interaction between student groups.

3. Serving as a forum for student-initiated curricular review and reform in the pursuit of academic excellence.

4. Promoting interaction among the School of Medicine students, faculty and administration, and with the wider University community.

5. Establishing a funding mechanism and budget with the associated collection and disbursements of funds for activities pursuant to goals stated in Article I.

6. Organizing elections for class officers and any other official representative of the student body at large.

7. Exercising any such additional authority as may be granted to it by the School of Medicine or by other organizations, so long as such authority is consistent with the purposes stated in Article I.

8. Posting agenda of all meetings for public reference. Formulating all rules and bylaws necessary for the Student Government to carry out the responsibilities and powers granted through this constitution. Such rules and bylaws shall require a simple majority of a quorum of two-thirds of the voting Student Government members.
9. The Student Government shall meet regularly and at intervals of no more than six weeks.

10. Representatives from the various student groups sitting on the Student Government shall keep the Student Government informed of all activities associated with their posts in the form of a written brief to be presented at the Student Government meeting as appropriate for their group's activities.

C. Student Government Offices: There shall be a Student Government Chair and Vice-Chair elected from the voting members of the Student Government. Election shall require a simple majority of the voting Student Government. The election shall be held within six weeks prior to the completion of the academic year. The terms of these offices shall be one academic year.

1. Student Government Chair: The Student Government Chair shall preside at all meetings of the Student Government and have specific responsibilities:

2. The Chair shall serve as official representative and spokesperson for the Student Government to the University, its Administration, and to other groups associated with medical education.

3. The Chair shall be responsible to ensure the duties of the Student Government are carried out efficiently and in a timely manner.

4. The Chair shall report the names of the Class Officers to the Dean, and post such a list for public reference.

5. The Chair shall be responsible for overseeing and maintaining records and to set the agenda for such meetings in written form for distribution to Student Government members prior to each meeting.

6. The MSG shall be responsible for overseeing and maintaining records of all financial transactions of the Student Government. The second-year class
president shall regularly update the Student Government on its financial standing, and must make all financial records available to any medical student, member of the Administration, or to any official of the University. All transactions shall require the signatures of the Chair and the Vice-Chair.

7. The Chair shall be empowered to call for standing and ad hoc committees to evaluate and make recommendations about specific areas of concern to the Student Government, the School of Medicine and its students. MSG shall appoint these committees.

8. The Chair shall be empowered to designate another Student Government member to take on one or more of his/her duties.

Article IV:

Ratification and Amendments

A. In 1993 this Constitution was ratified by a 2/3 majority of a quorum of one-half of the student body pursuing a medical degree.

B. This Constitution can be amended by either a 2/3 majority of a quorum of one-half of the students in their first, second, and third years, or by a unanimous vote of the elected members of the Medical Student Government.

Applied Health Behavior Research

The Master of Science in Applied Health Behavior Research (MS AHBR) addresses the science of health behavior and applies it to the development and evaluation of programs and research studies in clinical and community settings. The AHBR graduate
programs are offered through the Washington University School of Medicine and sponsored by the Clinical Research Training Center and the Institute of Clinical and Translational Sciences.

The MS is a 33-unit, multidisciplinary program that focuses on the applied skills required for the development, management and evaluation of health behavior programs and research studies in academic, clinical, and community settings. Students choose one of two concentrations:

1) Health Education, Program Planning and Evaluation – designed for individuals to develop, manage, and evaluate health programs in clinical or community settings; coursework focuses on health behavior theory, program planning, program evaluation, health education and program management

2) Health Behavior Research – designed for individuals to develop theoretical knowledge and gain practical research experience in order to pursue careers in a variety of health related fields and/or manage research studies in clinical settings; coursework focuses on health behavior theory, research methodology, analytic methods, and research project management.

Health Behavior Research, 1-Year/Research Intensive Option – designed to be completed in three semesters and includes nine credit hours of mentored research; provides hands-on training for pre-health students interested in medical and health-related fields; offers practical experience for students planning a gap year prior to medical school as well as opportunities to fulfill specific medical school core competencies and enhance medical school applications.

The MS AHBR degree can be pursued on a part-time or full-time basis. All courses are held during the late afternoon or evening to accommodate working professionals. Applications are reviewed on a rolling basis and coursework is typically completed in two to three years.

The Graduate Certificate in Health Behavior Planning and Evaluation is also offered. This 15-unit program features a curriculum focused on key applied and theoretical
concepts in health behavior, as well as the processes needed for managing program development and evaluation activities in clinical and community settings.

Admissions information

Please visit the [Applied Health Behavior Research](#) website for complete admissions information.

Applied Health Behavior Research Faculty

**Director**

Amy McQueen, PhD
University of Houston, 2002 (Research Assistant Professor, Division of General Medical Sciences)

**Program manager**

Pamela G. Struttmann, MA
Webster University, 1989 (Clinical Research Training Center, Division of General Medical Sciences)

**Instructors**

Patricia A. Cavazos-Rehg, PhD
State University of New York, Buffalo, 2004 (Research Instructor, Department of Psychiatry)
Melissa Chapnick, RD, MS, MPH
Saint Louis University, 2015 (Clinical Research Study Assistant, Department of Obstetrics & Gynecology, Division of Clinical Research)

Robert C. Culverhouse, PhD
Washington University, 1998 (Research Assistant Professor of Biostatistics, Department of Internal Medicine)

Michael Elliott, PhD
Ohio State University School of Public Health, 2001 (Assistant Professor, College of Public Health and Social Justice, Saint Louis University)

Donna B. Jeffe, PhD
Washington University, 1993 (Research Assistant Professor, Division of General Medical Sciences, Departments of Internal Medicine and Pediatrics)

Amy McQueen, PhD
University of Houston, 2002 (Research Assistant Professor, Division of General Medical Sciences)

Maria Perez, MA
University of Missouri, 2004 (Research Patient Coordinator, Division of General Medical Sciences)

Donald R. Rickert, PhD
Saint Louis University, 1984 (Professor, St. Louis College of Pharmacy)

Enbal Shacham, PhD
Indiana University, 2006 (Assistant Professor, College of Public Health and Social Justice, Saint Louis University)
The Program in Audiology and Communication Sciences (PACS) provides training and graduate programs in the fields of clinical audiology, deaf education, and speech and hearing sciences. Established at Central Institute for the Deaf (CID) in 1914, the training programs are now a member of a consortium of programs known as CID at Washington University School of Medicine, which also includes affiliated clinical services and research programs operated by the Department of Otolaryngology.

**Doctor of audiology (AuD)**

The Doctor of Audiology (AuD) program is a four-year course of study that prepares students as independent clinical audiologists. Established in 1947, the program is among the oldest and most prestigious of its kind. Today, its curriculum serves as a national model, immersing students in academic course work, clinical experiences and research opportunities. A Pediatric Audiology Specialization is available to qualified students admitted to the program.

The audiology program is accredited by the American Speech-Language-Hearing Association (ASHA) and the Accreditation Commission for Audiology Education (ACAE). Graduates are eligible for national certification by ASHA.

**Master of science in deaf education (MSDE)**

The Master of Science in Deaf Education (MSDE) program is a two-year course of study that prepares students as teachers of the deaf and hard of hearing. With its origins going back to 1914, the program is recognized internationally as one of the most prestigious of its kind in the world. The program’s intensive curriculum, emphasis on immersion in practice teaching and experienced faculty attract students nationally from a wide variety of backgrounds.
The deaf education program is accredited by the State of Missouri’s Department of Elementary and Secondary Education (DESE) and the Council on Education of the Deaf (CED). Graduates of the program are eligible for teacher certification in the State of Missouri (Deaf/Hearing Impaired, Birth-Grade 12) and for national certification by CED.

**Doctor of philosophy (PhD) in speech and hearing sciences**

The PhD program prepares students for academic and research careers in speech and hearing sciences. Established in 1947, the program is dedicated to fostering scientific inquiry in speech and hearing sciences and related disciplines. The program is administered through the Graduate School at Washington University in St. Louis.

**Minor in speech and hearing sciences**

The Minor in Speech and Hearing Sciences is designed for current undergraduate students interested in exploring topics related to human communication. Course work provides an overview of the fields of hearing, deafness, language and speech, with opportunities to explore related topics in more depth. This minor is especially valuable for students in fields such as psychology, education, philosophy-neuroscience-psychology (PNP) and linguistics, but has broad applicability for many fields of study. Course work completed as part of this minor can also be used to fulfill prerequisites for graduate studies in audiology, deaf education and speech-language pathology.

**Further information**

Further information, including complete admissions details and full program descriptions, may be obtained by contacting:

Washington University School of Medicine
Program in Audiology and Communication Sciences
Campus Box 8042
660 S. Euclid Ave.
St. Louis, MO 63110
Audiology and Communication Sciences Faculty

Professors (joint)

Craig A. Buchman, MD
University of Florida, 1990

Richard A. Chole, MD, PhD
University of Minnesota, 1977

William W. Clark, PhD
Program Director
University of Michigan, 1975

Jill B. Firszt, PhD
University of Illinois, 1998

Nancy Tye Murray, PhD
University of Iowa, 1984

Michael Valente, PhD
University of Illinois, 1975
Mark E. Warchol, PhD
Northwestern University, 1989

Associate professors (joint)

Lisa S. Davidson, PhD
Washington University, 2003

Heather J. Hayes, PhD
Director of Deaf Education Studies
Washington University, 2009

Keiko Hirose, MD
Harvard Medical School, 1993

Johanna G. Nicholas, PhD
Washington University, 1990

Kevin K. Ohlemiller, PhD
Northwestern University, 1990

L. Maureen Valente, PhD
Director of Audiology Studies
Washington University, 2005

Assistant professors (joint)

Brian T. Faddis, PhD
University of California-Davis, 1994

Roanne K. Karzon, PhD
Washington University, 1982

Lisa G. Potts, PhD
Washington University, 2006

Rosalie M. Uchanski, PhD
Massachusetts Institute of Technology, 1988

Instructors

Lynda C. Berkowitz, MSSH
Washington University, 1983

Carl D. Bohl, DSc
University of Cincinnati, 1973

Christine M. Clark, MAEd
Maryville University, 1999

Christine H. Gustus, MSSH
Washington University, 1975

E. Tracy Mishler, AuD
Arizona School of Health Sciences, 2007

Mary A. Shortal, MAEd
Washington University, 1976

Karen S. Stein, MAEd
Washington University, 1974

Lecturers

Carol E. Bergmann, AuD
Arizona School of Health Sciences, 2003

Amy L. Birath, AuD
University of Memphis, 2007

Greta M. Bohnenkamp, MS
Vanderbilt University, 2005

Jamie H. Cadieux, AuD
Washington University, 2006

Amanda L. Dunaway, MSDE
Washington University, 2006

Elizabeth A. Elliott, MAT
Webster University, 2004

Lauren Felton, AuD
Washington University, 2006

Dave A. Harris, PhD
University of Cincinnati, 2005

Dorina Kallogjeri, MD
Tirana University School of Medicine, 1997

Christina M. Koehler, MSSH
Washington University, 2000

Barbara A. Lanfer, MAEd
University of Missouri-St. Louis, 1998

Kenneth E. Marciniak, AuD
University of Iowa, 2010

Robert J. Mareing, AuD
Pennsylvania College of Optometry, 2003

James D. Miller, PhD
Indiana University, 1957

Jean S. Moog, MS
Washington University, 1964

Dorie L. Noll, MSDE
Washington University, 2007

Kimberly K. Ott, MS
Southern Illinois University – Edwardsville, 1981

Kay R. Park, AuD
A.T. Still University, 2007

Judy L. Peterein, AuD
Salus University, 2009

Justine L. Preston, MA
Washington University, 2006

Belinda Sinks, AuD
Salus University, 2007

Brent P. Spehar, PhD
Washington University, 2005

Ellen R. White, MAEd, MSSH
Washington University, 2003

Professor emeritus
Biology and Biomedical Sciences

The Division of Biology and Biomedical Sciences (DBBS), organized in 1973, is a consortium of university departments that together provide interdisciplinary training for full-time doctoral students. This unique organization was formed because of the realization that research and training in modern biology transcend the limits of departmental structure. The faculty consists of members of seven preclinical departments in the School of Medicine: Anatomy and Neurobiology, Biochemistry and Molecular Biophysics, Cell Biology and Physiology, Genetics, Molecular Microbiology, Pathology and Immunology, and Developmental Biology; 11 clinical departments: Anesthesiology, Medicine, Neurological Surgery, Neurology, Obstetrics and Gynecology, Ophthalmology and Visual Sciences, Orthopaedic Surgery, Otolaryngology, Pediatrics, Psychiatry, Radiation Oncology, Radiology and Surgery; the Department of Biology; the Departments of Chemistry and Psychology in the School of Arts & Sciences; and the Departments of Computer Science and Biomedical Engineering in the School of Engineering & Applied Science. More than 450 faculty are affiliated with one or more of 12 broad training programs: Biochemistry; Computational and Molecular Biophysics; Computational and Systems Biology; Developmental, Regenerative and Stem Cell Biology; Evolution, Ecology and Population Biology; Human and Statistical Genetics; Immunology; Molecular Cell Biology; Molecular Genetics and Genomics; Molecular Microbiology and Microbial Pathogenesis; Neurosciences; and Microbial Biosciences. Faculty in these programs take responsibility for all divisional activities, including recruiting, admissions, advising and research training. In addition, many divisional courses and seminars are offered by the participating faculty.
Currently, more than 650 graduate students are enrolled in the division, including approximately 200 students pursuing both the PhD and the MD through the Medical Scientist Training Program (see Degree Programs area of Admissions and Educational Programs section.) Requirements for the PhD include a series of courses tailored to a student's background and interests, qualifying examinations, execution of laboratory research and defense of a dissertation generated through original scientific investigation. Although students enter the division through an affiliation with one of the 12 programs, it is possible for a student to transfer to another program as interests evolve. During the first year, advisers are appointed to assist students in selecting courses and seminars, as well as to help them in choosing three laboratory rotations in which they will spend several months becoming acquainted with a particular area of scientific research. Most students choose a research adviser by the end of the first year.

Applications for admission to the PhD programs of the division are due December 1 for matriculation the following fall. Admission is based on demonstrated ability, future promise and the number of positions currently available. Applicants should have completed rigorous undergraduate training in biology, chemistry, physics, psychology, computer science, engineering or related fields at a high level of scholastic achievement. It is required that each applicant take the aptitude test of the Graduate Record Examination (GRE). Additional information and application for admission to the PhD programs may be obtained from our website at dbbs.wustl.edu or by writing to the Director of Admissions, Washington University School of Medicine, Campus Box 8226, 660 S. Euclid Ave., St. Louis, MO 63110-1093 (email: dbbsphdadmissions@wusm.wustl.edu). Students who wish to pursue both the PhD and MD degrees must apply to the Medical Scientist Training Program (see Degree Programs area of Admissions and Educational Programs section of this website.)

Students admitted to the graduate programs are guaranteed full stipend and tuition support contingent upon satisfactory performance. The stipend for the 2016-17 academic year will be $29,500 annually. Tuition remission is provided to all students, and life, disability and health care also is provided by the Medical Center Student
Health Service. The division provides support for its PhD students from several sources, including federally funded training grants provided by the National Institutes of Health.

Admissions information

Please visit the Division of Biology and Biomedical Sciences website for admissions information.

Biology and Biomedical Sciences Courses

The following graduate courses are offered by the Division of Biology and Biomedical Sciences, and they are available both to PhD and MD students who meet the prerequisites for the appropriate course. Those courses particularly relevant to a given department are cross-listed under the department in this Bulletin.

L41 (BIO) 501 THE HUMAN BODY: ANATOMY, EMBRYOLOGY, AND IMAGING
For full description, see Department of Anatomy and Neurobiology’s M05 501A Human Anatomy and Development.

L41 (BIO) 5011 ETHICS AND RESEARCH SCIENCE
Instructors: Staff, Division of Biology and Biomedical Sciences, 362-3365

Exploration of ethical issues which research scientists encounter in their professional activities. Topics will include, but are not limited to: student-mentor relationships, allegations of fraud, collaborators’ rights and responsibilities, conflicts of interest, confidentiality, publications. Case study and scenario presentations will provide focus for discussions. Prereq, open to DBBS graduate students engaged in research. Six 90
minute sessions. Credit: 1 unit.

L41 (BIO) 5014 BIOTECH INDUSTRY INNOVATORS
Instructor: Erwin H. Peters, PhD, 862-4867
The Basics of Bio-Entrepreneurship, investigates issues and choices that inventors / scientists encounter when they are considering the applications and commercialization of early stage scientific discoveries. This course is intended for anyone interested in working in the biotechnology, pharmaceutical, medical device, or life-sciences industries as a founder, scientist, entrepreneur, manager, consultant, or investor. It focuses, through case studies and lectures, on the issues and decision processes that researchers and their business partners typically face when considering how a discovery might best be moved from academia to successful commercialization. Credit: 3 units. Same as B63 MGT 500U.

L41 (BIO) 502 GENERAL PHYSIOLOGY
Instructor: Robert Mercer, PhD, 362-6924
This course applies the fundamental physiological mechanisms of cell biology to the functions of the major organ systems of the body, namely, the cardiovascular, renal, respiratory, gastrointestinal and endocrine systems. The course is intended primarily for first-year medical students. The Physiology and Microscopic Anatomy courses are closely coordinated within the same schedule. Course continues into the spring semester with a different schedule. Prerequisites: Bio 5061 or the equivalent and permission of course director. Credit: 6 units.

L41 (BIO) 5053 IMMUNOBIOLOGY I
Instructor: Takeshi Egawa, 314-747-2516
Immunobiology I and II are a series of two courses taught by the faculty members of the Immunology Program. These courses cover in-depth modern immunology and are based on Janeway’s Immunobiology 8th Edition textbook. In Immunobiology I, the topics include: basic concepts in immunology, innate immunity: the first lines of defense, the induce responses of innate immunity, antigen recognition by B-cell and T-cell receptors, the generation of lymphocyte antigen receptors, antigen presentation to T lymphocytes and signaling through immune system receptors. In Immunobiogy II
the topics include: the development and survival of lymphocytes, T cell-mediated immunity, the humoral immune response, dynamics of adaptive immunity, the mucosal immune system, failures of host defense mechanisms, allergy and allergic diseases, autoimmunity and transplantation, and manipulation of the immune response. These courses are open to graduate students. Advanced undergraduate students may take these courses upon permission of the course master. Prerequisite: DBBS students and advanced undergraduates with permission. Credit 4 units.

L41 (BIO) 5054 IMMUNOBIOLOGY II
Instructor: Chyi-Song Hsieh, MD, PhD, 485-4485; Eugene Oltz, PhD, 362-5515
Immunobiology is a continuation of Immunobiology I (Bio 5053) taught by the faculty members of the Immunology Program and consists of two sections. In the first section, selected topics are covered in depth that were introduced in Immunobiology I. These include cytokine signaling, DC subsets, tumor immunology, evolution of the immune response, Fc Receptors, alloreactivity, mucosal immunity, inhibitory receptors, vaccines, lymphoorganogenesis and immunopathogenesis. The second section involves Molecular mechanisms of disease (formerly Bio 5261) and will cover human diseases that appear to have an immunological basis. In addition to lectures and evaluation of recent clinical and relevant basic immunology literature, an emphasis will be placed on direct encounters with patients and pathologic material when feasible, providing students with a human aspect to discussions of immune pathogenesis. Diseases covered will include rheumatoid arthritis, allergy, lupus, multiple sclerosis, diabetes, immunodeficiencies, complement diseases and hemophagocytic lymphohistiocytosis. Prereq: DBBS students and Immunobiology I. Credit: 4 units.

L41 (BIO) 5068 FUNDAMENTALS OF MOLECULAR CELL BIOLOGY
Instructor: Robert Mercer, PhD, 362-6924
This is a core course for incoming graduate students in Cell and Molecular Biology programs to learn about research and experimental strategies used to dissect molecular mechanisms that underlie cell structure and function, including techniques of protein biochemistry. Enrolling students should have backgrounds in cell biology and biochemistry, such as courses comparable to L41 BIO 334 and L41 BIO 4501. The
format is two lectures and one small group discussion section per week. Discussion section focuses on original research articles. Same as M15 5068 and M04 5068. Same as E62 BME 5068. Credit: 4 units.

L41 (BIO) 5075 FUNDAMENTALS OF BIOSTATISTICS FOR GRADUATE STUDENTS
Instructor: Zachary Pincus, PhD, 747-5520
This course is designed for first-year DBBS students who have had little to no prior experience in programming or statistics. The course will cover common statistical practices and concepts in the life sciences, such as error bars, summary statistics, probability and distributions, and hypothesis testing. The class will also teach students basic programming skills for statistical computation, enabling them to retrieve and analyze small and large data sets from online databases and other sources. Credit: 1 unit.

L41 (Bio) 5077 PHARMACEUTICAL RESEARCH AND DEVELOPMENT: CASE STUDIES
Instructor: Kinch, 262-9805
The course will provide an overview of the history of pharmaceutical research and development activities, with emphasis upon understanding a blend of the scientific, public health, regulatory and business decisions that have shaped the pharmaceutical industry over the past eight decades. Particular emphasis will be placed on understanding how past trends have raised questions about the sustainability of the enterprise. Although no prerequisites are formally required, the course will blend basic understanding of scientific and medical terminology with an understanding of the commercial and policy decision-making processes that govern the pharmaceutical and biotechnology enterprises. Credit: 2 units.

L41 (BIO) 5084 MOLECULAR MOTORS AND SINGLE MOLECULE TECHNIQUES
Instructor: Michael Greenberg, PhD, 362-8670
Molecular motors in the cell harness chemical energy to generate mechanical work in a host of processes including cell motility, DNA replication and repair, cell division, transcriptional regulation, and intracellular transport. The purpose of this course is to discuss recent advances in the field of molecular motors. Special emphasis will be placed on understanding and critically evaluating single molecule studies. The course
will consist of both journal club presentations and small group discussions. Credit: 2 units.

L41 (BIO) 5123 EXPERIMENTAL HEMATOPOIESIS JOURNAL CLUB
Instructor: Daniel C. Link, MD, 362-8771
Journal club in which papers that describe significant advances in the field of experimental hematopoiesis are discussed. Students are expected to present one paper per semester and attend the weekly (1 hour) session. No prerequisites. Credit: 1 unit.

L41 (BIO) 5128 CELL BIOLOGY OF EXTRACELLULAR MATRIX JOURNAL CLUB
Instructor: Jeff Miner, PhD, 362-8235
This journal club covers a broad range of topics current interest, including the fields of biochemistry, molecular biology, cell biology and developmental biology. Speakers give a brief background to introduce the topic and then focus on one-two papers from the current literature. Presentations are given by students, faculty and postdoctorates. Students receive one credit for regular participation and for making one presentation. Credit: 1 unit.

L41 (BIO) 5137 ION CHANNELS JOURNAL CLUB
Instructor: Colin G. Nichols, PhD, 362-6630
Weekly presentations of recent papers on mechanisms of ion channel function and membrane excitability, as well as the role of channel defects in human and model diseases, with lively group discussions the norm! Once per semester, each participant will choose a paper and present it to the group. Credit: 1 unit.

L41 (BIO) 5138 JOURNAL CLUB FOR THE MOLECULAR MECHANISM OF AGING
Instructor: Shin-ichiro Imai, MD, PhD, 362-7228
Why do we age? What causes aging? How is our life span determined? This journal club will address such fundamental but challenging questions of aging and longevity. Recent studies on aging and longevity are now unveiling regulatory mechanisms of the complex biological phenomenon. We’ll cover the latest progress in this exciting field and stimulate discussions on a variety of topics including aging-related diseases. One
hour of paper presentation or research talk and discussion per every two weeks. Prerequisite: Basic knowledge of molecular biology and genetics of model organisms, such as yeast, C. elegans, Drosophila and mouse. Registered students are expected to have at least one presentation for 1 unit credit. Credit: 1 unit.

L41 (BIO) 5139 SEMINAR IN IMAGING SCIENCE AND ENGINEERING
Instructor: Joseph O'Sullivan, PhD, 935-4173
This seminar course consists of a series of tutorial lectures on Imaging Science and Engineering with emphasis on applications of imaging technology. Students are exposed to a variety of imaging applications that vary depending on the semester, but may include multispectral remote sensing, astronomical imaging, microscopic imaging, ultrasound imaging and tomographic imaging. Guest lecturers come from several parts of the university. This course is required of all students in the Imaging Science and Engineering program; the only requirement is attendance. This course is graded Pass/Fail. Prerequisite: Admission to Imaging Science and Engineering Program. Same as E35 ESE 596. Credit: 1

L41 (BIO) 5146 PRINCIPLES AND APPLICATIONS OF BIOLOGICAL IMAGING
Instructors: Adam Bauer, 362-6942; David Reichert, PhD, 362-9940, Joshua Shimony, PhD, 362-5950
Principles and Applications of Biological Imaging will introduce the interdisciplinary nature of the imaging sciences and conduct a comprehensive survey of the array of interrelated topics that define biological imaging. The course will cover the basics of the optical, magnetic resonance, CT, SPECT and PET imaging modalities, and microscopy, while focusing on applications of imaging to different disease states, such as oncology, neurology, cardiology and pulmonary diseases. Prereqs. One year each of Biology, Chemistry, Physics and Calculus. Credit: 3 units.

L41 (BIO) 5148 METABOLISM JOURNAL CLUB
Instructors: Daniel Ory, MD, 362-8737, Jean Schaffer, MD, 362-8717
The purpose of the Metabolism Journal Club is to introduce the graduate students to advanced topics spanning the biochemistry, cell biology and genetics of cellular and whole body metabolism. Under the guidance of the course directors (Drs. Ory and
Schaﬀer), students will select recent topical articles for discussion in the weekly journal club. Students will be expected to provide a succinct introduction to the topic and lead discussion of the data presented in the journal article. Students will be evaluated on the basis of their presentation and their participation in the seminar throughout the semester. Prereqs: Successful completion of Fundamentals of Molecular Cell Biology (Bio 5068) and Nucleic Acids and Protein Biosynthesis (Bio 548). Credit: 1 unit.

L41 (BIO) 5151 RNA BIOLOGY JOURNAL CLUB
Instructors: Daniel Ory, MD, 362-8737, Jean Schaﬀer, MD, 362-8717
The purpose of the RNA Biology Journal Club is to introduce the graduate students to advanced topics spanning the bioinformatics, biochemistry, cell biology and genetics of RNA biology. Under the guidance of the course directors (Drs. Ory and Schaﬀer), students will select recent topical articles for discussion in the weekly journal club. Students will be expected to provide a succinct introduction to the topic and lead discussion of the data presented in the journal article. Students will be evaluated on the basis of their presentation and their participation in the seminar throughout the semester. Prerequisites: Successful completion of Fundamentals of Molecular Cell Biology (Bio 5068) and Nucleic Acids and Protein Biosynthesis (Bio 548) or permission of instructors. Credit: 1 unit.

L41 (BIO) 5152 DEVELOPMENT, REGENERATION AND STEM CELL BIOLOGY JOURNAL CLUB
Instructor: Craig Micchelli, PhD, 362-7036
Focuses on developing a dialog around current topics in developmental and regenerative biology at the molecular, cellular and systems levels. Credit: 1 unit.

L41 (BIO) 5171 MEDICAL IMMUNOLOGY
Instructor: Andrey S. Shaw, MD, 362-4614
An introduction to basic concepts in immunology and immunopathology. Lectures focus on antigen-antibody interactions, immunoglobulin structure and genetics, the cellular basis of the immune response and immune regulation, T cell effector mechanisms, the inflammatory response, complement, the positive and negative roles of hypersensitivity, and immune deficiency. Prerequisite: some background in
biochemistry and genetics helpful. Restricted to medical students only except in unusual circumstances, with permission of coursemaster. Offered during the first half of the second medical semester. Three-four lecture hours a week, two (2) two-hour lab periods, four (4) one-hour clinical discussion groups. Credit: variable, maximum 3 units.

L41 (BIO) 5191 PATHO BIOLOGY OF HUMAN DISEASE STATES
Instructors: Audrey Odom, MD, PhD, 747-2370; Thomas Fehniger, MD, PhD, 747-1385
Three human disease states will be discussed in detail. Topics will include background clinical and epidemiological information, followed by a detailed examination of the molecular and cellular events that underlie the disease state. Examples of pertinent topics include Alzheimer’s disease, AIDS, leukemia, cystic fibrosis, sickle cell anemia, diabetes, etc. Prerequisite: Must be a Markey Pathway student and have HIPAA training. Credit: 2 units.

L41 (BIO) 5192 CANCER BIOLOGY JOURNAL CLUB
Instructor: Ron Bose, PhD, 747-9308
This journal club covers current papers in molecular oncology, cancer genetics and contemporary molecular biology. Presentations will be given by students, post-docs and faculty, then discussed. Credit: 1 unit.

L41 (BIO) 5196 SPECIAL EMPHASIS PATHWAY IN CANCER BIOLOGY
Instructor: David Wilson, MD, PhD, 286-2834
This course is designed to present pre- and postdoctoral trainees with an organized educational format to explore major contemporary topics in cancer biology. The elective will provide an integrated view of cancer research including basic science, translational science, and clinical investigation. Approximately 60 minutes will be devoted to a didactic presentation by a faculty member with interaction by the participants. The remaining 30 minutes will be used to discuss a pivotal research paper from this field, preselected by the faculty member. Outside reading (30-60 min/week) will be required. Credit: 2 unit.

L41 (BIO) 5217 SPECIAL TOPICS IN MICROBIAL PATHOGENESIS
Primarily for graduate and MSTP students, this course is centered on critical evaluation of current scientific literature, which is used as a basis for discussion and grant writing, supplemented with sessions on experimental methodology. Paper discussions will involve oral presentation and discussion of current research articles on pathogenic microorganisms (bacteria, fungi, parasites, and viruses) and the cellular and molecular basis of host-pathogen interactions. Emphasis will be placed on understanding methods, critical evaluation of data, and design of future experiments for the articles covered. Students are expected to prepare all articles, to participate actively in all discussions, and to lead one or more discussions during the semester. The grant writing aspect of the course will focus on defining identifying key unanswered questions from the literature, formulating hypotheses for testing, defining Specific Aims, and developing a research plan. Students will submit specific aims based on current literature, receive critiques from faculty members, and develop a NIH-style proposal to investigate them. Students will participate in class discussions and a mock study section to evaluate proposals. Prereq, completion of the MMMP advanced elective, Bio 5392 Molecular Microbiology & Pathogenesis or permission of the coursemaster. Class meets twice per week for 1.5 hours each. Credit 2 units.

L41 (BIO) 5224 MOLECULAR, CELL AND ORGAN SYSTEMS
Instructor: Kendall Blumer, PhD, 362-1668
This course will introduce PhD and MSTP students to fundamental problems in cell and molecular biology at the systems level. The course is divided into five themes: 1) microbial systems; 2) organ development and repair; 3) cardiovascular system and disease; 4) tumor and host systems; and 5) metabolic systems and disease. Topics within each theme highlight current research concepts, questions, approaches and findings at the molecular, cellular and physiological levels. Students will write an original research grant proposal on a topic of their choosing in one of the five themes. Students will critique proposals anonymously in an NIH-like study section. Prerequisites: Fundamentals of Molecular Cell Biology and Nucleic Acids and Protein Synthesis. Credit: 3 units.
L41 (BIO) 5235 GENETICS JOURNAL CLUB
Instructor: Heather Lawson, PhD, 362-7269
This journal club will be focused on the Genetics Department seminar series. Students will present one or a few recent papers by the seminar speaker scheduled for that week. Students will provide a brief written evaluation (on a form that will be provided) of their peers’ presentations, and the faculty advisors will meet with each student after the presentation to provide feedback. Credit: 1 unit.

L41 (BIO) 5255 EXPERIMENTAL SKELETAL BIOLOGY JOURNAL CLUB
Instructor: Steven Teitelbaum, MD, 454-8463
The journal club, which meets weekly, focuses on cellular and molecular biology of the skeleton. Emphasis is placed on gaining insights into normal skeletal homeostasis as well as systemic disorders of bone. Papers presented for review are selected from the most competitive journals. Participants are encouraged to “think outside of the box” and discuss novel molecular discoveries that may impact bone cell function. Prerequisite: Permission of instructor. Credit: 1 unit.

L41 (BIO) 5272 ADVANCED TOPICS IN IMMUNOLOGY
Instructors: Paul Allen, PhD, 362-8758; Eugene Oltz, PhD, 362-5515
This course uses a journal club format to discuss contemporary issues in the cell and molecular biology of the immune system. Discussions focus on the use of current approaches to analyze the cellular and molecular basis of immunity. Topics include mechanisms of antigenic specificity, diversity, cell communication, differentiation, activation and effector activity. Prerequisite: L41 (Bio) 5051 and permission of instructor. Credit: 2 units. This is referenced in the Department of Pathology and Immunology.

L41 (BIO) 5284 CURRENT RESEARCH IN CHROMATIN, EPIGENETICS AND NUCLEAR ORGANIZATION
Instructors: Douglas L. Chalker, PhD, 935-8838; Sarah Elgin, PhD, 935-5348
This journal club considers papers from the current literature on chromatin structure and function, with an emphasis on regulation of transcription, epigenetics and genomics. Presentations are given by students, postdocs and faculty, with discussion
Students enrolled for credit are expected to attend regularly, and to present a minimum of one paper during the term, with consultation and critique from the faculty. Credit 1 unit.

L41 (BIO) 5285 FUNDAMENTALS OF MAMMALIAN GENETICS
Instructor: Patrick Jay, MD, PhD, 362-2174
This course aims to provide both biologists and those with mathematical backgrounds with a basis in mammalian genetics. The course will include the following modules: Nucleic acid biochemistry; Gene and chromosome organization; Intro to Human Genetics; Mutations and DNA repair; Cancer Genetics; Genomic methodologies; Biochemical genetics; Murine Genetics; Epigenetics; Neurodegenerative diseases; Mitochondrial disorders; Pharmacogenetics; Intro to human population genetics; Applications of modern human genetics; Intro to web-based informatics tools for molecular genetics. One of the required courses in the Quantitative Human Statistical Genetics graduate program. Credit: 3 units.

L41 (BIO) 5303 PROTEIN NMR JOURNAL CLUB
Instructor:TBA-362-3364
This journal club covers the recent literature on protein NMR with a focus on using NMR to study protein function, NMR dynamics, and novel methods that expand the range of systems accessible to solution NMR studies. Students, postdocs and faculty discuss a recent paper and present background information on the relevant technical aspects of NMR. Students receive 1 credit for participation and presenting one paper. Credit: 1 unit.

L41 (BIO) 5311 DYNAMICS IN MESOSCOPIC MOLECULAR SYSTEMS
Instructor: Elliot Elson, PhD, 362-3346
This course will provide a background in the theory of the dynamics of mesoscopic systems and introduction to methods for measuring the dynamics of these systems. It will include measurement methods, some of which are in common use and others that have only recently been introduced. This course would be useful for biophysics students and others that are interested in molecular processes and mechanisms in small systems such as cells. Prerequisite: Physical Chemistry. Credit: 3 units.
L41 (BIO) 5312 MACROMOLECULAR INTERACTIONS
Instructor: Timothy M. Lohman, PhD, 362-4393
This course will cover equilibria, kinetics and mechanisms of macromolecular interactions from a quantitative perspective. Thermodynamics, multiple binding equilibria (binding polynomials), linkage phenomena, cooperativity, allostery, macromolecular assembly, enzyme catalysis and mechanism, steady-state and pre-steady state kinetics, and isotope effects. Modern methods of computer analysis using nonlinear least squares fitting and simulation to analyze binding isotherms and full kinetic time courses is emphasized. Prerequisite: Physical Chemistry, Biochemistry, Calculus and Organic Chemistry. Three class hours per week. Credit: 3 units.

L41 (BIO) 5314 MOLECULAR BIOPHYSICS GRADUATE SEMINAR
Instructor: Kathleen B. Hall, PhD, 362-4196
Student presentation of molecular biophysics topic. Second-year students present from literature; senior students give formal research seminar. Attendance required for all molecular biophysics students. Credit: 1 unit.

L41 (BIO) 5319 MOLECULAR FOUNDATIONS OF MEDICINE
Instructor: Linda J. Pike, PhD, 362-9502
This course will cover fundamental aspects of biochemistry and cell biology from a medical perspective. The course begins with a treatment of protein structure and the function of proteins in the cytoskeleton and cell motility. The principles of enzyme kinetics and regulation are then discussed and basic pathways for the synthesis and metabolism of carbohydrates and lipids are introduced. This leads in to a discussion of membrane structure and the function cellular organelles in biological processes including energy production, protein degradation and protein trafficking. Prreq: Two semesters of organic chemistry. Coursemaster approval is required. Please note: This course is given on the medical school schedule and so it begins 8 days before the grad school schedule. Credit: 3 units.

L41 (BIO) 5328 STRUCTURAL BIOLOGY JOURNAL CLUB
Instructor: Thomas Brett, PhD, 747-0018
Multi-laboratory research colloquia for DBBS graduate students focused on structural
biology and complementary biophysical techniques. Course credit requires student presentation for credit. Credit: 1 unit.

L41  5336  BIOLCOMPUTATIONAL BIOPHYSICS JOURNAL CLUB
Instructor: Gregory Bowman, PhD, 362-7433
This course covers a combination of classic and recent publications on computational methods for studying biomolecules. Students participating for credit will be required to present at least once. Credit: 1 unit.

L41 (BIO) 5352 DEVELOPMENTAL BIOLOGY
Instructor: Kerry Kornfeld, MD, PhD, 747-1480
Analysis of a selected set of key processes in development, such as pattern formation, cell-cell signaling, morphogenesis, etc. The focus is on molecular approaches applied to important model systems, but framed in classical concepts. The discussion section provides instruction in presenting a journal club and writing a research proposal. Prereqs, Molecular Cell Biology (Bio 5068) and Nucleic Acids (548). Credit: 3 units.

L41 (BIO) 5357 CHEMISTRY AND PHYSICS OF BIOMOLECULES
Instructor: Paul Schlesinger, MD, PhD, 362-2223
This course covers three major types of biomolecular structure: proteins, nucleic acids and membranes. Basic structural chemistry is presented, as well as biophysical techniques used to probe each type of structure. Selected topics include: protein folding, protein design, X-ray crystallography, NMR spectroscopy, nucleic acid bending and supercoiling, nucleic acid:protein interactions, RNA folding, membrane organization, fluidity, permeability and transport, and membrane channels. Weekly discussion section will cover problem sets and present current research papers. One of the required courses for the Biochemistry and for the Molecular Biophysics graduate programs. Prerequisites: prior coursework in Biochemistry and in Physical Chemistry is recommended, but not required. Credit: 3 units.

L41 (BIO) 5358 BIOCHEMICAL AND BIOPHYSICAL INVESTIGATIONS OF INFECTIOUS DISEASES JOURNAL CLUB
Instructor: Jeffrey Henderson, MD PhD, 747-0240
Biochemical and biophysical approaches continue to advance as powerful approaches to understand human disease processes. This journal club covers recent papers in which these approaches address aspects of infectious diseases or inflammation. Students enrolling for credit will be expected to participate in weekly presentations and to present 1-2 papers along with accompanying background. Prereqs: Graduate standing in DBBS; prior introductory coursework in biochemistry, physical chemistry, or Chemistry and Physics of Biomolecules (Bio 5357); coursework in microbiology or immunology is not required. Credit: 1 unit.

L41 (BIO) 5392 MOLECULAR MICROBIOLOGY AND PATHOGENESIS
Instructor: Joseph Vogel, PhD, 747-1029
Course is devoted to studying microorganisms, particularly those that cause disease, with an emphasis on the molecular interactions between pathogens and hosts. First third of the course focuses on virology, second third on bacteriology and the last third on eukaryotic pathogens. Prereq, first semester core curriculum for Programs in Cell and Molecular Biology. Credit: 3 units. This is referenced in the Department of Molecular Microbiology.

L41 (BIO) 5397 CURRENT LITERATURE IN MICROBIOLOGY
Instructor: David Sibley, PhD, 362-8839
Presentations by students on a broad range of topics of current interest in microbiology. The course will emphasize presentations and discussion skills. Credit requires attendance and participation at all sessions and one presentation. Credit 1 unit.

L41 (BIO) 5412 TROPICAL AND MOLECULAR PARASITOLOGY
Instructor: L. David Sibley, PhD, 362-8873
Graduate-level seminar course focusing on current scientific literature in molecular parasitology. The journal club will meet biweekly during the Fall and Spring semesters. Students will attend both semesters in order to receive one credit. The seminar series will run jointly with a research conference in Tropical and Molecular Parasitology. Outside speakers will be invited for the seminar series to emphasize important developments in tropical medicine and molecular parasitology. In advance of the
invited speakers, topics will focus on their previous research publications. Prerequisite: L41 (BIO) 5392 Molecular Microbiology and Pathogenesis. Credit 0.5 unit.

L41 (BIO) 5417 HEMATOLOGY/ONCOLOGY JOURNAL CLUB
Instructor: Monita Wilson, PhD, 362-8839
This journal club covers a broad range of topics of current interest, including the fields of biochemistry, molecular biology, cell biology, developmental biology and immunology. Speakers usually give a brief background to introduce the topic and then focus on one or two papers from the current literature. Presentations are given by graduate students, post-doctorates and faculty. Each attendee presents two to three times per year. Participants are expected to attend all the sessions. This journal club was formed in 1966. Credit: 1 unit.

L41 (BIO) 5425 IMMUNOLOGY OF INFECTIOUS DISEASES JOURNAL CLUB
Instructor: Shabaana Khader, PhD, 286-1590
The goal of this Journal Club (JC) is to provide 2nd year students in MMMP program a platform to discuss new and emerging concepts on mechanisms by which host immune responses mediate protection against infectious diseases. This exercise will also enable the student who attend the fundamental Immunology course to apply their knowledge to understand the basis for immunology of infectious diseases. The format will include faculty who will select cutting-edge papers and head the discussion during the JC session. Credit: 1 unit.

L41 (BIO) 5426 ID GATEWAY: TRANSLATIONAL AND PUBLIC HEALTH ASPECTS OF BASIC INFECTIOUS DISEASE RESEARCH
Instructors: S. Celeste Morley, MD, PhD, 286-2136; Robyn Klein, MD, PhD, 286-2140
This course provides an opportunity for students, postdoctoral fellows, infectious disease fellows and faculty to explore issues at the interface between patient care, public health and basic research in the area of microbial pathogenesis. Prerequisites: Application and L41 (BIO) 5392 or M30 526, or permission of instructor. Credit: 2 units.

L41 (BIO) 5445 DNA METABOLISM JOURNAL CLUB
Instructor: Roberto Galletto, PhD, 362-4368
Presentation of current research papers in DNA replication, DNA repair and DNA recombination, with an emphasis on basic biochemical and biophysical approaches. Credit: 1 unit.

L41 (BIO) 5466 CURRENT TOPICS IN BIOCHEMISTRY
Instructor: Kathleen B. Hall, PhD, 362-4196
Special topics course offered every other week involving the discussion of research papers covering a broad range of topics in the field of biochemistry. Papers selected from the primary literature will be presented and discussed by students with guidance from the instructor. Emphasis will be placed on papers that illustrate the application of chemical approaches to important biological processes. Designed primarily for first- and second-year graduate students in the Biochemistry Ph.D. program. Prereqs: coursemaster permission. Credit: 0.5 unit.

L41 (BIO) 5468 CARDIOVASCULAR BIOPHYSICS JOURNAL CLUB
Instructor: Sándor J. Kovács, PhD, MD, 454-7660
This journal club is intended for beginning graduate students, advanced undergraduates and MSTP students with a background in the quantitative sciences (engineering, physics, math, chemistry, etc.). The subjects covered are inherently multidisciplinary. We will review landmark and recent publications in quantitative cardiovascular physiology, mathematical modeling of physiologic systems and related topics such as chaos theory and nonlinear dynamics of biological systems. Familiarity with calculus, differential equations and basic engineering/thermodynamic principles is assumed. Knowledge of anatomy/physiology is optional. Same as E72 BME 5911. Credit: 1 unit.

L41 (BIO) 548 NUCLEIC ACIDS AND PROTEIN BIOSYNTHESIS
Instructor: Eric Galburt, PhD, 362-5201
Fundamental aspects of structure, biosynthesis and function of nucleic acids and the biosynthesis of proteins. Emphasis on mechanisms involved in the biosynthetic processes and the regulation thereof. Prerequisite: L41 (Bio) 3371, 451, Chem 481 or equivalent or permission of instructor. This is referenced in the Department of Biochemistry and Molecular Biophysics. Credit: 3 units.
L41 (BIO) 5483 HUMAN LINKAGE AND ASSOCIATION ANALYSIS  
Instructor: John P. Rice, PhD, 286-2572  
Basic Genetic concepts: meiosis, inheritance, Hardy-Weinberg Equilibrium, Linkage, segregation analysis; Linkage analysis: definition, crossing over, map functions, phase, LOD scores, penetrance, phenocopies, liability classes, multi-point analysis, non-parametric analysis (sibpairs and pedigrees), quantitative trait analysis, determination of power for mendelian and complex trait analysis; Linkage Disequilibrium analyses: allelic association (case control designs and family bases studies), QQ and Manhattan plots, whole genome association analysis; population stratification; Quantitative Trait Analysis: measured genotypes and variance components. Hands-on computer lab experience doing parametric linkage analysis with the program LINKAGE, model free linkage analyses with Genehunter and Merlin, power computations with SLINK, quantitative trait analyses with SOLAR, LD computations with Haploview and WGAViewer, and family-based and case-control association analyses with PLINK and SAS. The methods and exercises are coordinated with the lectures and students are expected to understand underlying assumptions and limitations and the basic calculations performed by these computer programs. Auditors will not have access to the computer lab sessions. Prereq: M21-515 Fundamentals of Genetic Epidemiology. For details, to register and to receive the required permission of the Coursemaster contact the GEMS Program Manager (pa@wubios.wustl.edu or telephone 362-1052). Credit: 2 units. Same as M21 GEMS 5483.

L41 (BIO) 5484 GENETICS AND DEVELOPMENT OF C. ELEGANS JOURNAL CLUB  
Instructor: Tim Schedl, PhD, 362-6162  
Students will present a research paper (or present their current thesis research) and the appropriate background material. Credit: 1 unit.

L41 (BIO) 5487 GENETICS GENETICS AND GENOMICS OF DISEASE  
Instructor: Tim Schedl, PhD, 362-6162, Christina Gurnett, MD, PhD, 286-2789, John Welch, MD, PhD, 362-2626  
The course will cover the use of genomic and genetic information in the diagnosis and treatment of disease, with an emphasis on current practice and existing gaps to be
filled to achieve precision medicine. Areas of discussion include: bioinformatics methods; assessment of pathogenicity; use and curation of disease variant databases; discovery of incidental findings; genomics applications in Mendelian disease, complex traits, cancer, pharmacogenomics, and infectious disease; design of clinical trials with genetic data; ethical and policy issues. Prerequisites: Genomics (Bio 5488), Advanced Genetics (Bio 5491), or Fundamentals of Mammalian Genetics (Bio 5285) or equivalent (permission from instructor). Credit: 2 unit.

L41 (BIO) 5488 GENOMICS
Instructors: Ting Wang, PhD, 286-0865; Donald Conrad, PhD, 362-4379
This course is designed for beginning students who want to become familiar with the basic concepts and applications of genomics. The course covers a wide range of topics including how genomes are mapped and sequenced as well as the latest computational and experimental techniques for predicting genes, splice sites, and promoter elements. High throughput techniques for ascribing function to DNA, RNA, and protein sequences including microarrays, mass spectrometry, interspecies genome comparisons and genome-wide knock-out collections will also be discussed. Finally, the use of genomic techniques and resources for studies of human disease will be discussed. A heavy emphasis will be put on students acquiring the basic skills needed to navigate databases that archive sequence data, expression data and other types of genome-wide data. Through problem sets the students will learn to manipulate and analyze the large data sets that accompany genomic analyses by writing simple computer scripts. While students will become sophisticated users of computational tools and databases, programming and the theory behind it are covered elsewhere, in Michael Brent’s class, Bio 5495 Computational Molecular Biology. Because of limited space in our teaching lab, enrollment for lab credit will be limited to 24 students. Priority will be given to students in the DBBS program. Others interested in the course may enroll for the lectures only. If you have previous experience in computer programming, we ask that you do not enroll for the laboratory credit. Prereqs, Molecular Cell Biology (Bio 5068), Nucleic Acids (Bio 548) or by permission of instructor. To enroll in just the lecture section, register for 3 credits. To enroll in both the lecture and lab sections, register for 4 credits. Credit: 3 or 4 units.
L41 (BIO) 5489 HUMAN GENETICS JOURNAL CLUB
Instructor: Nancy Saccone, PhD, 747-3263
In this biweekly journal club on Human Genetics we will present and discuss current cutting-edge papers in human and mammalian molecular genetics. Students learn presentation skills, how to critique a paper and how to interact with a very active and critical audience. Prerequisites: Any person interested in the current state of the art in Human Genetics may attend this course. It is a requirement that all students wishing to earn credit in this course must present a 1.5-hour journal club talk and must regularly attend and participate in the journal club throughout the year. Credit: 0.5 units

L41 (BIO) 5491 ADVANCED GENETICS
Instructor: Tim Schedl, PhD, 362-6162
Fundamental aspects of organismal genetics with emphasis on experimental studies that have contributed to the molecular analysis of complex biological problems. Examples drawn from bacteria, yeast, nematodes, fruit flies and mammalian systems. Prerequisite: graduate standing or permission of instructor. This is cross-listed in the Department of Genetics. Credit: 3 units.

L41 (BIO) 5495 COMPUTATIONAL MOLECULAR BIOLOGY
Instructor: Michael Brent, PhD, 286-0210
This course is a survey of algorithms and mathematical methods in biological sequence analysis (with a strong emphasis on probabilistic methods) and systems biology. Sequence analysis topics include introduction to probability, probabilistic inference in missing data problems, hidden Markov models (HMMs), profile HMMs, sequence alignment, and identification of transcription-factor binding sites. Systems biology topics include discovery of gene regulatory networks, quantitative modeling of gene regulatory networks, synthetic biology, and (in some years) quantitative modeling of metabolism. Prereqs: CSE131 or CSE501N. Same as home course E81 CSE 587A. Credit: 3 units.

L41 (BIO) 5496 SEMINAR IN COMPUTATIONAL MOLECULAR BIOLOGY
Instructor: Jeremy Buhler, PhD, 935-6180, Gary D. Stormo, PhD, 747-5534
Students present current research papers and the appropriate background material in the field of computational biology. **Arts and Sciences students must take this course for credit; Engineering students must take this course Pass/Fail.** Same as E81 CSE 7801. Credit: 1 unit.

**L41 (BIO) 5499 CANCER INFORMATICS JOURNAL CLUB**
Instructor: Obi Griffith, PhD, 747-9248.
This journal club will explore current topics in cancer informatics. Current literature will be reviewed for advanced cancer genome analysis methods, statistics, algorithms, tools, databases, and other informatics resources. Credit: 1 unit.

**L41 (BIO) 550 MEDICAL GENETICS**
Instructor: Susan Dutcher, PhD, 362-2765
A significant portion of the first-year course in basic medical genetics devoted to human and clinical genetics, with emphasis on how genomic information will transform the practice of medicine. Topics covered include population genetics, molecular basis of mutations; human functional genomics; mouse models of human disease; pharmacogenomics; metabolic defects. Lectures, small group discussions, patient information session. Prerequisite: an introductory genetics course and permission of the instructor. This is cross-listed in the Department of Genetics as M30 511 Medical Genetics. Credit: 2 units.

**L41 (BIO) 5501 THE BIOLOGY AND PATHOLOGY OF THE VISUAL SYSTEM**
Instructor: Didier Hodzic, PhD, 362-7037
The purpose of the course is to provide a fascinating view of vertebrate eye development, anatomy, physiology and pathology. Topics to be covered include the molecules that control eye formation, ocular stem cells, the physiology of transparency, hereditary ocular diseases, phototransduction, the neurobiology of the retina and central visual pathways, age-related eye diseases, and many others. The course is open to all second year graduates students and above. Ophthalmology residents and postdocs with an interest in vision are strongly encouraged to attend. Credit: 3 units.
L41 (BIO) 5505 INDEPENDENT STUDY IN FUNDAMENTALS OF MOLECULAR AND MICROBIAL GENETICS
Instructor: James Skeath, PhD, 362-0535
This literature-based course will introduce students to seminal and current studies in molecular and microbial genetics. Students will read and present a minimum of 12 landmark papers that helped shape our understanding of molecular and microbial genetics. Emphasis will be placed on students’ ability to comprehend and explain these studies via chalk talks. All presentations will be given by students. Prereqs: L41 5491 Advanced Genetics and permission from instructor. Credit: 2 units.

L41 (BIO) 5507 GENOME ENGINEERING METHODS AND APPLICATIONS
Instructor: Jeffery Milbrandt, MD, PhD, 362-4651.
This course will cover the basic principles of genome engineering with emphasis on Cas9/CRISPR technology. It will consist of discussion sessions in which students will present assigned manuscripts followed by a general discussion of the topic directed by the instructor. The course will cover the mechanisms of genome editing using host DNA repair systems, the function of Cas9, and how Cas9 can be harnessed to introduce defined mutations into almost any genome. The use of Cas9 to activate or repress genes, alter chromatin modifications, and the application of these Cas9 systems to conducting genome-scale screens in mammalian cells as well as its use in studying cell fate will be highlighted. Finally, we will study how Cas9 methodologies can be used to introduce disease-associated variants into pluripotent stem cells (e.g. iPSCs) that can be differentiated into disease-relevant cell for use in functional genomic studies. 1 unit.

L41 (BIO) 5512 Diseases of Membrane Transport & Excitability
Instructor: Robert Mercer, PhD, 362-6924
Classes will consider the molecular basis of the disease as well as animal models and current clinical studies. Addressing studies from the level of basic biophysical and molecular properties of the underlying ion channels/transporters, to the cellular defects, to organ and animal outcomes and therapies, which will encourage and force students to develop their ability to integrate understanding at multiple levels. Students
will be introduced to emerging ideas in clinical diagnosis, management and treatment, when appropriate, clinical specialists will allow student participants to directly observe and participate in the clinical experience. Prerequisites: Bio 5068 Fundamentals of Molecular Cell Biology. Credit: 2 units.

L41 (BIO) 554 NEURAL SCIENCES
For full description, see the Department of Anatomy and Neurobiology, M35 554 Neural Sciences.

L41 (BIO) 5565 ORAL PRESENTATION OF SCIENTIFIC DATA
Instructor: Staff, Neurosciences Program, 362-7189
Practical course on how to prepare and present scientific data to an audience. Prerequisite: first-year neuroscience program courses. Meets once a week for 90 minutes. Credit: 1 unit.

L41 (BIO) 5571 CELLULAR NEUROBIOLOGY
Instructor: Paul Taghert, PhD, 362-3641
This course will present a fully integrated overview of nerve cell structure, function and development at the molecular and cellular level. Broad topics to be covered include gene structure and regulation in the nervous system, quantitative analysis of voltage- and chemically-gated ion channels, presynaptic and postsynaptic mechanisms of chemical neurotransmission, sensory transduction, neurogenesis and migration, axon guidance and synapse formation. Two lectures plus one hour of discussion per week for 14 weeks. There will be three exams, as well as homework problems and summaries of discussion papers. Prerequisite: graduate standing or permission of the instructor. Credit: 4 units.

L41 (BIO) 5619 ADVANCED COGNITIVE, COMPUTATIONAL AND SYSTEMS NEUROSCIENCE
Instructor: Todd Braver, PhD, 935-5143
This course will develop critical thinking and analysis skills with regard to topics in Cognitive, Computational and Systems Neuroscience. Course format will be a series of modules composed of intensive, faculty-led case studies on interdisciplinary topics at
the intersection of psychology, computation and neuroscience. The goal will be to highlight the benefits of integrative, interdisciplinary approaches, by delving into a small set of topics from a variety of perspectives, rather than providing a survey-level introduction to a broader set of topic areas. Modules will involve a combination of lectures and student-led discussion groups, with students further expected to complete a multidisciplinary integrative final review paper. Case-study topics will vary somewhat from year to year, but are likely to include some of the following: temporal coding as a mechanism for information processing, coordinate transformations in sensory-motor integration, mechanisms of cognitive control, motor control strategies including application to neural prosthetics, and memory systems in health and disease. Credit: 3 units. Same as L33 Psych 519.

L41 (BIO) 5622 COGNITIVE, COMPUTATIONAL AND SYSTEMS NEUROSCIENCE PROJECT BUILDING
Instructor: Deanne M. Barch, PhD, 935-8729
The goal of this course is to help students in the CCSN Pathway develop the critical thinking skills necessary to develop and implement high-quality, interdisciplinary research projects. Throughout the course of the semester, students will develop a research plan in their chosen area of interest. The plan will be developed in consultation with at least two faculty members (from at least two different subdisciplines within the pathway) as well as the other students and faculty participating in the course. The culmination of this course will be for each student to produce an NIH-style grant proposal on the research project of their choosing. For most students, this will serve either as their thesis proposal or a solid precursor to the thesis proposal. The course will be designed to help facilitate the development of such a research plan through didactic work, class presentations, class discussion, and constructive feedback on written work. The course will begin with a review of written examples of outstanding research proposals, primarily in the form of grant submissions similar to those that the students are expected to develop (i.e., NRSA style proposals, R03 proposals). Review of these proposals will serve as a stimulus to promote discussion about the critical elements of good research proposals and designs in different areas. Each student will be expected to give three presentations
throughout the semester that will provide opportunities to receive constructive feedback on the development and implementation of research aims. The first presentation (toward the beginning of the semester) will involve presentation of the student's general topic of interest and preliminary formulation of research questions. Feedback will emphasize ways to focus and develop the research hypotheses into well-formulated questions and experiments. The second presentation will involve a more detailed presentation of specific research questions (along the lines of NIH-style Specific Aims) and an initial outline of research methods. The final presentation will involve a fuller presentation of research questions and proposed methods. Feedback, didactic work and group discussion throughout the semester will include guidance on critical components of the development of a research plan, including how to perform literature searches, formulate testable hypotheses, write critical literature summaries and design experiments and analyses. The course will meet once a week, with faculty members from different tracks within the pathway present at each meeting. This will allow students to receive feedback from several perspectives. Prerequisite: Member of CCSN Pathway, permission of instructor. Credit: 3 units. Same as L33 Psych 5191.

L41 (BIO) 5646 NEUROSCIENCES PROGRAM 1ST YEAR FUNDAMENTALS
Instructors: Paul Shaw, PhD, 362-2703; Lawrence Snyder, MD, PhD, 747-3530; John Pruett, MD, PhD, 747-6751
This course will provide a two-part introduction to Neuroscience Research fundamentals. Namely, it will introduce elementary statistical analysis for Neuroscience research and an introduction for grant-writing to support Neuroscience-related research. Prereq, limited to first year neuroscience students. Credit: 0.5 units.

L41 (BIO) 5651 NEURAL SYSTEMS
Instructor: Lawrence Snyder, MD, PhD, 747-3530
The course will consist of lectures and discussions of the sensory, motor and integrative systems of the brain and spinal cord, together with a weekly lab. The lectures will present aspects of most neural systems and will be given by faculty members who have specific expertise on each topic. The discussions will include faculty-led group discussions and papers presented and discussed by students. The
labs will include human brain dissections, examination of histological slides, physiological recordings, behavioral methods, computational modeling and functional neural imaging. Credit: 6 units.

L41 (BIO) 5657 BIOLOGICAL NEURAL COMPUTATION
Instructor: Baranidharan Raman, PhD, 935-8538
This course will consider the computations performed by the biological nervous system with a particular focus on neural circuits and population-level encoding/decoding. Topics include, Hodgkin-Huxley equations, phase-plane analysis, reduction of Hodgkin-Huxley equations, models of neural circuits, plasticity and learning, and pattern recognition & machine learning algorithms for analyzing neural data. Note: Graduate students in psychology or neuroscience who are in the Cognitive, Computational, and Systems Neuroscience curriculum pathway may register in L41 5657 for three credits. For non-BME majors, conceptual understanding, and selection/application of right neural data analysis technique will be stressed. Hence homework assignments/examinations for the two sections will be different, however all students are required to participate in a semester long independent project as part of the course. Calculus, Differential Equations, Basic Probability and Linear Algebra. Undergraduates need permission of the instructor. Prerequisites: Permission from the instructor. Credit: 3 units. Same as E62 BME 572.

L41 (BIO) 5663 NEUROBIOLOGY OF DISEASE
Instructor: Conrad Weihl, MD, PhD, 362-6981
This is an advanced graduate course on the pathology of nervous system disorders. This course is primarily intended to acquaint Neuroscience graduate students with a spectrum of neurological diseases, and to consider how advanced neuroscientific approaches may be applied to promoting recovery in the brain. Topics will be presented by Washington University faculty members and include: neurooncology, stroke, retinal disease, perinatal brain injury, neurodegenerative disorders, neuroinflammation, epilepsy, and psychiatric disorders. The class will meet for 2 hours each week. Each session will be led by a faculty guest with expertise in a specific neurological or psychiatric disease. In the first hour, the speaker will discuss clinical
manifestations and pathophysiology. Where possible, the clinical presentation will be supplemented with a patient demonstration or videotape. After a 30-minute break for pizza and soda, the second hour will follow a journal club format. Two or three students will review current papers assigned by the speaker or course director. This course is offered in alternate years. Prereq: Introductory neuroscience course at the graduate or medical school level. Credit: 2 units.

L41 (BIO) 5678 CLOCKSCLUB
Instructors: Erik Herzog, PhD, 935-8635; Paul Taghert, PhD, 362-3641
Clocksclub focuses on recent advances in the study of biological timing including sleep and circadian rhythms. Participants discuss new publications and data on the molecules, cells and circuits underlying daily rhythms and their synchronization to the local environment. Students registered for this journal club will lead a discussion once during the semester. Prereqs: BIO 2970 or permission of instructor. Credit: 1 unit.

L41 (BIO) 5702 CURRENT APPROACHES IN PLANT RESEARCH
Instructor: Plant Biology Program; 362-3364
This course is designed to introduce graduate students to contemporary approaches and paradigms in plant biology. The course includes lectures, in-class discussions of primary literature and hands-on exploration of computational genomic and phylogenetic tools. Evaluations include short papers, quizzes, and oral presentations. Over the semester, each student works on conceptualizing and writing a short NIH-format research proposal. Particular emphasis is given to the articulation of specific aims and the design of experiments. Students provide feedback to their classmates on their oral presentations and on their specific aims in a review panel. Prereq: Bio 5703 or permission of the instructor. Credit: 4 units.

L41 (BIO) 5703 EXPERIMENTAL DESIGN AND ANALYSIS IN BIOLOGICAL RESEARCH
Instructor: Plant Biology Program ; 362-3364
In-depth exploration of landmark and current papers in genetics, molecular and cell biology, with an emphasis on prokaryotes and eukaryotic microbes. Class discussions will center on such key discoveries as the chemical nature of genetic material, the genetic code, oxygen producing light-spectrum, cell-cell signaling, transcriptional
regulation, the random nature of mutation, and cell cycle regulation. Emphasis will be placed on what makes a good question or hypothesis, expedient ways to address scientific problems, and creative thinking. The last third of the course will consist of student-run seminars on selected topics to increase proficiency in the synthesis of new material and public presentation skills. Credit: 2 units.

L41 (BIO) 5723 SEMINAR IN PLANT AND MICROBIAL BIOSCIENCE
Instructor: Staff, Plant Biology Program, 362-3364
This course emphasizing presentation skill and critical analysis counts towards the PMB Graduate Program's journal club course requirement. Students will be responsible for dividing and presenting 30 current research publications selected by the course masters. In addition to assembling brief PowerPoint presentations providing background and significance for their assigned articles, students are expected to provide classmates with a 1 page primer and short list of relevant references. Credit: 2 units.

L41 (BIO) 580 SEMINAR IN POPULATION BIOLOGY
Instructor: Staff, Evolution, Ecology and Population Biology, 362-3364
This weekly seminar, covering different topics each semester, should be taken by graduate students in the program. Prerequisite: graduate standing or permission of the instructors. Credit: variable; 2 or 3 units.

L41 (BIO) 582 ETHNOBIOLOGY JOURNAL CLUB
Instructors: Gayle Fritz, PhD, 935-8588; Jan Slick, PhD, 577-5165
Students in this journal club will meet weekly with ethnobotanists, ethnozoologists and ecologists from various St. Louis institutions (including Washington University, University of Missouri-St. Louis, Saint Louis University and the Missouri Botanical Garden) to discuss recent publications and ongoing research. Enrolled students will attend the journal club every week, and once per semester will choose a paper and lead the discussion. Credit: 1 unit. Same as home course L48 Anthro 560.

L41 (BIO) 585 SEMINAR IN FLORISTIC TAXONOMY
Instructor: Peter Hoch, PhD, 577-5175
This weekly seminar provides an introduction to/overview of Plants, each semester progressively covering orders and families in a sequence derived from the Angiosperm Phylogeny Website (http://www.mobot.org/MOBOT/Research/APweb/welcome.html); in Spring 2014, the seminar will finish the monocots and begin the eudicots. Weekly presentations include a summary of all relevant information (molecular, chemical, anatomical, embryological, morphological, ecological, geographical, historical/paleontological, etc.) about the plant group under consideration, review of the classification/phylogeny of the group, examination of fresh and/or preserved specimens, and discussion of relationships, human uses, and other relevant aspects of the biology of that group. Credit will be contingent on one (or two) seminar presentation(s) per student, regular attendance and active participation in group discussions. Credit: 1 unit.

L41 (BIO) 5862 SEMINAR ON PROFESSIONAL DEVELOPMENT FOR GRADUATE STUDENTS IN ECOLOGY, EVOLUTION & POPULATION BIOLOGY
Instructor: Eleanor Pardini, PhD, 935-4884
This is a weekly discussion seminar course in which advanced graduate students and postdocs in STEM will discuss the practices of scientific teaching and basic professional development skills. Topics covered will include scientific teaching, active learning, assessment driven instruction, creation inclusive classrooms, preparing for job interviews, preparing grant proposals, and balancing family and work. There will be several panel discussions with invited speakers on a range of potential career options to STEM PhDs. Students will prepare or revise their professional portfolio materials over the course of the semester. The course is open to all DBBS graduate students and is required for GAANN fellows. Prereq: Graduate student status in the DBBS or permission of instructor. Credit: 1 unit.

L41 (BIO) 590 RESEARCH
Instructors: Staff, Division of Biology and Biomedical Sciences, 362-3365
Credit to be arranged. Research is listed as 900-level course in each department.

L41 (BIO) 5902 INTRO TO THE SCHOLARSHIP OF TEACHING AND LEARNING
Instructor: Denise Leonard, 935-6142;
In this course, students will be introduced to the fundamentals of the Scholarship of Teaching and Learning (SoTL), including the practice of developing, reflecting on, and evaluating teaching methods to improve student learning. The scholarship of teaching and learning incorporates knowledge from educational and cognitive-psychology research, and it leads to the dissemination of new knowledge to a broad audience of educators. Students will learn to articulate questions about classroom teaching that can be addressed in a SoTL research project. Working from these questions, students will develop research hypotheses; design an evaluative plan; describe specific research methods (including the type of data to be collected); write an IRB application; understand how to analyze the data relative to the hypotheses. By the end of this course, students will have designed a research plan for a SoTL project. Same as U29 Bio 4902. Credit: 1 unit. Same as U29 Bio 4902.

L41 (BIO) 5911 SEMINAR IN BIOLOGY AND BIOMEDICAL SCIENCES
Instructors: Staff, Division of Biology and Biomedical Sciences, 362-3365
These seminars cover the recent literature in various areas not included in other courses, or in more depth than other courses. Credit to be arranged.

L41 (BIO) 5913 BIOLOGICAL SYSTEMS ENGINEERING
Instructor: Kristen Naegle, PhD, 935-7665
This project-based (MATLAB) class will introduce several current techniques for systems-level measurement of molecules and a set of computational techniques for inferring biological meaning from such experiments. Several molecular types and measurement techniques will be covered. How to determine the quality of measurements will lay the groundwork for understanding a new measurement technique. From there, computational topics will include dimensionality reduction techniques, correlations between measurements and outcomes, and network modeling and inference. A working knowledge of molecular biology, differential equations, linear algebra, and statistics is required. Credits: 3 units.

L41 (BIO) 5915 TEACHING PRACTICE IN BIOLOGY AND BIOMEDICAL SCIENCES
Instructor: John H. Russell, PhD, 362-2558
Students serve as teaching assistants for undergraduate and graduate-level courses.
Faculty-supervised activities include lecture preparation and presentation, leading discussion and problem-solving sessions and laboratory instruction. Prerequisite: restricted to graduate students in the Division of Biology and Biomedical Sciences. Credit: 1 unit.

L41 (BIO) 5922 ENTERING MENTORING
Instructor: Kathryn Miller, PhD, 935-7305
This course is a series of facilitated discussions aimed at developing and improving mentoring skills for those involved in supervising undergraduate research experiences. It is designed for postdocs and graduate students who are or will be ‘bench mentors’ for undergraduates doing Bio 500 and/or Summer Research. Participants will receive “Entering Mentoring” materials, including articles and worksheets to facilitate mentoring interactions with their mentee, plus several resource books relevant to mentoring. They will develop a mentoring philosophy statement, work on specific assignments designed to improve their relationship with their mentee and share their present and past experiences as mentors and mentees. Bench mentors will be eligible for a travel award to help defray expenses for attending a meeting with their mentee, if that student wins one of the HHMI SURF travel awards (4-5 awarded annually) or is otherwise being supported to present at a scientific meeting. Prereq: open to graduate students and postdocs, with priority for those who plan to mentor undergraduates in summer research experiences. Graduate students and postdocs do NOT need to be mentoring a student at the time of the course; it is open to all with an interest in mentoring now or in the future. Note: The sessions will be held either at the beginning of the day or the end of the day at the Danforth campus. Once registration closes, an email will be sent to those registered to poll for the best days & times. Credit: 1 unit. Same as U29 Bio 492.
Modern biomedical engineers face a far different world than those trained even two decades ago.

Explosive advances in our ability to probe and understand molecular and cellular processes and their interconnections now make it imperative that the powers of engineering be brought to bear at ever smaller as well as at system wide levels. This will not only produce new discoveries at the most fundamental levels but also accelerate the translation of these discoveries into practical applications.

Our vision is that future leaders and lasting impact will arise from successfully integrating engineering concepts and approaches across molecular to whole body levels. Moreover, those also trained to integrate the analytical, modeling and systems approaches of engineering to the complex and, sometimes overwhelming, descriptive details of biology will be uniquely positioned to address new and exciting opportunities. We are committed to educating and training the next generation of biomedical engineers with this vision in mind.

At Washington University, world-class biological, engineering and medical research — along with top-notch, state-of-the-art health care — are closely intertwined. For more than 50 years, collaborations between the School of Medicine and the School of Engineering & Applied Science have led to major advances in many areas including: positron emission tomography, medical applications of ultrasound, application of computers to hearing research and development of heart valve flow simulators. Since the establishment of the Department of Biomedical Engineering in 1997, this atmosphere of collaboration and collegiality between the two schools has been further strengthened and expanded, leading to an exceptional degree of synergy that is one of our hallmarks. All of our core faculty have been hired since 1997 and comprise a young, dynamic and still-expanding group.

The core faculty, together with over 70 affiliated faculty from other departments form a network of mentors dedicated to training the next generation of biomedical engineers. Our goal is to educate students in an interdisciplinary manner so that they can effectively collaborate with physicians, biologists and other life scientists to build
their careers. Students can elect to perform their research with any member of the network. The commitment and diverse talent of these faculty provide a vast array of choices to enable students to refine their unique quantitative and analytical engineering skills and apply them to relevant biomedical problems. As a result, our graduates are well-equipped to work in multidisciplinary teams tackling cutting-edge and high impact problems of modern biomedical engineering.

Admissions Information

Please visit the Biomedical Engineering website for admissions information.

Biomedical Engineering Courses

BME 471 Bioelectric Phenomena
BME 4904 Interfaces and Attachments in Natural and Engineered Structures
BME 501 Graduate Seminar
BME 503A Cell and Organ Systems Biology
BME 506 Seminar in Imaging Science and Engineering
BME 507 Radiological Physics and Dosimetry
BME 524 Tissue Engineering
BME 530A Molecular Cell Biology for Engineers
BME 537 Computational Molecular Biology
BME 538 Cell Signal Transduction
BME 550 Numerical Methods for Computational Modeling in Biomedicine
BME 559 Intermediate Biomechanics
BME 5565 Mechanobiology of Cells and Matrices
BME 5610 Protein Structure and Dynamics
BME 564 Orthopaedic Biomechanics-Cartilage & Tendon
BME 565 Biosolid Mechanics
BME 568 Cardiovascular Dynamics
BME 572 Biological Neural Computation
BME 574 Quantitative Bioelectricity and Cardiac Excitation
BME 575 Molecular Basis of Bioelectrical Excitation
BME 5771 Biomedical Product Development
BME 5772 Biomedical Business Development
BME 589 Biological Imaging Technology
BME 5901 Integrative Cardiac Electrophysiology*
BME 5902 Cellular Neurophysiology
BME 5903 Physical Methods for Biomedical Scientists
BME 5907 Advanced Concepts in Image Science
BME 5911 Cardiovascular Biophysics Journal Club
BME 5913 Molecular Systems Biology: Computation & Measurements for Understanding Cell Physiology and Disease
BME 593 Computational Methods for Inverse Problems
BME 594 Ultrasound Imaging

For additional related courses, see the courses of the School of Engineering & Applied Science.

Department of Biomedical Engineering Faculty
Professor and chair of department

Steven C. George, MD, PhD
University of Missouri, Columbia (MD), 1991
University of Washington (PhD), 1995

Professor emeritis

Salvatore P. Sutera, PhD
California Institute of Technology, 1960

Full-time professors

Mark Anastasio, PhD
The University of Chicago, 2001

Jianmin Cui, PhD
State University of New York Stony Brook, 1992

Daniel W. Moran, PhD
Arizona State University, 1994

Rohit V. Pappu, PhD
Tufts University, 1996

Yoram Rudy, PhD
Case Western Reserve University, 1978

Lori A. Setton, PhD
Columbia University, 1993

Larry A. Taber, PhD
Stanford University, 1979
Frank Chi-Pong Yin, PhD, MD
University of California, San Diego, 1970; MD, 1973

Quing Zhu, PhD
University of Pennsylvania, 1992

**Full-time associate professors**

Dennis L. Barbour, MD, PhD
The Johns Hopkins University, 2003

Vitaly Klyachko, PhD
University of Wisconsin, 2002

Baranidharan Raman, PhD
Texas A & M University, 2005

Jin-Yu Shao, PhD
Duke University, 1997

Kurt A. Thoroughman, PhD
The Johns Hopkins University, 1999

**Full-time assistant professors**

Jan Bieschke, PhD
Max-Planck-Institute for Biophysical Chemistry, 2000

Hong Chen, PhD
University of Washington – Seattle, 2011

Kristen Naegle, PhD
Massachusetts Institute of Technology, 2009
Graduate group

Samuel Achilefu, PhD
University of Nancy, France, 1991

Hongyu An, DSc
Washington University in St. Louis, 2001

Beau Ances, MD, PhD
University of Pennsylvania, 2001

Maxim Artyomov, PhD
Massachusetts Institute of Technology, 2009

Martha Bagnall, PhD
University of California, San Diego, 2008

Deanna Barch, PhD
University of Illinois at Urbana-Champaign, 1993

Philip V. Bayly, PhD
Duke University, 1993

Gregory Bowman, PhD
Stanford University, 2010

Michael R. Brent, PhD
Massachusetts Institute of Technology, 1991

Paul C. Bridgman, PhD
Purdue University, 1980
David Brody, MD, PhD  
Johns Hopkins School of Medicine, 2000

Michael Bruchas, PhD  
Creighton University, 2004

Andreas H. Burkhalter, PhD  
University of Zurich, 1977

Shantanu Chakrabartty, PhD  
The Johns Hopkins University, 2004

Delphine Chen, MD, PhD  
Washington University School of Medicine, 1999

ShiNung Ching, PhD  
University of Michigan, 2009

Barak Cohen, PhD

Maurizio Corbetta, MD  
University of Pavia School of Medicine, Italy, 1985

Joseph Culver, PhD  
University of Pennsylvania, 1987

Gautam Dantas, PhD  
University of Washington, 2005

Aaron DiAntonio, MD, PhD  
Stanford University (MD/PhD), 1995

Anthony French, MD, PhD
University of Illinois, Urbana-Champaign, 1995; MD, 1996

Guy Genin, PhD
Harvard University, 1996

Michael Greenberg, PhD

Farshid Guilak, PhD
Columbia University, 1991

James Havranek, PhD
Stanford University, 2003

Tim Holy, PhD
Princeton University, 1997

James Huettner, PhD
Harvard University, 1987

Daniel Kerschensteiner, MD
Max-Planck Institute for Experimental Medicine, Göttingen, Germany, 2004

Sándor J. Kovács, PhD, MD
California Institute of Technology, 1977; MD, University of Miami, 1979

Spencer Lake, PhD
University of Pennsylvania, 2009

Gregory M. Lanza, PhD
University of Georgia, 1981

Jin-Moo Lee, MD, PhD
Cornell University Medical College, 1993
Eric Leuthardt, MD
University of Pennsylvania, 1999

Matthew Lew, PhD
Stanford University, 2015

H. Harold Li, PhD
Friedrich-Alexander-Universitat Erlangen-Nurnberg, 2001

Christopher Lingle, PhD
University of Oregon, 1979

Timothy Lohman, PhD
University of Wisconsin, Madison, 1977

Christopher A. Maher, PhD
Cold Spring Harbor Laboratory and Stony Brook University, 2006

Garland R. Marshall, PhD
Rockefeller University, 1966

Audrey McAlinden, PhD
University of London, Imperial College Medical School, 1998

Robert P. Mecham, PhD
Boston University, 1976

Gretchen Meyer, PhD
University of California, San Diego, 2011

Jeffrey Milbrandt, MD, PhD
Washington University in St. Louis, 1978; PhD University of Virginia, Charlottesville, 1983
Jeffrey Millman, PhD  
Massachusetts Institute of Technology, 2011

Robi Mitra, PhD  
Massachusetts Institute of Technology, 2000

Ilya Monosov, PhD  
Brown University, 2010

Arye Nehorai, PhD  
Stanford University, 1983

Jeanne Nerbonne, PhD  
Georgetown University, 1978

Colin G. Nichols, PhD  
Leeds University, 1985

Joseph A. O'Sullivan, PhD  
University of Notre Dame, 1986

Camillo Padoa-Schioppa, PhD  
Massachusetts Institute of Technology, 2002

Parag J. Parikh, MD  
Washington University, 2001

Amit Pathak, PhD  
University of California, Santa Barbara, 2008

Steven E. Petersen, PhD  
California Institute of Technology, 1982
Zachary Pincus, PhD
Stanford University, 2007

David Piston, PhD
University of Illinois, Urbana, 1989

Jay W. Ponder, PhD
Harvard University, 1984

Zachary Ray, MD
University of Iowa College of Medicine, 2004

Stacey Rentschler, MD, PhD
Mount Sinai School of Medicine, MD 2004, PhD 2002

Linda Sandell, PhD
Northwestern University, 1980

Vijay Sharma, PhD

Kooresh Isaac Shoghi
University of California, Los Angeles, 2005

Matthew J. Silva, PhD
Massachusetts Institute of Technology, 1996

Lawrence H. Snyder, MD, PhD
University of Rochester, 1992

Sheng-Kwei (Victor) Song, PhD
Washington University in St. Louis, 1990

S. Joshua Swamidass, MD/PhD
University of California, Irvine, 2009

Yuan-Chuan Tai, PhD
University of California, Los Angeles, 1998

Simon Tang, PhD
Rensselaer Polytechnic Institute, 2007

David C. Van Essen, PhD
Harvard University, 1971

Jessica Wagenseil, DSc
Washington University in St. Louis, 2003

Yong Wang, PhD
Washington University in St. Louis, 2009

Xiaowei Wang, PhD
Tufts University Medical School, 2000

Samuel A. Wickline, MD
University of Hawaii, 1980

Pamela Woodard, MD
Duke University School of Medicine, 1990

Hani Zaher, PhD
Simon Fraser University, 2007

Tiezhi Zhang, PhD
University of Wisconsin-Madison, 2004

Jie Zheng
University of Cincinnati, 1994

Supporting faculty

R. Martin Arthur, PhD
University of Pennsylvania, 1968

Thomas Conturo, MD, PhD
Vanderbilt University, 1989

Elliot L. Elson, PhD
Stanford University, 1966

William A. Frazier III, PhD
Washington University, 1973

Eric Galburt, PhD
University of Washington, 2002

Robert J. Gropler, MD
University of Cincinnati, 1981

Dennis Hallahan, MD
Rush University, 1984

Joseph W. Klaesner, PhD
Vanderbilt University, 1995

Michael K. Pasque, MD
University of Oklahoma, 1978

William D. Richard, PhD
University of Missouri-Rolla, 1988
Richard Scheussler, PhD
Clemson University, 1977

Lilianna (Lila) Solnica-Krezel, PhD
University of Wisconsin-Madison, 1991

Alan R. Templeton, PhD
University of Michigan, 1972

M. Victor Wickerhauser, PhD
Yale University, 1985

Biostatistics

The Division of Biostatistics engages in research, biostatistical consultation and training activities. Interested students may pursue intensive studies through the Master of Science in Biostatistics, a Master of Science in Genetic Epidemiology (for Post-Docs only), a Certificate in Genetic Epidemiology, or individual courses offered by the division. Research activities include several independent lines of research as well as numerous collaborative projects with various departments of the medical school. Biostatistical consultation represents an important activity of the division, providing expertise in both theoretical and applied areas. The Division participates actively in a post-doctoral training through a T32 Post-Doctoral training grant in Genetic Epidemiology.

Research activities of the Division span a wide range of topics dealing with a number of disease areas and provide research opportunities at both theoretical and applied levels. Several research projects involve close interaction and collaboration with a
number of research groups at the Washington University Medical Center. Independent research programs of the Division deal with genetic epidemiology of cardiovascular and metabolic diseases, bioinformatics and statistical issues in imaging sciences and Alzheimer’s disease. A number of theoretical and applied problems are addressed, including nature-nurture resolution and identification of the genetic basis of risk factor domains such as lipids, obesity, blood pressure and hypertension, and insulin resistance and diabetes; exploration of gene-gene and gene-environment interactions; and multivariate associations among multiple risk factors.

Current and recent collaborative research projects include: a coordinating center for a multicenter study to assess the genetic basis of response to exercise training (HERITAGE); a coordinating center for a multicenter study on the effectiveness of a weight loss treatment implemented in primary care; a coordinating center for a multicenter NETWORK study on the genetics of hypertension (HyperGEN), and the Family Blood Pressure Program (FBPP); coordinating centers for a multicenter study to assess the genetic basis of response to intervention through incorporation of gene-environment interactions (Gensalt); the coordinating center for the PRIDE program with the goal of mentoring junior faculty in underrepresented minorities and/or faculty with disabilities into independent research careers in biomedical sciences; the coordinating center for the Data Analysis and Coordinating Center (DACC) which tracks the education and careers of people who have participated in the NHGRI Diversity Action Plan (DAP) and NHGRI T-32s that concentrate on genomics and genetics; important collaborative studies through support roles as biostatistics cores on the Washington University Institute of Clinical and Translational Sciences, the Alzheimer’s Disease Research Center, the Adult Children’s Study, Healthy Aging and Senile Dementia (HASD), The Dominantly Inherited Alzheimer Network (DIAN), the Alvin J. Siteman Cancer Center, the Silent Infarct Transfusion Study, the Optimization of Chemotherapy for Control and Elimination of Onchocerciasis, the Washington University Sporotriasis Center, the Washington University Intellectual & Developmental Disabilities Research Center and Childhood Obesity Treatment. We also have a significant role on studies that focus on lung transplants, asthma, COPD, pediatric heart and ischemic heart disease and on several epidemiological research projects.
developing methods for increasing public awareness and utilization of measures that are known to decrease the likelihood of developing heart disease and for encouraging behaviors that will improve prognosis following a heart attack.

The Division provides consultation through the Washington University Institute of Clinical and Translational Sciences (ICTS), the Washington University Intellectual & Developmental Disabilities Research Center, and the Biostatistics Consulting Service in a wide range of areas including the statistical design of experiments and clinical trials, protocol development, database management, analysis of data and interpretation of results. Some of the areas of special strength and expertise include cardiovascular biostatistics, computing and statistical packages. The Division is well-equipped to provide assistance at the stage of preparing grant applications, including careful discussions of study design, sample size calculations, randomization schemes, computer resources and data analysis.

One of the Division's specialties is statistical genetics/genetic epidemiology. We host and participate in a postdoctoral T32 training grant in this area. Statistical genetics is the scientific discipline that deals with an analysis of the familial distribution of traits, with a view to understanding any possible genetic basis. However, one cannot study genes except as they are expressed in people living in certain environments, and one cannot study environmental factors except as they affect people who have certain genotypes. Statistical genetics is a unique interdisciplinary field that seeks to understand both the genetic and environmental factors and how they interact to produce various diseases and traits in humans. These studies are carried out in relatively large samples of participants in relevant populations, thus, the population history and dynamics often come into play. Population dynamics alter the frequency and distribution of both genetic and environmental factors, and thus, their net effect on the phenotype of interest. Some population characteristics also can be exploited for the purposes of gene discovery and mapping because the history has affected the genomic structure in a way that specific genotypes associated with disease can be identified.

Human diseases have been the focal point of these studies, and recent efforts are
directed toward complex disorders such as coronary heart disease, hypertension, diabetes, obesity, cancer, atopy and allergies, and neurological and psychiatric disorders, to name a few. It is commonly thought that an understanding of the genetic underpinnings of such disorders will revolutionize medicine in the 21st century, enabling better preventive measures, diagnosis, prognosis and novel treatments. Given progress in the Human Genome Project, in computing power and in the creation of powerful statistical methods of analysis, we are poised to shepherd this revolution. It is an exciting time in science, and opportunities for careers in statistical genetics/genetic epidemiology abound.

**NIH sponsored training programs**

The PRIDE Summer Institute in Cardiovascular Genetics and Epidemiology (CGE) with a focus on Cardiovascular and other Heart, Lung, Blood and Sleep Disorders: An all-expense-paid summer institute continues in the summer of 2017 with funding from the NHLBI. The goal is to mentor junior faculty in underrepresented minorities and/or faculty with disabilities into independent research careers in biomedical sciences. For further information, visit the website at [http://www.biostat.wustl.edu/pridege/](http://www.biostat.wustl.edu/pridege/) or contact the program administrator at [biostat-pride-cge@email.wustl.edu](mailto:biostat-pride-cge@email.wustl.edu)

The Division holds a Post-Doctoral T32 training grant in cardiovascular genetic epidemiology from the NIH. This training grant is available to PhDs and MDs with a background in quantitative sciences, cardiovascular sciences or experience in statistical genetics and genetic epidemiology. Candidates must be a US citizen or permanent resident to be eligible. For more information see our website at [https://biostatistics.wustl.edu/training/pages/post-doctraininggrant.aspx](https://biostatistics.wustl.edu/training/pages/post-doctraininggrant.aspx), contact the Program Administrator at (314) 362-3697 or send email to post-doc-search@wubios.wustl.edu

**Graduate studies**

The Division of Biostatistics sponsors a Master of Science in Biostatistics (MSIBS), a Master of Science in Genetic Epidemiology (GEMS; for Post-Doctoral students only)
and a Certificate in Genetic Epidemiology. The Division had sponsored the GEMS program from 2002 – 2012. In 2012 the GEMS program was streamlined as a Post-Doctoral degree program in addition to integrating some of the curriculum into the MSIBS program. Masters students who wish to have the GEMS type of training should look into the Statistical Genetic pathway of the MSIBS program.

**Master of Science in Biostatistics (MSIBS)**

This 18-month program offers excellent training in biostatistics and statistical genetics for students who earned undergraduate or higher degrees with majors in mathematics, statistics, computer science, biomedical engineering or other related major. It prepares graduates for rewarding employment in academia and industry and for further graduate studies.

**Academic calendar**

The MSIBS program begins approximately July 1 each year with preparatory workshops, followed by intensive summer semester courses. For the fall and spring courses, the MSIBS program follows the calendar of the College of Arts & Sciences. See the current MSIBS calendar at [https://biostatistics.wustl.edu](https://biostatistics.wustl.edu).

**Location**

The Program is currently located in the Division of Biostatistics, on the third floor of Shriners Building (706 S. Euclid Ave. at Clayton Road), Rooms 3301-3312. At the end of January 2017, the Division of Biostatistics, including the Program, will be moving to the Bernard Becker Library 5th floor (660 S. Euclid Ave.).

**Further information**

See our web site, [https://biostatistics.wustl.edu](https://biostatistics.wustl.edu), contact the Program Manager at (314) 362-1384, send email to biostat-msibs@email.wustl.edu or write to:

MSIBS Program
Biostatistics Courses

M21 503 STATISTICAL COMPUTING WITH SAS®
Department: Division of Biostatistics
Course masters: Karen Schwander
Credit hours: 2 units
Frequency: Every summer

Intensive hands-on summer training in SAS® during nine full weekdays. Students will learn how to use the SAS® system for handling, managing and analyzing data. Instruction is provided in the use of the SAS® programming language, procedures, macros and SAS® SQL. The course will include exercises using existing programs written by SAS® experts. Instruction manual and computer lab will be provided. This course meets the prerequisite for M21 560 Biostatistics I offered in fall. The registration/grade option of “Audit” is not available.

Participants are required to participate in the Computing/Unix Workshop offered free of charge immediately prior to this course in early July.

For details, to register and to obtain the required permission of the course master, contact the MSIBS Program Manager: biostat-msibs@email.wustl.edu or (314) 362-1384.
This is an introduction to the R Statistical Environment for new users. R is “a freely available language and environment for statistical computing and graphics which provides a wide variety of statistical and graphical techniques: linear and nonlinear modeling, statistical tests, time series analysis, classification, clustering, etc. The goal is to give students a set of tools to perform statistical analysis in medicine, biology, or epidemiology. At the conclusion of this primer, students will: be able to manipulate and analyze data, write basic models, understand the R environment for using packages, and create standard or customized graphics. This primer assumes some knowledge of basic statistics as taught in a first semester undergraduate or graduate sequence. Topics should include: probability, cross-tabulation, basic statistical summaries, and linear regression in either scalar or matrix form. For details, to register and to obtain the required permission of the course master, contact the MSIBS Program Manager: biostat-msibs@email.wustl.edu or (314) 362-1384.
Participants are strongly encouraged to participate in the computing/UNIX Workshop offered free of charge prior to this course in early July. For details, to register and to obtain the required permission of the course master, contact the MSIBS Program Manager: biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 550 INTRODUCTION TO BIOINFORMATICS
Department: Division of Biostatistics
Course master: C.Charles Gu, Co-Coursemaster: Jingqin (Rosy) Luo
Credit hours: 3 units
Frequency: Every summer
Intensive two-week summer course designed to provide broad exposure to the basic concepts, methodology and application of bioinformatics to solve biomedical problems. Specifically, students will learn the basics of online genomic databases and database mining tools and will acquire understanding of mathematical algorithms in genome sequence analysis (alignment analysis, gene finding/predicting), gene expression microarray (genechip) analysis, and the impact of recent developments such as protein microarrays or whole-genome DNA chips for genome-wide association studies. Students will also take computer labs and learn basics of bioinformatics tools and databases (BLAST/WUBLAST, Prospector, etc.), practice basics of R/Bioconductor programming, and apply specialized R packages to solve bioinformatics problems pertinent to real medical research of human diseases. Auditors will not have access to the computer lab sessions.

Participants are strongly encouraged to participate in the computing/UNIX Workshop offered free of charge prior to this course in early July. Prerequisite: M21 506, R Primer.

For details, to register and to obtain the required permission of the course master, contact the MSIBS Program Manager: biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 5483 HUMAN LINKAGE AND ASSOCIATION ANALYSIS
Department: Department of Genetics
Course master: John Rice
Credit hours: 3 units
Frequency: Every fall
Basic genetic concepts: meiosis, inheritance, Hardy-Weinberg Equilibrium, linkage, segregation analysis; Linkage analysis: definition, crossing over, map functions, phase, LOD scores, penetrance, phenocopies, liability classes, multipoint analysis, non-parametric analysis (sibpairs and pedigrees), quantitative trait analysis, determination of power for mendelian and complex trait analysis; linkage disequilibrium analyses: allelic association (case control designs and family bases studies), QQ and Manhattan plots, whole genome association analysis; population stratification; quantitative trait analysis; measured genotypes and variance components. Hands-on computer lab experience doing parametric linkage analysis with the program LINKAGE, model free linkage analyses with Genehunter and Merlin, power computations with SLINK, quantitative trait analyses with SOLAR, LD computations with Haploview and WGAViewer, and family-based and case-control association analyses with PLINK and SAS. The methods and exercises are coordinated with the lectures, and students are expected to understand underlying assumptions and limitations and the basic calculations performed by these computer programs. Auditors will not have access to the computer lab sessions. Prerequisite: M21 515 Fundamentals of Genetic Epidemiology. Cross-listed as L41 5483.

For details, to register and to obtain the required permission of the course master, contact the MSIBS Program Manager: biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 560 BIOSTATISTICS I
Department: Division of Biostatistics
Course masters: Kenneth Schechtman and Kathryn Trinkaus
Credit hours: 3 units
Frequency: Every fall (ending mid-October)
This course is designed for students who want to develop a working knowledge of basic methods in biostatistics. The course is focused on biostatistical and epidemiological concepts and on practical hints and hands-on approaches to data
analysis rather than on details of the theoretical methods. We will cover basic concepts in hypothesis testing, will introduce students to several of the most widely used probability distributions, and will discuss classical statistical methods that include t-tests, chi-square tests, regression analysis, and analysis of variance. Both in-class examples and homework assignments will involve extensive use of SAS. Prerequisite: M21 503, Statistical Computing with SAS®, or student must have good practical experience with SAS®.

For details, to register and/or to obtain the required permission of the Course Master, contact the MSIBS Program Manager: biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 570 BIOSTATISTICS II
Department: Division of Biostatistics
Course masters: Kenneth Schechtman and Kathryn Trinkaus
Credit hours: 3 units
Frequency: Every fall (from mid-October to mid-December)
This course is designed for students who have taken Biostatistics I or the equivalent and who want to extend their knowledge of biostatistical applications to more modern and more advanced methods. Biostatistical methods to be discussed include logistic and Poisson regression, survival analysis, Cox regression analysis, and several methods for analyzing longitudinal data. Students will be introduced to modern topics that include statistical genetics and bioinformatics. The course will also discuss clinical trial design, the practicalities of sample size and power computation and meta analysis, and will ask students to read journal articles with a view towards encouraging a critical reading of the medical literature. Both in-class examples and homework assignments will involve extensive use of SAS. Prerequisite: M21 560, Biostatistics I or its equivalent as judged by the course masters.

For details, to register, and/or to obtain the required permission of the course master, contact the MSIBS Program Manager: biostat-msibs@email.wustl.edu or (314) 362-1384.
M21 617 STUDY DESIGN AND CLINICAL TRIALS
Department: Division of Biostatistics
Course masters: Jingxia (Esther) Liu
Credit hours: 3 units
Frequency: Every spring
The course will focus on statistical and epidemiological concepts of study design and clinical trials. Topics include: different phases of clinical trials, various types of medical studies (observational studies, retrospective studies, adaptive designs, and comparative effectiveness research), and power analysis. Study management and ethical issues are also addressed. Students will be expected to do homework and to practice power analysis during lab sessions. Prerequisites: M21 560 Biostatistics I and M21 570 Biostatistics II. Permission of the course master required.

For details, to register, and/or to obtain the required permission of the course master, contact the MSIBS Program Manager: biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 512 ETHICS FOR BIOSTATISTICS
Department: Division of Biostatistics
Course master: Alison Antes
Credit hours: 3 units
Frequency: Every spring
This course prepares biostatisticians to analyze and address ethical and professional issues in the practice of biostatistics across the range of professional roles and responsibilities of a biostatistician. The primary goals are for biostatisticians to recognize complex situational dynamics and ethical issues in their work and to develop professional and ethical problem-solving skills. The course specifically examines ethical challenges related to research design, data collection, data management, ownership, security, and sharing, data analysis and interpretation, and data reporting and provides practical guidance on these issues. The course also examines fundamentals of the broader research environment in which biostatisticians work, including principles of ethics in human subjects and animal research, regulatory
and compliance issues in biomedical research, publication and authorship, and collaboration in science. By the conclusion of the course, participants will understand the ethical and regulatory context of biomedical research; identify ethical issues, including situational dynamics that serve to foster or hinder research integrity, in the design and conduct of research and the management, analysis, and reporting of data; and utilize strategies that facilitate ethical problem-solving and professionalism.

For details, to register, and/or to obtain the required permission of the course master, contact the MSIBS Program Manager: biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 618 SURVIVAL ANALYSIS
Department: Division of Biostatistics
Course masters: Ling Chen
Credit hours: 3 units
Frequency: Every spring
This course will cover the basic applied and theoretical aspects of models to analyze time-to-event data. Basic concepts will be introduced including the hazard function, survival function, right censoring, and the Cox-proportional hazards (PH) model with fixed and time dependent covariates. Additional topics will include regression diagnostics for survival models, the stratified PH model, additive hazards regression models and multivariate survival models. Prerequisites: Calculus I and II, M21-560 Biostatistics I and M21-570 Biostatistics II. Permission of the course master required.

For details, to register, and/or to obtain the required permission of the course master, contact the MSIBS Program Manager: biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 621 COMPUTATIONAL STATISTICAL GENETICS
Department: Division of Biostatistics
Course masters: Michael Province and Aldi Kraja
Credit hours: 3 units
Frequency: Every spring
This course covers the theory and application of both classical and advanced algorithms for estimating parameters and testing genomic hypotheses connecting genotype to phenotype. Students learn the key methods by writing their own program to do (simplified) linkage analysis in pedigrees in SAS for a simulated dataset provided by the coursemaster. Topics covered in the course include Maximum Likelihood theory for pedigrees and unrelated individuals, Maximization routines such as Newton-Raphson and the E-M Algorithm, Path analysis, Variance components, Mixed model algorithms, the Elston-Stewart and Lander-Green Algorithms, Simulated Annealing and the Metropolis Hastings algorithm, Bayesian and MCMC methods, Hidden Markov Models, Coalescent Theory, Haplotyping Algorithms, Genetic Imputation Algorithms, Permutation/Randomization Tests, classification and Data Mining Algorithms, Population Stratification and Admixture Mapping Methods, Loss of Heterozygosity models, Gene Networks, Copy Number Variation methods, Multiple comparisons corrections and Power and Monte-carlo simulation experiments. Course not available to auditors. Prerequisites: M21 5483 Human Linkage & Association, M21 560 Biostatistics I, and M21 570 Biostatistics II or, with permission

For details, to register, and/or to obtain the required permission of the course master, contact the MSIBS Program Manager: biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 600 MENTORED RESEARCH
Department: Division of Biostatistics
Course masters: DC Rao and Chengjie Xiong
Credit hours: 6 units
Frequency: Every spring, summer and fall
Student undertakes supervised research in a mentor’s lab. The goal is to acquire important research skills as well as good writing and presentation skills. The student finds a mentor who is willing to work with him/her and they together identify a research topic. A written thesis based on the research, prepared in the format of an actual scientific publication, must be submitted and presented to a select audience. The course masters will organize a few meetings throughout to facilitate the whole
process. The course masters will determine the grade (pass/fail) in consultation with the mentors. Permission of the Course Masters is required.

For details, to register, and/or to obtain the required permission of the course master, contact the MSIBS Program Manager: biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 630 INTERNSHIP
Department: Division of Biostatistics
Course masters: D.C. Rao and J. Philip Miller
Credit hours: 3 or 6 units
Frequency: Every summer

The primary goal of the Internship program is for all students to acquire critical professional experience so that they will be well prepared to enter the job market upon graduation. This provides an opportunity for students to test-drive the job market, develop contacts, build marketable skills and perceive likes and dislikes in the chosen field. Students are required to spend a total of 440 hours in the laboratories of their chosen mentors. One of two types of projects may be pursued as part of the Internship experience. A student may elect to pursue a “Data Analysis Project” involving data management and extensive analyses of data which may lead to a publication-quality manuscript (possibly earning co-authorship for the student). Alternatively, a student may choose a highly focused research-oriented project and carry out “Mentored Research” by working closely with the mentor. In this case, the student will assist the mentor by preparing a publication-quality manuscript as part of the Internship. In either case, as part of the Internship requirements, each student will submit a one-page abstract of the work performed as part of the internship and will give a 5-minute presentation of the Internship experience. Internship presentations will be scheduled in late summer. The grade for each student will be determined in consultation with the mentor. Internships will be facilitated and coordinated by an Internship Committee consisting of professors J. Philip Miller & D.C. Rao (Co-Chairs), Ken Schechtman and Chengjie Xiong. Available to Master of Science in Biostatistics (MSIBS) students only.
Biostatistics Faculty

Amber Salter Albright, PHD, M PH
Assistant Professor of Biostatistics (primary appointment)
Assistant Professor of Neurology
PHD University of Alabama-Birmingham 2015
M PH University of North Texas Heal 2005

Ling Chen, MPH, PHD
Assistant Professor of Biostatistics (primary appointment)
Assistant Professor of Medicine
BS Beijing Medical University 1996
MPH University South Carolina 2003
PHD University of MO Columbia 2009

Robert Culverhouse, PHD, MA
Assistant Professor of Medicine
Assistant Professor of Biostatistics
PHD Washington Univ in St. Louis 1998
MA University of CA Berkeley 1987
BA Vanderbilt University 1983

Lisa De Las Fuentes, MD
Associate Professor of Medicine (primary appointment)
Associate Professor of Biostatistics
MD University of Texas Southwest 1996
BA Stanford University 1991

Feng Gao, PHD
Associate Professor of Surgery (Public Health Science) (primary appointment)
Associate Professor of Biostatistics
Associate Professor of Medicine
PHD Emory University 2003

Mae Etsuko Gordon, MS, PHD
Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Biostatistics
MS Univ of Wisconsin Madison 1970
PHD Univ of Wisconsin Madison 1979
BA Portland St University 1967

Chi Gu, PHD
Associate Professor of Biostatistics (primary appointment)
Associate Professor of Genetics
BS Nanjing Medical University 1982
PHD Washington Univ in St. Louis 1992

Esther Jiaxin Lu, PHD, MS
Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
Assistant Professor of Biostatistics
PHD Medical College of Wisconsin 2007
MS National Univ of Singapapore 2002
BS Nankai University 1997
Jingqin Luo, PHD, MS
Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
Assistant Professor of Biostatistics
Assistant Professor of Medicine
PHD Duke University 2006
MS Renmin University of China 2001
MS1 Duke University 2003
BS Renmin University of China 1998

J. Philip Miller
Professor of Biostatistics (primary appointment)
Professor of Medicine
Tenure Held At-Large in the Medical School
BA Washington Univ in St. Louis 1965

Jay Francis Piccirillo
Professor of Otolaryngology (primary appointment)
Vice Chairman for Research, Dept of Otolaryngology
Professor of Medicine
Professor of Occupational Therapy
Professor of Biostatistics
BA University of Vermont 1979

Michael A Province, MA
Professor of Genetics (primary appointment)
Professor of Biostatistics
BA University of Dallas 1973
MA Washington Univ in St. Louis 1979

Dabeeru C Rao, PHD, MS
Professor of Biostatistics (primary appointment)
Professor of Biostatistics in Genetics
Director of the Division of Biostatistics
Tenure Held At-Large in the Medical School
Professor of Biostatistics in Psychiatry
Professor of Mathematics
BS Indian Statistical Institute 1967
PHD Indian Statistical Institute 1971
MS Indian Statistical Institute 1968

John P Rice, MA, PHD
Professor of Mathematics in Psychiatry (primary appointment)
Professor of Biostatistics
Professor of Genetics
BA Cornell University 1969
MA Washington Univ in St. Louis 1972
PHD Washington Univ in St. Louis 1975

Treva Kay Rice, MA
Professor of Biostatistics (primary appointment)
Professor of Psychiatry
BS University of Texas Arlington 1981
MA University of Colorado Boulder 1984

Nancy L. Saccone, PHD, MS
Associate Professor of Genetics (primary appointment)
Associate Professor of Biostatistics
PHD Brown University 1993
MS Brown University 1990

Kenneth B Schechtman, MS, MA, PHD
Associate Professor of Biostatistics (primary appointment)
Associate Professor of Medicine
Tenure Held At-Large in the Medical School
BS City University of New York 1967  
MS Purdue University 1971  
MA Washington Univ in St. Louis 1978  
PHD Washington Univ in St. Louis 1978  
Yun Ju Sung Associate Professor of Biostatistics (primary appointment)  
Associate Professor of Psychiatry  
Guoqiao Wang, MA Assistant Professor of Biostatistics (primary appointment)  
MA University of Alabama-Tuscaloo 2010  
Ting Wang, PHD, MS Associate Professor of Genetics (primary appointment)  
Associate Professor of Computer Science and Engineering  
Associate Professor of Biostatistics  
BS School Not Listed 1997  
PHD Washington Univ in St. Louis 2006  
MS Washington Univ in St. Louis 2001  
Chengjie Xiong, PHD, MS Professor of Biostatistics (primary appointment)  
Professor of Neurology  
Professor of Mathematics  
PHD Kansas State University 1997  
BS Xinjiang University 1983  
MS Peking University 1989  
Yan Yan, MHS, MD Professor of Surgery (Public Health Sciences) (primary appointment)  
Professor of Biostatistics  
MHS Johns Hopkins University 1995  
MD Nanjing Medical University 1983  
No entries found

Master of Science in Clinical Investigation Program

The Master of Science in Clinical Investigation (MSCI) Program provides high-quality, multidisciplinary training in clinical research to promote the successful career development of clinical investigators. It is designed as a one- to three-year full- or part-time degree program for young investigators committed to pursuing academic careers in clinical research. The unique program combines didactic coursework with mentored research and career development opportunities and provides students with the knowledge and tools to excel in the areas of clinical investigation most relevant to their
careers. The MSCI is available to postdoctoral scholars, junior faculty and predoctoral students enrolled in established clinical research training programs. The program is also available to other Washington University affiliated postdoctoral health sciences scholars. Postdoctoral scholars and junior faculty must be within the medicine and allied health professions, conducting clinical research at Washington University or with an affiliated program. Predoctoral students in medicine, psychology, the Division of Biology and Biomedical Sciences, social work, audiology, physical therapy, occupational therapy and related disciplines in the Graduate School of Arts & Sciences who have completed or are enrolled in the Predoctoral Interdisciplinary Clinical Research Training Program (PICRT) are also eligible. For further information, email crtc@dom.wustl.edu, call 312-454-8936 or visit http://crtc.wustl.edu.

Program requirements

The MSCI requires the following core curriculum in clinical investigation:

**M17 513 DESIGNING OUTCOMES AND CLINICAL RESEARCH**
3 credits, Fall Semester, Wednesdays, 4:00 p.m. to 6:15 p.m., Brian Gage, MD, MSc, course master
This course includes lectures from faculty of Medicine, Surgery, Otolaryngology and Pediatrics. You will learn how to select a clinical research question, write a research protocol and execute a clinical study. Topics include subject selection, observational and experimental study design, sample size estimation, clinical measurements, questionnaires and data management. The course is designed for clinicians and health-care professionals who wish to conduct outcomes and patient-oriented clinical research. Students receive ongoing feedback as they incorporate research design concepts into their own research proposals. At the end of the course, students are required to submit a research protocol or a draft of a manuscript describing their research and pass the final exam. The course consists of lectures. Each student gives an oral presentation and presents a written paper or grant protocol for discussion and critique by faculty and other students.

OR
M17 588 EPIDEMIOLOGY FOR CLINICAL RESEARCH
3 credits, Spring Semester, Wednesdays, 4:30 p.m. to 7:00 p.m., TBD, course master
This course introduces principles of epidemiology as they apply to clinical research. The course provides basic tools used in descriptive and analytical epidemiology, which are crucial for making informed decisions in the care of patients. Critical thinking and scientific/analytic competencies are emphasized throughout the course.

M17 510 ETHICAL AND LEGAL ISSUES IN CLINICAL RESEARCH
2 credits, Fall Semester, Mondays, 4:00 p.m. to 6:00 p.m., Stephanie Solomon, PhD, course master
This course prepares clinical researchers to critically evaluate ethical and regulatory issues in clinical research. The principal goal of this course is to prepare clinical researchers to identify ethical issues in clinical research and the situational factors that give rise to them, to identify ethics and compliance resources and to foster ethical problem-solving skills.

M17 522 INTRODUCTION TO STATISTICS FOR CLINICAL INVESTIGATION
3 credits, Fall Semester, Thursdays, 4:30 p.m. to 7:00 p.m., Dorina Kallogjeri, MD, MPH, course master
This is a basic course in statistics with particular focus on the health sciences. It is taught in a user-friendly manner with emphasis on use of SPSS, statistical analysis software commonly used in clinical research. The course will teach basic statistical methods in which clinical researchers should have facility to execute their own analyses.

M17 590 INTERMEDIATE METHODS FOR CLINICAL & OUTCOMES RESEARCH
3 credits, Spring Semester, Wednesdays, 4:30 p.m. to 7:00 p.m., Ann Marie Dale, PhD, course master
This course will focus on the application of epidemiologic principles and tools in clinical research, clinical issues and understanding the medical literature concerning these issues. Course content will go beyond basic applications to clinical research. The course provides scholars with clinical epidemiological tools, which are crucial for making informed decisions in the care of patients. Critical thinking and scientific and
analytic competencies are emphasized throughout the course. Prerequisite, M17-513 or M17-588.

M17 524 INTERMEDIATE STATISTICS FOR THE HEALTH SCIENCES
3 credits, Spring Semester, Thursdays, 4:00 p.m. to 6:30 p.m., Dorina Kallogjeri, MD, MPH, course master
This course is designed to build on skills developed in Introduction to Statistics for the Health Sciences and to foster basic expertise required to independently use common multivariate biostatistical methods to analyze clinical research data for peer-review presentation and publication.

M17 528 GRANTSMANSHIP
2 credits, Fall Semester, Tuesdays, 5:15 p.m. to 7:15 p.m., Jay Piccirillo, MD, Karen Dodson, MBA, course masters
Scholars create a focused research plan that incorporates well-formulated hypotheses, rationales, specific objectives and long-range research goals; organize and present a sound research plan that accurately reflects the ideas and directions of the proposed research activities; develop and justify a budget for the proposed research activities; avoid many common grant-writing mistakes; discuss the peer-review process in grant evaluation and formulate a grant proposal that is maximally compatible with that process. You must have a grant identified that you will be submitting for this course.

OR

M17 529 SCIENTIFIC WRITING AND PUBLISHING
2 credits, Spring Semester, Tuesdays, 5:15 p.m. to 7:15 p.m., Jay Piccirillo, MD, and Karen Dodson, MBA, course masters
The objective of this course is to teach the proper techniques of writing and publishing a biomedical manuscript. Writing a working title and structured abstract as well as hand drawing of figures and tables is covered. Publishing strategies are also discussed.

Scholars also:
- Conduct independent research under the tutelage of a mentorship committee (6-8 credits)
- Participate in an ongoing seminar series to present and discuss research as a work-in-progress (1 credit each semester, minimum of 4 semesters)
- Take elective course work related to their research interests (minimum 6 credits)
- Submit a final thesis consisting of a submitted manuscript or a biomedical entrepreneurial project

Advanced placement credit can be earned for past equivalent course work as determined on an individual basis. The MSCI is a 33-credit degree and typically takes two to three years to complete.

**Tuition**

Tuition is $1,250 per credit hour. Training grant or departmental funds, if available, may be used to cover tuition costs. However, some costs of the degree may be the responsibility of the scholar. Trainees currently enrolled in other medicine and allied health programs should contact the program director or program coordinator to discuss entry into the MSCI program. MSCI courses are eligible for the Washington University, Human Resources tuition assistance program for qualifying staff and faculty.

**Location**

Most courses and seminars are taught during early evening hours in various locations on the Medical School campus.

**Further information**

Further information, including complete admissions details and program descriptions, may be obtained from the Clinical Research Training Center website ([http://crtc.wustl.edu](http://crtc.wustl.edu)) or through the following contacts:
Clinical Investigation Faculty

Program directors

David K. Warren, MD, MPH
Associate Professor of Medicine
Director, Master of Science in Clinical Investigation Program
Co-Director, Postdoctoral Program
Division of Infectious Diseases, Department of Medicine, Washington University School of Medicine

Bradley A. Evanoff, MD, MPH
Richard A. and Elizabeth Henby Sutter Professor of Occupational, Industrial and
Environmental Medicine
Chief, Division of General Medical Sciences, Department of Medicine
Director, Institute of Clinical and Translational Sciences
Division of General Medical Sciences, Department of Medicine, Washington University
School of Medicine

Mario Castro, MD, MPH
Professor of Medicine
Director, Office of Training Grants
Co-Director, Office of Faculty Management
Department of Medicine, Washington University School of Medicine

Victoria J. Fraser, MD
Chair, Department of Medicine
J. William Campbell Professor of Medicine
Director, Clinical Research Training Center, Career Development Award Program
Division of Infectious Diseases, Department of Medicine, Washington University School of Medicine

Jane M. Garbutt, MBChB, MHSc
Research Associate Professor of Medicine and of Pediatrics
Medical Director of Washington University Pediatric and Adolescent Ambulatory Research Consortium (WU PAARC)
Director, Postdoctoral Program
Co-Director, Career Development Award Program
Co-Director, Master of Science in Clinical Investigation Program
Division of General Medical Sciences, Department of Medicine, Washington University School of Medicine

Jay F. Piccirillo, MD
Professor of Otolaryngology
Director, Clinical Outcomes Research Office
Director, Predoctoral Interdisciplinary Clinical Research Training Program, and ASPIRE
Ana Maria Arbelaez Perez, MD
Associate Professor of Pediatrics
Co-Director, Predoctoral Interdisciplinary Clinical Research Training Program
Department of Pediatrics, Division of Endocrinology & Diabetes, Washington University School of Medicine

Susan L. Stark, PhD, OTR/L
Assistant Professor of Occupational Therapy and of Neurology
Co-Director, Predoctoral Interdisciplinary Clinical Research Training Program
Program in Occupational Therapy, Washington University School of Medicine

Course masters

Karen L. Dodson, MBA (Scientific Writing, Grantsmanship)
Adjunct Instructor, Department of Medicine; Director of Faculty Development and Academic Publishing Services, Office of Faculty Affairs, Washington University School of Medicine

Brian F. Gage, MD, MSc (Designing Outcomes and Clinical Research)
Associate Professor of Medicine, Division of General Medical Sciences, Department of Medicine, Washington University School of Medicine

Dorina Kallogjeri, MD, MPH (Introduction to Statistics for Clinical Investigation, Intermediate Statistics for the Health Sciences)
Research Statistician, Department of Otolaryngology, Washington University School of Medicine

Leslie McIntosh, MPH, PhD (Medical Data and Information Management)
Research Assistant Professor of Pathology and Immunology, Division of Laboratory and Genomic Medicine, Department of Pathology and Immunology, Washington University School of Medicine
University in St. Louis

Jay F. Piccirillo, MD (Scientific Writing, Grantsmanship)
Professor of Otolaryngology
Director, Predoctoral Interdisciplinary Clinical Research Training Program and ASPIRE Program
Department of Otolaryngology, Washington University School of Medicine

Rachel M. Presti, MD, PhD (Bench Fundamentals of Translational Research)
Assistant Professor of Medicine, Division of Infectious Diseases, Department of Medicine, Washington University School of Medicine

Stephanie Solomon, PhD (Ethical and Legal Issues in Clinical Research)
Assistant Professor of Health Care Ethics
Albert Gnaegi Center for Healthcare Ethics
Saint Louis University

Instructors and guest lecturers

Thomas C. Bailey, MD
Professor of Medicine, Division of Infectious Diseases, Department of Medicine, Washington University School of Medicine

Laura J. Bierut, MD
Professor of Psychiatry, Department of Psychiatry, Washington University School of Medicine

Graham A. Colditz, MD, DrPH
Niess-Gain Professor in the School of Medicine
Chief, Division of Public Health Sciences, Department of Surgery, Washington University School of Medicine
Associate Director, Prevention and Control, Siteman Cancer Center
Adjunct Professor, Community Health, Division of Epidemiology, Saint Louis University
School of Public Health

**Bettina F. Drake, PhD, MPH**
Assistant Professor of Surgery, Division of Public Health Sciences, Department of Surgery, Washington University School of Medicine

**Rebecca Dresser, JD**
Daniel Noyes Kirby Professor of Law and Professor of Ethics in Medicine, Washington University School of Law

**Jim Dubois, PhD, DSc**
Hubert Mader Endowed Chair and Director, Bander Center for Medical Business Ethics, Social Science Research Group and Center for Research Ethics and Integrity, Albert Gnaegi Center for Health Care Ethics, Saint Louis University

**Bradley A. Evanoff, MD, MPH**
Richard A. and Elizabeth Henby Sutter Professor of Occupational, Industrial and Environmental Medicine
Director, Institute of Clinical and Translational Sciences
Division of General Medical Sciences, Department of Medicine, Washington University School of Medicine

**Jane M. Garbutt, MB, ChB**
Associate Professor of Medicine and of Pediatrics
Medical Director of Washington University Pediatric and Adolescent Ambulatory Research Consortium (WU PAARC)
Director, Postdoctoral Program
Division of General Medical Sciences, Department of Medicine, Washington University School of Medicine

**Bijoy George**
Biomedical Informatics Program Manager, Department of Laboratory and Genomic Medicine, Washington University School of Medicine
Jonathan M. Green, MD  
Associate Dean for Human Studies and Executive Chair of the Institutional Review Board (IRB), Washington University School of Medicine

Snehil Gupta  
Bioinformaticist, Division of Laboratory and Genomic Medicine, Department of Pathology and Immunology, Washington University School of Medicine

Christine M. Hoehner, PhD  
Assistant Professor, Department of Surgery, Washington University School of Medicine  
Dorina Kallogjeri, MD, MPH  
Research Statistician, Department of Otolaryngology, Washington University School of Medicine

Marin H. Kollef, MD  
Golman Professor of Medicine, Division of Pulmonary and Critical Care Medicine, Department of Medicine, Washington University School of Medicine; Director, Medical Intensive Care Unit and Director, Respiratory Care Services, Barnes-Jewish Hospital

Laura B. Langton, PhD  
Research Development Manager, Office of the Vice Chancellor for Research, Washington University School of Medicine

Judith E. Lieu, MD  
Assistant Professor, Department of Otolaryngology, Washington University School of Medicine

Mark J. Manary, MD  
Professor of Pediatrics, Division of Emergency Medicine, Department of Pediatrics, Washington University School of Medicine

Timothy McBride, PhD  
Professor and Associate Dean for Public Health, George Warren Brown School of Social
Jay R. McDonald, MD
Assistant Professor of Medicine, Division of Infectious Diseases, Department of Medicine, Washington University School of Medicine

Leslie D. McIntosh, PhD
Research Instructor, Department of Pathology and Immunology, Washington University School of Medicine

J. Phillip Miller
Professor of Biostatistics, Division of Biostatistics, Washington University School of Medicine

David A. Mulvihill
Project Manager IS, Division of Laboratory and Genomic Medicine, Department of Pathology and Immunology, Washington University School of Medicine

Peter Nagele, MD
Assistant Professor of Anesthesiology, Department of Anesthesiology, Division of Clinical Research, Washington University School of Medicine

Anthony O. Odibo, MD, MSCE
Associate Professor of Obstetrics and Gynecology, Division of Maternal-Fetal Medicine and Ultrasound, Department of Obstetrics and Gynecology, Washington University School of Medicine

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Margaret A. Olsen, PhD, MPH
Research Associate Professor of Medicine, Division of Infectious Diseases, Department
Diana L. Owyoung  
Research Administrator, Department of Cell Biology and Physiology, Washington University School of Medicine

Jay F. Piccirillo, MD  
Professor, Department of Otolaryngology  
Director, Clinical Outcomes Research Office  
Director, Predoctoral Interdisciplinary Clinical Research Training Program, Doris Duke Clinical Research Fellowship and ASPIRE program  
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Fred W. Prior, PhD  
Lab Director, Electronic Radiology Lab  
Research Associate Professor, Department of Radiology, Washington University School of Medicine

Michael A. Province, PhD  
Professor of Genetics and Director, Division of Statistical Genetics, Department of Genetics, Washington University School of Medicine

Erica K. Salter, PhD  
Instructor, Albert Gnaegi Center for Health Care Ethics, Saint Louis University

Cathy C. Sarli  
Librarian, Washington University School of Medicine

Stephanie Solomon, PhD  
Assistant Professor of Health Care Ethics, Albert Gnaegi Center for Health Care Ethics, Saint Louis University

Kathryn M. Trinkaus
Research Statistician, Department of Biostatistics, Washington University School of Medicine

Mark A. Watson, MD, PhD
Associate Professor of Pathology and Immunology, Division of Laboratory and Genomic Medicine, Department of Pathology and Immunology, Washington University School of Medicine

Roger D. Yusen, MD, MPH
Associate Professor of Medicine, Division of Pulmonary and Critical Care Medicine, Division of General Medical Sciences, Department of Medicine, Washington University School of Medicine

More information

Please visit our website at http://crtc.wustl.edu, email crtc@dom.wustl.edu, or write to:

Washington University in St. Louis School of Medicine
Master of Science in Clinical Investigation Program
Campus Box 8051
660 S. Euclid Ave.
St. Louis, MO 63110

Doctor of Philosophy

The Division of Biology and Biomedical Sciences (DBBS) at Washington University in St. Louis offers exceptional doctoral training at one of the nation’s preeminent biomedical
research centers. The DBBS is organized into twelve academic programs, each representing a different scientific area.

Prospective students apply to the Division rather than to an individual program. Students are admitted into a specific program but may change their Program affiliation as their interests develop. Faculty members from 30 plus departments across the university contribute to the admission, teaching and research training of the Division’s students. Each Program has its own steering committee to provide students with personal attention, guiding them and addressing their needs during the first years of training. Steering committee members are conversant with the broad range of opportunities available to the student pursuing a graduate degree at Washington University, and they work for a precise match of interest, aptitude, Program and course of study.

Each of the 12 Programs establishes its own requirements for earning the PhD degree, and progress toward the degree is monitored by the Program steering committee. The PhD degree is granted by Washington University’s Graduate School of Arts and Sciences.

**Doctoral programs**

- Biochemistry
- Computational and Molecular Biophysics
- Computational and Systems Biology
- Developmental, Regenerative and Stem Cell Biology
- Evolution, Ecology and Population Biology
- Human and Statistical Genetics
- Immunology
- Molecular Cell Biology
- Molecular Genetics and Genomics
Molecular Microbiology and Microbial Pathogenesis
- Neurosciences
- Plant Biology

For more information

For complete admissions details and program descriptions, visit the DBBS website or contact:

Mailing address:
Division of Biology & Biomedical Science
Washington University in St. Louis
Campus Box 8226
660 South Euclid Ave.
St. Louis, MO 63110

Physical location:
660 South Euclid Ave.
Bernard Becker Medical Library, Fourth floor

Main phone numbers:
Phone: (314) 747-0840
Toll Free: (800) 852-9074
Fax: (314) 362-3369

Masters in Genetic Epidemiology (GEMS) for Post Doctoral Students
The Division of Biostatistics now offers an option for those who have completed a doctoral degree (PhD, MD, or equivalent) to pursue a Post-Doctoral Master of Science in Genetic Epidemiology (GEMS) degree. The Division of Biostatistics includes world-renowned scientific leaders in their respective areas. D.C. Rao, PhD, Director of the Division of Biostatistics and the Program Director, is one of the founding fathers of the field. The 31-credit-hour program can be pursued either full time or part time but must be completed in within three years. See https://biostatistics.wustl.edu/training/ for details about the GEMS and other programs.

The GEMS program for Post-Doctoral students has eight required courses, listed below, as well as two electives:

M21 503 STATISTICAL COMPUTING WITH SAS
M21 506 R PRIMER
M21 515 FUNDAMENTALS OF GENETIC EPIDEMIOLOGY
M21 550 INTRODUCTION TO BIOINFORMATICS
M21 5483 HUMAN LINKAGE AND ASSOCIATE ANALYSIS
M21 560 BIOSTATISTICS I
M21 512 ETHICS FOR BIOSTATISTICS
M21 610 MENTORED RESEARCH

Prospective students

Anyone interested in pursuing the Post-Doctoral GEMS degree should contact the Program Manager at biostat-msibs@email.wustl.edu in the Division of Biostatistics for information regarding the application process.

Location

The Program is currently located in the Division of Biostatistics, on the third floor of Shriners Building (706 S. Euclid Ave. at Clayton Road), Rooms 3301-3312. At the end of January 2017, the Division of Biostatistics, including the Program, will be moving to the Bernard Becker Library 5th floor (660 S. Euclid Ave.).
Certificate in Genetic Epidemiology

The Certificate in Genetic Epidemiology training program provides a multidisciplinary educational opportunity for people who want to work at the dynamic nexus of genetics and medicine. There are growing needs for scientists with this training both in academia and industry. With the wealth of data from the Human Genome Project and the availability of powerful new computational approaches, abundant opportunities are now available to explore and characterize the interplay between genes and the environment that affect the biological processes that underlie disease.

The GEMS Certificate program is sponsored by the Division of Biostatistics and includes world-renowned scientific leaders in their respective areas. D.C. Rao, PhD, director of the Division of Biostatistics and the Program Director, is one of the founding fathers of the field. The 19-credit-hour program is designed to prepare students to work at the interface of genetics, biostatistics, epidemiology and computing. See https://biostatistics.wustl.edu/training/msibs/pages for details.

The Certificate in Genetic Epidemiology is earned after successful completion (with a minimum of a “B” average) of six core courses plus labs (19 credit hours) that are normally offered to master’s candidates in Biostatistics. To earn the certificate, these
courses may be taken over one or two consecutive years:

M21 503 STATISTICAL COMPUTING WITH SAS (summer)
M21 506 R PRIMER (summer)
M21 515 FUNDAMENTALS OF GENETIC EPIDEMIOLOGY (summer)
M21 550 INTRODUCTION TO BIOINFORMATICS (summer)
M21 560 BIOSTATISTICS I (fall)
M21 570 BIOSTATISTICS II (fall)
M21 5483 HUMAN LINKAGE AND ASSOCIATION (fall)

Prospective students

Since genetic epidemiology is a multidisciplinary field, we expect applicants to come from a variety of backgrounds, but primarily those who have earned a terminal degree such as physician scientists and other clinical investigators, particularly postdoctoral fellows and people with terminal degrees in other (related) disciplines who seek to gain expertise in genetic epidemiology. All prospective students must provide evidence of basic skills in computer programming through course work, documented experience or by passing a proficiency exam. Promising candidates who do not meet all the prerequisites will work with the Program Director to take the appropriate courses or training to rectify weaknesses.

Location

The Program is currently located in the Division of Biostatistics, on the third floor of Shriners Building (706 S. Euclid Ave. at Clayton Road), Rooms 3301-3312. At the end of January 2017, the Division of Biostatistics, including the Program, will be moving to the Bernard Becker Library 5th floor (660 S. Euclid Ave.).

Registration instructions

All students will register with the Program Manager at biostat-msibs@email.wustl.edu. Before registering, current Washington University students must obtain appropriate
consent from their division or department. Students outside of the program wishing to enroll in individual courses must contact the Program Manager.

Academic calendar

The Certificate program begins approximately July 1 each year with preparatory workshops, followed by intensive summer semester courses. For the fall courses, the certificate program follows the calendar of the College of Arts & Sciences.

Further information

For complete admissions details and program descriptions, please visit our website, https://biostatistics.wustl.edu/training/msibs, contact the Program Manager at (314) 362-1384, send email biostat-msibs@email.wustl.edu or write to:

MSIBS Program
Division of Biostatistics
Campus Box 8067
660 S. Euclid Ave.
St. Louis, MO 63110-1093
Telephone: (314) 362-1384
Fax: (314) 362-2693

Genetic Epidemiology Courses

M21 503 STATISTICAL COMPUTING WITH SAS® (Required for both Certificate and GEMS)
Department: Division of Biostatistics
Intensive hands-on summer training in SAS® during nine full weekdays. Students will learn how to use the SAS® system for handling, managing and analyzing data. Instruction is provided in the use of the SAS® programming language, procedures, macros and SAS® SQL. The course will include exercises using existing programs written by SAS® experts. Instruction manual and computer lab will be provided. This course meets the prerequisite for M21 560 Biostatistics I offered in fall. The registration/grade option of “Audit” is not available.

Participants are required to participate in the Computing/Unix Workshop offered free of charge immediately prior to this course in early July.

For details, to register and to obtain the required permission of the course master, contact the MSIBS Program Manager at biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 506 R PRIMER
Department: Division of Biostatistics
Course master: Yun Ju Sung
Credit hours: 2 units
Frequency: Every summer
This is an introduction to the R Statistical Environment. R is “a freely available language and environment for statistical computing and graphics which provides a wide variety of statistical and graphical techniques: linear and nonlinear modeling, statistical tests, time series analysis, classification, clustering, etc. The goal is to give students a set of tools to perform statistical analysis in medicine, biology, or epidemiology. At the conclusion of this primer, students will: be able to manipulate and analyze data, write basic models, understand the R environment for using packages, and create standard or customized graphics. This primer assumes some knowledge of basic statistics as taught in a first semester undergraduate or graduate sequence. Topics should include: probability, cross-tabulation, basic statistical summaries, and linear regression in
either scalar or matrix form.

M21 515 FUNDAMENTALS OF GENETIC EPIDEMIOLOGY (Required for both Certificate and GEMS)
Department: Division of Biostatistics
Course masters: Treva Rice and Yun Ju Sung
Credit hours: 3 units
Frequency: Every summer
Intensive two-week summer course. Lectures cover causes of phenotypic variation, familial resemblance and heritability, Hardy-Weinberg Equilibrium, ascertainment, study designs and basic concepts in genetic segregation, linkage and association. The computer laboratory portion is designed as hands-on practice of fundamental concepts. Students will gain practical experience with various genetics computer programs (e.g., SOLAR, MERLIN, QTDT and PLINK). Auditors will not have access to the computer lab sessions.

Participants are strongly encouraged to participate in the computing/UNIX Workshop offered free of charge prior to this course in early July. For details, to register and to obtain the required permission of the course master, contact the MSIBS Program Manager at biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 550 INTRODUCTION TO BIOINFORMATICS (Required for both Certificate and GEMS)
Department: Division of Biostatistics
Course master: C. Charles Gu, Co-Coursemaster: Jingqin (Rosy) Luo
Credit hours: 3 units
Frequency: Every summer
Intensive two-week summer course designed to provide broad exposure to the basic concepts, methodology and application of bioinformatics to solve biomedical problems. Specifically, students will learn the basics of online genomic databases and database mining tools and will acquire understanding of mathematical algorithms in genome sequence analysis (alignment analysis, gene finding/predicting), gene expression microarray (genechip) analysis, and the impact of recent developments
such as protein microarrays or whole-genome DNA chips for genome-wide association studies. Students will also take computer labs and learn basics of bioinformatics tools and databases (BLAST/WUBLAST, Prospector, etc.), practice basics of R/Bioconductor programming, and apply specialized R packages to solve bioinformatics problems pertinent to real medical research of human diseases. Auditors will not have access to the computer lab sessions.

Participants are strongly encouraged to participate in the computing/UNIX Workshop offered free of charge prior to this course in early July. Prerequisite: M21 506, R Primer.

For details, to register and to obtain the required permission of the course master, contact the MSIBS Program Manager at biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 5483 HUMAN LINKAGE AND ASSOCIATION ANALYSIS (Required for both Certificate and GEMS)
Department: Department of Genetics
Course master: John Rice
Credit hours: 3 units
Frequency: Every fall
Basic genetic concepts: meiosis, inheritance, Hardy-Weinberg Equilibrium, linkage, segregation analysis; linkage analysis: definition, crossing over, map functions, phase, LOD scores, penetrance, phenocopies, liability classes, multipoint analysis, non-parametric analysis (sibpairs and pedigrees), quantitative trait analysis, determination of power for Mendelian and complex trait analysis; linkage disequilibrium analyses: allelic association (case control designs and family bases studies), QQ and Manhattan plots, whole-genome association analysis; population stratification; quantitative trait analysis; measured genotypes and variance components. Hands-on computer lab experience doing parametric linkage analysis with the program LINKAGE, model-free linkage analyses with Genehunter and Merlin, power computations with SLINK, quantitative trait analyses with SOLAR, LD computations with Haploview and WGAViewer, and family-based and case-control association analyses with PLINK and SAS. The methods and exercises are coordinated with the lectures, and students are
expected to understand underlying assumptions and limitations and the basic calculations performed by these computer programs. Auditors will not have access to the computer lab sessions. Prerequisite: M21 515 Fundamentals of Genetic Epidemiology. Cross-listed as L41 5483.

For details, to register and to obtain the required permission of the course master, contact the MSIBS Program Manager at biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 560 BIOSTATISTICS I (Required for both Certificate and GEMS)
Department: Division of Biostatistics
Course masters: Kenneth Schechtman and Kathryn Trinkaus
Frequency: Every fall (ending mid-October)
This course is designed for students who want to develop a working knowledge of basic methods in biostatistics. The course is focused on biostatistical and epidemiological concepts and on practical hints and hands-on approaches to data analysis rather than on details of the theoretical methods. We will cover basic concepts in hypothesis testing, will introduce students to several of the most widely used probability distributions, and will discuss classical statistical methods that include t-tests, chi-square tests, regression analysis and analysis of variance. Both in-class examples and homework assignments will involve extensive use of SAS. Prerequisite: M21 503, Statistical Computing with SAS®, or student must have good practical experience with SAS®.

For details, to register and/or to obtain the required permission of the course master, contact the Program Manager at biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 570 BIOSTATISTICS II (Required for Certificate)
Department: Division of Biostatistics
Course masters: Kenneth Schechtman and Kathryn Trinkaus
Credit hours: 3 units
Frequency: Every fall (from mid-October to mid-December)
This course is designed for students who have taken Biostatistics I or the equivalent and who want to extend their knowledge of biostatistical applications to more modern
and more advanced methods. Biostatistical methods to be discussed include logistic and Poisson regression, survival analysis, Cox regression analysis and several methods for analyzing longitudinal data. Students will be introduced to modern topics that include statistical genetics and bioinformatics. The course will also discuss clinical trial design, the practicalities of sample size and power computation and meta analysis, and will ask students to read journal articles with a view towards encouraging a critical reading of the medical literature. Both in-class examples and homework assignments will involve extensive use of SAS. Prerequisite: M21 560, Biostatistics I or its equivalent as judged by the course masters.

For details, to register, and/or to obtain the required permission of the course master, contact the Program Manager at biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 512 ETHICS FOR BIOSTATISTICS
Department: Division of Biostatistics
Course master: Alison Antes

Credit hours: 3 units
Frequency: Every spring
This course prepares biostatisticians to analyze and address ethical and professional issues in the practice of biostatistics across the range of professional roles and responsibilities of a biostatistician. The primary goals are for biostatisticians to recognize complex situational dynamics and ethical issues in their work and to develop professional and ethical problem-solving skills. The course specifically examines ethical challenges related to research design, data collection, data management, ownership, security, and sharing, data analysis and interpretation, and data reporting and provides practical guidance on these issues. The course also examines fundamentals of the broader research environment in which biostatisticians work, including principles of ethics in human subjects and animal research, regulatory and compliance issues in biomedical research, publication and authorship, and collaboration in science. By the conclusion of the course, participants will understand the ethical and regulatory context of biomedical research; identify ethical issues, including situational dynamics that serve to foster or hinder research integrity, in the
design and conduct of research and the management, analysis, and reporting of data; and utilize strategies that facilitate ethical problem-solving and professionalism.

For details, to register, and/or to obtain the required permission of the course master, contact the MSIBS Program Manager: biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 600 MENTORED RESEARCH (Required for GEMS)
Department: Division of Biostatistics
Course masters: DC Rao and Chengjie Xiong
Credit hours: 6 units
Frequency: Every spring, summer and fall
Student undertakes supervised research in a mentor’s lab. The goal is to acquire important research skills as well as good writing and presentation skills. The student finds a mentor who is willing to work with him/her and they together identify a research topic. A written thesis based on the research, prepared in the format of an actual scientific publication, must be submitted and presented to a select audience. The course masters will organize a few meetings throughout to facilitate the whole process. The course masters will determine the grade (pass/fail) in consultation with the mentors. Permission of the Course Masters is required. For details, to register and/or to obtain the required permission of the course master, contact the Program Manager at biostat-msibs@email.wustl.edu or (314) 362-1384.

Genetic Epidemiology Faculty

Jeffrey D Milbrandt, PHD, MD
James S McDonnell Professor of Genetics (primary appointment)
Professor of Medicine
Professor of Neurology
Professor of Pathology and Immunology
Head of the Department of Genetics
PHD University of Virginia 1983
MD Washington Univ in St. Louis 1978
BS Univ of Nebraska at Kearney 1974
Haley J Abel Instructor in Genetics
Ping An Assistant Professor of Genetics (primary appointment)
Lucinda L. Antonacci-Fulton, MS Academic Rank held in Genetics (primary appointment)
Instructor in Genetics
MS Southern Ill Univ Edwardsville 1992
BS Southern Ill Univ Edwardsville 1991
Ruteja A. Barve, MS, PHD Instructor in Genetics (primary appointment)
MS Washington Univ in St. Louis 2008
PHD Washington Univ in St. Louis 2014
BS University of Pune 1995
John Rutledge Bermingham Jr, PHD Associate Professor of Genetics (primary appointment)
BS Yale University 2016
PHD University of Colorado Boulder 2016
Ingrid B Borecki, PHD, MS Adjunct Professor of Genetics (primary appointment)
PHD University of Hawaii 1981
MS University of Hawaii 1980
BS University of Illinois 1977
Paul F Cliften, MS, PHD Associate Professor of Genetics (primary appointment)
MS Utah St University 1995
BS Utah St University 1992
PHD University of California 1999
C. Robert Cloninger, MD Wallace Renard Professor of Psychiatry (primary appointment)
Professor of Psychiatry
Professor of Psychological & Brain Sciences
Professor of Genetics
BA University of Texas Austin 1966
MD Washington Univ in St. Louis 1983
Barak Alon Cohen Professor of Genetics (primary appointment)
Alvin Goldfarb Distinguished Professor of Computational Biology
BS Cornell University 1992
Donald Franklin Conrad Assistant Professor of Genetics (primary appointment)
Assistant Professor of Pathology and Immunology
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Associate Professor of Genetics
Associate Professor of Ophthalmology and Visual Sciences
MD University of California 1999
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AB Stanford University 1990
Catherine E Cottrell, PHD Assistant Professor of Pathology and Immunology (primary appointment)
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BS Ohio State University 2001
PHD Ohio State University 2007
James P Crane, MD
Associate Vice Chancellor for Clinical Affairs (primary appointment)
Chief Executive Officer-Faculty Practice Plan
Professor of Obstetrics and Gynecology
Professor of Radiology
Associate Professor of Genetics
MD Indiana University Bloomington 1970
BS Indiana University Bloomington 1966

Sharon Cresci, MD
Assistant Professor of Medicine (primary appointment)
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MD New York University 1986
BS State Univ of NY Binghampton 1982

Seth Daniel Crosby, MD
Assistant Professor of Genetics (primary appointment)
MD University Texas San Antonio 1989
BS University of California 1984

Li Ding, PhD
Associate Professor of Medicine (primary appointment)
Associate Professor of Genetics
PHD University of Utah 1998

Joseph D Dougherty, PhD
Assistant Professor of Genetics (primary appointment)
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PHD University of California 2005

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MD University of Illinois Chicago 2002
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PHD University of Illinois Chicago 2002

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BA Colorado College 1974

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Instructor in Genetics

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Professor of Anesthesiology (primary appointment)
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MS University of Toronto 1990

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Assistant Professor of Genetics
PHD University of British Columbia 2010
BS University of Winnipeg 2002
BS1 University of Winnipeg 2002
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PHD British Columbia Open Univ 2008
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Associate Professor of Genetics
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BS Indiana State University 2003
PHD Washington Univ in St. Louis 2007
Heather A Lawson, PHD, MA Assistant Professor of Genetics (primary appointment)
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PHD Pennsylvania State University 2008
MA Pennsylvania State University 2004

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Professor of Genetics
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Xianrong Mao, MS Instructor in Genetics (primary appointment)
MS Chinese Academy of Technology 1996
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BS University of Oklahoma 1984
PHD University of Oklahoma 1989
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PHD Washington Univ in St. Louis 1998
Shondra Michelle Miller, PHD Assistant Professor of Genetics (primary appointment)
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BA University of Arkansas 2003
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Assistant Professor of Developmental Biology
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Director of the Division of Biostatistics
Tenure Held At-Large in the Medical School
Professor of Biostatistics in Psychiatry
Professor of Mathematics
BS Indian Statistical Institute 1967
PHD Indian Statistical Institute 1971
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MS Brown University 1990

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MS Tokyo U of Agric & Technology 1994

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PHD University of London 1983
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Matthew John Walter Associate Professor of Medicine (primary appointment)  
Associate Professor of Genetics  
Ting Wang, PhD, MS  Associate Professor of Genetics (primary appointment)  
Associate Professor of Computer Science and Engineering  
Associate Professor of Biostatistics  
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PHD Washington Univ in St. Louis 2006  
MS Washington Univ in St. Louis 2001  
Wesley Charles Warren, MS, PHD Academic Rank held in Genetics (primary appointment)  
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BS Oklahoma St University 1984  
PHD University of Missouri 1990  
Michael C Wendl Academic Rank held in Genetics (primary appointment)  
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Assistant Professor of Genetics  
Assistant Professor of Mechanical Engineering & Materials Science  
Assistant Professor of Mathematics  
Assistant Professor of Genetics  
Michael Aaron White, PHD, MS Assistant Professor of Genetics (primary appointment)  
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PHD University of Rochester 2006  
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Michael Peter Whyte, MD Professor of Medicine (primary appointment)  
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Professor of Genetics  
MD State University of New York 1972  
BA New York University 1968  
Richard K Wilson, PHD Adjunct Professor of Genetics (primary appointment)  
BA Miami University 1981  
PHD University of Oklahoma 1986  
Mary Kaye Wojczynski Assistant Professor of Genetics (primary appointment)  
Hiroko Yano, PHD, MS Assistant Professor of Neurological Surgery (primary appointment)  
Assistant Professor of Genetics  
Assistant Professor of Neurology  
PHD University of Tokyo 1996  
MS University of Tokyo 1993  
BS Science University of Tokyo 1991  
Jinsheng Yu Instructor in Genetics (primary appointment)  
BS Tongji University 1984  
No entries found
Occupational Therapy

The Program in Occupational Therapy prepares students for professional practice and through its research generates knowledge to address the issues facing individuals with disabilities, chronic diseases and developmental disabilities. Students are prepared as generalists but, in addition, can concentrate their studies for work in pediatrics, aging, rehabilitation, work and industry or social participation. The curriculum focuses on the dynamic interaction of the biological and psychological, environmental and occupational factors that enable persons to fulfill roles, and lead meaningful and productive lives. Students interact with leading physicians and scientists whose practice and science is contributing to better methods of treatment of persons with disabilities. In addition, students are linked with community agencies and leaders that are providing services to individuals with disabling conditions.

Undergraduate students in pre-medical, psychology, biology or anthropology will find that the program offers a means of applying their knowledge in a professional field. Applicants must hold a bachelor's degree or be a participant in an approved three-two program and have completed prerequisite courses from an accredited college or university. The Program in Occupational Therapy is accredited by the Accreditation Council for Occupational Therapy Education of the American Occupational Therapy Association. Graduates of the program will be eligible to sit for the national certification examination administered by the NBCOT. (Note: A felony conviction may affect a graduate's ability to sit for NBCOT certification examination or attain state licensure.)

Master of science in occupational therapy degree program

The professional Master of Science in Occupational Therapy degree requires courses that develop the knowledge and skills necessary to practice occupational therapy. Each candidate for a Master of Science in Occupational Therapy degree must complete a minimum of 70 hours of course work, usually accomplished in five semesters of study
(two academic years and the intervening summer.) Six months of supervised clinical fieldwork (12 credits) is required to be completed within 12 months of completion of course work.

**Doctor of occupational therapy degree program**

The Doctor of Occupational Therapy (OTD) is a degree providing students the opportunity to focus their occupational therapy studies in one of five areas of concentration: Productive Aging, Social Participation and the Environment, Rehabilitation, Work and Industry, and Pediatrics. The OTD requires seven semesters of study and three clinical placements for students entering professional practice. Postprofessional students enrolled in the OTD have varying program lengths based on prior degree and experience.

**Fees**

Tuition and fieldwork fees (MSOT, full time) per semester: $15,225 for first five semesters, $7,612 per semester for last two semesters while on fieldwork. Tuition and fieldwork fees (OTD, full-time): $15,225 per semester first five semesters, $15,721 per semester last two academic semesters, and $7,612 for each semester student is on clinical fieldwork or apprenticeship.

Part-time tuition: $1,225 per credit

**More information**

Complete admissions information and a full description of degrees in Occupational Therapy are available from the office of the Program in Occupational Therapy:

Program in Occupational Therapy  
Washington University School of Medicine  
Campus Box 8505, 4444 Forest Park Ave.  
St. Louis, MO 63108-2212  
(314) 286-1600
Occupational Therapy Courses

OT 5023 THEORY AND FOUNDATIONS FOR OCCUPATIONAL THERAPY PRACTICE (3)
Students explore the knowledge, skills and attitudes of the professional occupational therapist through the study of occupation, participation and well-being, some of the core concepts of the profession. The course acquaints students with the profession's history, current health issues and emerging areas of practice. Students explore the relationship between occupation, development, culture and health at the person, organization and population levels. Students are introduced to the Occupational Therapy Practice Framework and the International Classification of Function. The theoretical foundation of practice is emphasized.

OT 5225 FUNDAMENTALS OF HEALTH CARE AND PROFESSIONAL PRACTICE (3)
This course prepares students to manage the changing paradigms of practice that will be encountered over their career, with particular focus on bridging biomedical perspectives with narratives regarding organizational, community, and population health and well-being. Understanding the current continuum of care settings, professional team roles, and health policy sets the foundation for this course. Professional behavior and ethics will be introduced. Preparation of leadership skills and an entrepreneurial approach to practice will be introduced. Partnering with community agencies to meet the unmet needs of those we serve and to open up new potential markets will be explored.
OT 5630 FUNDAMENTALS OF PROFESSIONAL COMMUNICATION (3)
The ability to communicate and work with individuals and groups are essential skills for an occupational therapist. Effective practitioners employ therapeutic use of self, activity analysis, behavioral management, and group leadership skills to effect change in those served. Concepts of self-management and basic tenets of learning theories will be explored and applied to various populations served. Occupational therapists must be able to meet the psychosocial needs of all clients across the continuum of care.

OT 5452 FUNDAMENTALS OF EVIDENCE-BASED PRACTICE (3)
Through critical reading and analysis of professional scientific literature, students build a foundation for life-long learning and evidence-based clinical practice. Students will be introduced to measurement principles, learn qualitative and quantitative analysis, and apply concepts learned to designing single case studies for clients served. Evaluation is at the core of evidence based practice: Interactions with clients are dependent on the ability to measure therapeutic effect.

OT 5315 TOOLBOX TO SUPPORT PROFESSIONAL PRACTICE (3)
This course serves as an introduction to the essential skills required of therapists in contemporary clinical practice. Students will be introduced to resources supporting professional practice and will learn and apply a variety of skills including transfers, documentation, goal-writing, common precautions, infection control, monitoring of vital signs, basic splinting techniques, chart reading, orientation to residential care environments, fundamentals of activity analysis, and searching relevant literature to facilitate evidence-based practice.

OT 5120 CONTEMPORARY ISSUES IN OT PRACTICE I (1)
This first of a series of three seminar courses provides students with the opportunity to explore current, emerging, and future trends in OT practice. Students will utilize the most recent research and policy information to critically examine and discuss potential developments in OT practice, including new areas of practice such as habilitation and telemedicine, effects of legislation and novel technologies, and a focus on community and population health, participation, and well-being.
OT 5782 NEUROSCIENCE PRINCIPLES OF PERFORMANCE I (3)
In this first of a two-course sequence, students learn how the brain and nervous system support the sensory, perceptual, cognitive, emotional, and physiological capacity of individuals as they perform activities of daily life. Emphasis is placed on sensory processing, motor processing, cognitive performance, learning and memory, and communication. Students will also learn about specific neurological conditions commonly encountered in clinical practice.

OT 5762 BODY STRUCTURES SUPPORTING DAILY FUNCTION I (3)
Students engage in the study of the contribution of the structure, function, and development of body systems that support daily activity. This semester emphasizes anatomical systems and neuromusculoskeletal substrates for activity, joint integrity, strength and cardiopulmonary function.

OT 5770 FUNDAMENTALS OF ASSESSMENT I (3)
The course runs concurrently with Body Structures Supporting Daily Function and Neuroscience Principles of Performance. In this first of a two-course sequence, students apply anatomical and kinesiological principles to occupational performance through assessment of anatomical structures and physiological health. Students learn how to identify sensory, cognitive, perceptual, and emotional performance capacities of individuals by focusing on neuroanatomical and neuro-physiological substrates of sensory, motor, arousal, cognitive, motivational and emotional systems. The students connect the neuroscience of the physiological, neurobehavioral, cognitive and psychological systems to the motor, process and communication performance skills and performance patterns that support occupational performance. Additionally, selected chronic diseases, disorders and conditions will be introduced. Etiology, pathology, clinical course, prognosis and medical management will inform the evaluation process as it impacts occupational performance. Students will build clinical reasoning for core OT practice skills including assessment of person, occupation and environment factors, activity analysis and activity gradation, observation, administering and interpreting assessments, building measurement models, and documenting the evaluation process. Evidence based practice is emphasized through
exploration of the scientific and medical literature. Students will apply measurement principles and skills in selection, administration and interpretation of assessments through case studies, laboratory and fieldwork or in-context experiences.

OT 5163 ENVIRONMENTAL FACTORS FACILITATING PERFORMANCE AND PARTICIPATION I (2)
In this first of a two-course sequence, students gain in-depth understanding of the psychological, social, political, physical, and cultural elements of the environment that influence occupational performance, participation, and health. Disability and chronic health conditions as consequences of environmental barriers and the relationship between the person and environments as both change across the life span will be discussed. Assessment and intervention strategies that promote health and maximize participation in daily activities will be examined in home, school, workplace, and other community settings. Students are provided with opportunities to practice and demonstrate skills acquired through community based experiences including a group community consultation project.

OT 5125 CONTEMPORARY ISSUES IN OT PRACTICE II (1)
This second of a series of three seminar courses provides students with the opportunity to explore current, emerging, and future trends in OT practice. Students will utilize the most recent research and policy information to critically examine and discuss potential developments in OT practice, including new areas of practice such as habilitation and telemedicine, effects of legislation and novel technologies, and a focus on community and population health, participation, and well-being.

OT 5610 FIELDWORK I (1)
This is the first course in a series that emphasizes the growth of the student as a professional. Students will build on the electronic professional portfolio developed in the fall semester and participate in self-directed learning experiences to enhance personal growth and professional competence. An intensive one week, 40 hour, supervised fieldwork experience in a clinical or community setting allows the student to practice the skills learned in the classroom.
OT 601 APPLIED CLINICAL RESEARCH I (3) is the first of a four course sequence offering the students opportunities to: 1) perform a systematic investigation, 2) develop a research project, and 3) perform testing and evaluation. The class is designed to develop or contribute to generalizable knowledge of occupational therapy or occupational performance. Activities that meet this definition include ongoing work in the laboratories of the faculty, controlled clinical trials, pilot studies to determine feasibility of future studies, demonstrations and community programs that may lead to new services or policy demonstrations. In the sequence, the student will work on his/her research project. The project will include collecting, processing, and analyzing data. The student will also begin to write about their work. Students may observe practitioners who work with the population related to their research projects.

OT 605 APPLIED CLINICAL PRACTICE I (3) is the first of a four course sequence offering students opportunities to: 1) enhance clinical skills, 2) support evidence based practice, 3) provide leadership opportunities, and 4) allow specialization in an area of clinical practice. The opportunities will present themselves by associating with clinics or other OT related facilities in the greater St. Louis area. The course is a self-directed learning experience under the guidance of an OT clinical faculty member and a community practitioner. The student will be guided by a clinical mentor and work on a clinical project related to the needs of the facility. A final report and presentation will be made and the end of the sequence.

OT 5783 NEUROSCIENCE PRINCIPLES OF PERFORMANCE II (1)
In this second of a two-course-sequence, students learn how the brain and nervous system support the sensory, perceptual, cognitive, emotional, and physiological capacity of individuals as they perform activities of daily life. Emphasis is placed on sensory processing, motor processing, cognitive performance, learning and memory, and communication. Students will also learn about specific neurological conditions commonly encountered in clinical practice.

OT 5763 BODY STRUCTURES SUPPORTING DAILY FUNCTION II (1)
Students examine the complexity of movement and the integration of functions that are necessary to enable participation in everyday activities. Biomechanical principles
are presented and applied to the body structures, allowing students to understand
the kinesiological underpinnings of occupational performance.

OT 5771 FUNDAMENTALS OF ASSESSMENT II (2)
The course runs concurrently with Body Structures Supporting Daily Function and Neuroscience Principles of Performance. In this second of a two-course-sequence, students apply anatomical and kinesiological principles to occupational performance through assessment of anatomical structures and physiological health. Students learn how to identify sensory, cognitive, perceptual, and emotional performance capacities of individuals by focusing on neuroanatomical and neuro-physiological substrates of sensory, motor, arousal, cognitive, motivational and emotional systems. The students connect the neuroscience of the physiological, neurobehavioral, cognitive and psychological systems to the motor, process and communication performance skills and performance patterns that support occupational performance. Additionally, selected chronic diseases, disorders and conditions will be introduced. Etiology, pathology, clinical course, prognosis and medical management will inform the evaluation process as it impacts occupational performance. Students will build clinical reasoning for core OT practice skills including assessment of person, occupation and environment factors, activity analysis and activity gradation, observation, administering and interpreting assessments, building measurement models, and documenting the evaluation process. Evidence based practice is emphasized through exploration of the scientific and medical literature. Students will apply measurement principles and skills in selection, administration and interpretation of assessments through case studies, laboratory and fieldwork or in-context experiences.

OT 5164 ENVIRONMENTAL FACTORS FACILITATING PERFORMANCE AND PARTICIPATION II (1)
In this second of a two-course sequence, students gain in-depth understanding of the psychological, social, political, physical, and cultural elements of the environment that influence occupational performance, participation, and health. Disability and chronic health conditions as consequences of environmental barriers and the relationship between the person and environments as both change across the life span will be
discussed. Assessment and intervention strategies that promote health and maximize participation in daily activities will be examined in home, school, workplace, and other community settings. Students are provided with opportunities to practice and demonstrate skills acquired through community based experiences including a group community consultation project.

OT 5130 CONTEMPORARY ISSUES IN OT PRACTICE III (1)
This third of a series of three seminar courses provides students with the opportunity to explore current, emerging, and future trends in OT practice. Students will utilize the most recent research and policy information to critically examine and discuss potential developments in OT practice, including new areas of practice such as habilitation and telemedicine, effects of legislation and novel technologies, and a focus on community and population health, participation, and well-being.

OT 602 APPLIED CLINICAL RESEARCH II (2) is the second of a four course sequence offering the students opportunities to: 1) perform a systematic investigation, 2) develop a research project, and 3) perform testing and evaluation. The class is designed to develop or contribute to generalizable knowledge of occupational therapy or occupational performance. Activities that meet this definition include ongoing work in the laboratories of the faculty, controlled clinical trials, pilot studies to determine feasibility of future studies, demonstrations and community programs that may lead to new services or policy demonstrations. In the sequence, the student will work on his/her research project. The project will include collecting, processing, and analyzing data. The student will also begin to write about their work. Students may observe practitioners who work with the population related to their research projects.

OT 606 APPLIED CLINICAL PRACTICE II (2) is the second of a four course sequence offering students opportunities to: 1) enhance clinical skills, 2) support evidence based practice, 3) provide leadership opportunities, and 4) allow specialization in an area of clinical practice. The opportunities will present themselves by associating with clinics or other OT related facilities in the greater St. Louis area. The course is a self-directed learning experience under the guidance of an OT clinical faculty member and a community practitioner. The student will be guided by a clinical mentor and work on a
clinical project related to the needs of the facility. A final report and presentation will be made and the end of the sequence.

OT 5825 INTERVENTIONS SUPPORTING RECOVERY AND PARTICIPATION OF INDIVIDUALS WITH SENSORIMOTOR CHALLENGES (3)
Sensorimotor deficits and delays impact daily life and participation. Throughout this course, students will explore how to utilize assessment results to implement theory driven evidence-based treatment plans to improve occupational performance and participation in daily life. Lifespan and practice setting issues from birth to older adults will be addressed in relation to sensory and motor deficits and delays. Students will utilize a variety of hands on, case-based, and self-directed learning activities to develop clinical skills.

OT 5835 INTERVENTIONS SUPPORTING RECOVERY AND PARTICIPATION OF INDIVIDUALS WITH COGNITIVE AND LEARNING CHALLENGES (3)
This 3 credit course is designed to provide the foundation skills for evidence based intervention for individuals with cognitive impairment across the lifespan. Students will explore various intervention approaches and therapeutic techniques for individuals faced with cognitive challenges arising from developmental issues, injuries, and/or disease processes focused on increasing independence and participation in daily life activities. Lectures, case studies, lab experiences, and client treatments in the community will provide the foundation for the learning experiences. Related skills in documentation, goal setting, and ethical issues which may arise will be incorporated into classroom discussions and assignments.

OT 5380 HEALTH PROMOTION, PARTICIPATION AND WELLNESS FOR PERSONS WITH CHRONIC DISEASE (3)
The impact of chronic disease on daily participation affects health-related quality of life and well-being. Students will study health promotion and preventive individual and group models of service delivery for community-dwelling people. Using Healthy People 2020 topic areas, students will explore theory-driven, evidence-based health education solutions for consumers with chronic conditions to strengthen their community participation. Students will discover therapeutic interventions to empower
people to self-manage their conditions and connect with community resources for health promotion, prevention and wellness.

OT 5801 CASE BASED LEARNING I (2)
In this first course of a two semester sequence, students are engaged in learning experiences that includes divergent case method, inquiry learning, and problem-based learning. Using a self-directed learning process, clinical reasoning and group process skills, students explore practice problems and apply specific occupational therapy evaluations and intervention techniques for persons of all ages and disability categories. The context of cases are integrated with material covered concurrently in the Interventions courses and focus on direct clinical treatment interventions.

OT 5615 FIELDWORK I (1)
This is the second course in a series that emphasizes the growth of the student as a professional. Students will continue to build on their electronic professional portfolio and participate in self-directed learning experiences to enhance personal growth and professional competence. An intensive one week, 40 hour, supervised fieldwork experience in a clinical or community setting allows the student to practice the skills learned in the classroom.

OT 603 APPLIED CLINICAL RESEARCH III (3) is the third of a four course sequence offering the students opportunities to: 1) perform a systematic investigation, 2) develop a research project, and 3) perform testing and evaluation. The class is designed to develop or contribute to generalizable knowledge of occupational therapy or occupational performance. Activities that meet this definition include ongoing work in the laboratories of the faculty, controlled clinical trials, pilot studies to determine feasibility of future studies, demonstrations and community programs that may lead to new services or policy demonstrations. In the sequence, the student will work on his/her research project. The project will include collecting, processing, and analyzing data. The student will also begin to write about their work. Students may observe practitioners who work with the population related to their research projects.

OT 607 APPLIED CLINICAL PRACTICE III (3) is the third of a four course sequence
offering students opportunities to: 1) enhance clinical skills, 2) support evidence based practice, 3) provide leadership opportunities, and 4) allow specialization in an area of clinical practice. Students will have an opportunity to develop occupation-based programs for clinics or other community agencies in the St. Louis region. The course is a collaborative self-directed service learning experience under the guidance of an OT faculty member and a community partner. The student will be guided by the needs of the agency in helping to build the agency’s capacity.

OT 5220 SUPPORTING PARTICIPATION WITH TECHNOLOGY AND ENVIRONMENTAL INTERVENTIONS (3)
This course introduces technology and environment related interventions to preserve, augment or improve social, emotional, physical and academic well being. Intervention strategies that promote health and maximize participation in daily activities for people with chronic conditions and disabilities will be examined in home, school, workplace, and community settings. The tools and interventions will include descriptions of special equipment (i.e. self-care tools and compensatory techniques), assistive technology devices (i.e. computer access, mobility devices, augmentative communication systems, environmental control units, vehicles adaptations and recreational equipment), and environment adaptations and modifications (i.e. universal design, home and work modifications). Lectures will focus on the ethical, legislative, funding, assessment and psychosocial issues. Labs will provide an opportunity for hands on learning experiences with a broad range of tools in context specific personal, community and organizational settings.

OT 5845 INTERVENTIONS SUPPORTING RECOVERY AND PARTICIPATION OF INDIVIDUALS WITH PSYCHOSOCIAL CHALLENGES(3)

OT 5285 PROMOTING POPULATION HEALTH THROUGH COMMUNITY PARTNERSHIPS (2)
This course offers a service learning experience through partnership with local community agencies to enhance population health. Mentored teams collaborate with personnel in community non-profit agencies. Students provide a capacity-building service through a needs assessment and a written program plan with an evaluation
component. The intent is to enhance sustainability of the organizations’ programs. The target population served by the organization benefits from expansion and/or enhancement of services. Examples of programs include: parent education, youth skill development, worker health advocacy, neighborhood/residential services, and employee/volunteer programs.

OT 5093 MANAGEMENT IN A CHANGING PRACTICE ENVIRONMENT (3)
This course applies management and organizational principles to occupational therapy services in current and potential practice environments, and entrepreneurial opportunities. Through discussions with business professionals, and case studies, this course highlights organizational, managerial, marketing, financial, regulatory, and funding influences on the development, delivery and evaluation of OT practice. Business plans are developed through case studies. Fieldtrips and interactions with managers and corporate leaders allow students the opportunity for experiential learning.

OT 5802 CASE BASED LEARNING II (2)
In this second of a two-course sequence, students are engaged in a learning process that includes divergent case method, inquiry learning, self-directed learning, problem-based learning, clinical reasoning and group process skills. Students explore practice problems, and apply specific occupational therapy evaluations and intervention techniques for persons of all ages and disability categories within the context of cases integrated with material covered concurrently in the Interventions courses. The focus is on direct clinical treatment interventions. This is a small seminar class with 8-9 students and a faculty mentor.

OT 5620 PREPARATION FOR PROFESSIONAL PRACTICE (1)
This course emphasizes the growth of the student as a professional. Topics include the preparation for national certification and state requirements for credentialing, standards of practice, ethical behaviors and continuing competence. Students will prepare a personal marketing package and participate in self-directed learning experiences. Preparation for the students’ fieldwork Level II and Apprenticeships will be emphasized in this course. Topics include the FWII evaluation process, completing
FWI prerequisites, communicating with FW Educators and other professionals.

OT 604 APPLIED CLINICAL RESEARCH IV (2) is the fourth of a four course sequence offering the students opportunities to: 1) perform a systematic investigation, 2) develop a research project, and 3) perform testing and evaluation. The class is designed to develop or contribute to generalizable knowledge of occupational therapy or occupational performance. Activities that meet this definition include ongoing work in the laboratories of the faculty, controlled clinical trials, pilot studies to determine feasibility of future studies, demonstrations and community programs that may lead to new services or policy demonstrations. In the sequence, the student will work on his/her research project. The project will include collecting, processing, and analyzing data. The student will also begin to write about their work. Students may observe practitioners who work with the population related to their research projects.

OT 608 APPLIED CLINICAL PRACTICE IV (2) is the fourth of a four course sequence offering students opportunities to: 1) enhance clinical skills, 2) support evidence based practice, 3) provide leadership opportunities, and 4) allow specialization in an area of clinical practice. The opportunities will present themselves by associating with clinics or other OT related facilities in the greater St. Louis area. The course is a self-directed learning experience under the guidance of an OT clinical faculty member and a community practitioner. The student will be guided by a clinical mentor and work on a clinical project related to the needs of the facility. A final report and presentation will be made and the end of the sequence.

M01 593A FIELDWORK II
Provides fieldwork experiences under the supervision of an occupational therapist. Students’ participation includes in-depth experience in delivering occupational therapy services to clients including evaluation, treatment and intervention. Students have the opportunity to practice in a variety of clinical or community-based settings. During the fieldwork process, students are expected to assume increasing responsibilities related to patient or client care. The fieldwork experience is designed to promote clinical reasoning, professionalism and competency. Duration is 12 weeks.
M01 593B FIELDWORK II
Provides a second fieldwork experience under the supervision of an occupational therapist. Students’ participation includes in-depth experience in delivering occupational therapy services to clients including evaluation, treatment and intervention. Students have the opportunity to practice in a variety of clinical or community-based settings. Because this is the second of two fieldwork experiences, students are expected to build on their first fieldwork and assume increasing responsibilities related to patient or client care. The fieldwork experience is designed to progressively build competencies in clinical reasoning, professionalism and entry level skills. Duration is 12 weeks.

M01 595 INDEPENDENT STUDY
Active participation in research activities with program faculty. A written plan of study agreed upon by faculty and student.

OTD Only Courses
M01 630 SEMINAR IN PROPOSAL DEVELOPMENT AND APPLIED CLINICAL RESEARCH
This course is designed to prepare the OTD student to write a research proposal supporting the identified direction of their clinical doctorate work under the supervision of their graduate faculty mentor. Using a seminar format, students will support each other in this endeavor. After a systematic review of interventions, proposals are developed that may lead to policy work that supports clinical services, development or piloting of clinical interventions, developing a program evaluation proposal, writing a business plan to support funding of research, or writing a grant. In all cases the student will refine a problem statement and will have a clear understanding of the research design and methods that will develop into the research proposal.

M01 750 DIRECTED PRACTICE RESEARCH I
This is the first course in a series of three courses designed as an applied clinical experience or clinical research project under the guidance of a graduate faculty mentor. The focus of the project will be in productive aging. The project, over the
course of three semesters, will result in a scholarly paper. Students enter this course after they have completed OT630, the Proposal Seminar course.

M01 751 DIRECTED PRACTICE/RESEARCH II
Student will engage in applied clinical research under the guidance of a graduate faculty member. Topics will be in the area of specialization chosen by the student in consultation with the faculty member.

M01 752 DIRECTED PRACTICE/RESEARCH III
Student will engage in applied clinical research under the guidance of a graduate faculty member. Topics will be in the area of specialization chosen by the student in consultation with the faculty member.

M01 760A OT PRACTICE SEMINAR I
The seminar will focus on the World Health Organization's International Classification of Function, Health, and Disability. This class focuses on the relationship of person factors to occupation. Students engage in critical readings and discussion as they construct a model that will support their area of practice.

M01 760B OT PRACTICE SEMINAR II
The seminar will focus on World Health Organization's International Classification of Function, Health, and Disability. This class focuses on the relationship of environment to occupation. Students engage in critical readings and discussion as they construct a model that will support their area of practice.

M01 762 SEMINAR IN EDUCATION STRATEGIES
This seminar offers an opportunity for students to reflect on and examine concurrent occupational therapy teaching assistantship (TA) experiences. Attention is given to teaching and learning theories underlying practice, teaching tools and strategies, and situated and distributed learning. Activities will include critical reading, journaling, Washington University Teaching Center Workshops and shared critical incident reflection.
M01 793C FIELDWORK III — APPRENTICESHIP

Provides a customized fieldwork experience specific to the doctoral pursuit of the student. Students may participate in research, policy, clinical practice, advocacy, teaching, etc. Students are expected to achieve specific goals established by the student and their doctoral chair. Duration is 12 weeks.

Occupational Therapy Faculty

Parul Bakhshi Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Surgery (Public Health Sciences)

Peggy Barco, MED Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Medicine
MED Washington Univ in St. Louis 1987

M. Carolyn Baum, MA, PHD Professor of Occupational Therapy (primary appointment)
Professor of Neurology (Occupational Therapy)

Elias Michael Executive Director of the Program in Occupational Therapy
BS University of Kansas 1966
MA Webster University 1979
PHD Washington Univ in St. Louis 1993

Christine R. Berg, MS, BSOT, PHD Associate Professor of Occupational Therapy (primary appointment)
Associate Professor of Neurology
MS Boston University 1980
BSOT Tufts University 1976
PHD Washington Univ in St. Louis 1999

Anjali Maruti Bhorade, MD Associate Professor of Ophthalmology and Visual Sciences (primary appointment)
Associate Professor of Occupational Therapy
MD University of Chicago 1999

Ellen F Binder, MD Professor of Medicine (primary appointment)
Professor of Occupational Therapy
MD Washington Univ in St. Louis 1981
BA Davenport University 1977

Margheuretta Dakota Bland, MS Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Neurology
Assistant Professor of Occupational Therapy
MS Washington Univ in St. Louis 2008
Alexandre Carter, PHD, MD
Assistant Professor of Neurology
(secondary appointment)
Assistant Professor of Occupational Therapy
MD Harvard University 2003

Ann Marie Dale, PHD
Associate Professor of Medicine
(secondary appointment)
Assistant Professor of Occupational Therapy
BS University of MO Columbia 1983

Jeanenne M Dallas
Instructor in Occupational Therapy
(secondary appointment)
Instructor in Neurology
BS University of Central Arkansas 1979

Jessica L Dashner, MS
Instructor in Occupational Therapy
(secondary appointment)
Instructor in Neurology
BS McKendree College 2000

Michael N Diringer, MA, MD
Professor of Neurology
(secondary appointment)
Professor of Anesthesiology
Professor of Occupational Therapy
Professor of Neurological Surgery
MA University of Louisville 1978
MD University of Kentucky 1982

Nico U. Dosenbach, MD, PHD
Assistant Professor of Neurology
(secondary appointment)
Assistant Professor of Pediatrics
Assistant Professor of Occupational Therapy
BA Columbia University 2000

Alexander W Dromerick, MD
Adjunct Associate Professor of Neurology
(secondary appointment)
Adjunct Associate Professor of Occupational Therapy
Adjunct Associate Professor of Physical Therapy
BA University of Virginia 1980
MD University of Maryland 1986

Dorothy F Edwards, PHD
Adjunct Associate Professor of Occupational Therapy
(secondary appointment)
Adjunct Associate Professor of Neurology
PHD Washington Univ in St. Louis 1980

Jack R. Engsberg, PHD, MS
Professor of Occupational Therapy
(secondary appointment)
Professor of Neurological Surgery
Professor of Orthopaedic Surgery
BS Univ of Wisconsin La Crosse 1973
PHD University of Iowa 1985
MS Univ of Wisconsin La Crosse 1978
MS1 Univ of Wisconsin La Crosse 1979

Bradley A Evanoff, MD
Richard A and Elizabeth Henby Sutter Professor of Occupational, Industrial, and Environmental Medicine in Medicine
Professor of Occupational Therapy
Assistant Dean for Clinical and Translational Research
BA Cornell University 1982
Susan M Fitzpatrick, PHD
Adjunct Associate Professor of Neuroscience (primary appointment)

Adjoint Associate Professor of Occupational Therapy

BS St Johns University 1978
PHD Cornell University 1984

Linda Ann Hunt
Adjunct Associate Professor of Neurology
Adjunct Associate Professor of Occupational Therapy

Victoria Kaskutas, MHS
Associate Professor of Occupational Therapy (primary appointment)

Associate Professor of Medicine
BS University of Illinois 1980
MHS Washington Univ in St. Louis

Allison A King, MD
Associate Professor of Occupational Therapy (primary appointment)

Associate Professor of Pediatrics
Associate Professor of Pediatrics
Associate Professor of Education (Courtesy)
Associate Professor of Surgery (General Surgery)
Associate Professor of Medicine
Associate Professor of Medicine
MD University of MO Columbia 1996

Kathleen Marie Kniepmann, M PH, DED
Assistant Professor of Occupational Therapy (primary appointment)

Assistant Professor of Neurology
M PH Harvard University 1981
BA Washington Univ in St. Louis 1974
BS Washington Univ in St. Louis 1974
DED Harvard University 1980

Catherine Eckels Lang, MS, PHD
Professor of Physical Therapy (primary appointment)

Professor of Neurology
Professor of Occupational Therapy
MS University of Vermont 1997
PHD Washington Univ in St. Louis 2001
BS University of Vermont 1993

Huiping C Lieser, PHD, MA
Instructor in Occupational Therapy (primary appointment)

PHD Kansas State University 2001
MA Kansas State University 1994

Susan E Mackinnon, MD
Sydney M., Jr. and Robert H. Shoenberg Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)

Professor of Otolaryngology
Professor of Occupational Therapy
BA Queens College 1971
MD Queen's University 1975

Lauren Elizabeth Milton, PHD
Instructor in Occupational Therapy (Pending Dean's Approval) (primary appointment)

BS1 Saint Louis University 2001
PHD Washington Univ in St. Louis 2008

Marian A Minor, PHD, M PH
Associate Professor of Occupational Therapy (primary appointment)

PHD University of Missouri 1989
BS University of Kansas 1965
Kerri A Morgan, PHD, MS
Assistant Professor of Occupational Therapy (primary appointment)

John Carl Morris, MD
Harvey A and Dorismae Hacker Friedman Distinguished Professor of Neurology (primary appointment)

John Gail Neely, MD
Professor of Otolaryngology (primary appointment)

Joel S Perlmutter, MD
Professor of Neurology (primary appointment)

Monica S Perlmutter, OTD, MA, BSOT
Associate Professor of Occupational Therapy (primary appointment)

Jay Francis Piccirillo
Professor of Otolaryngology (primary appointment)

Roberta G Pineda, PHS, MHS
Assistant Professor of Occupational Therapy (primary appointment)

Stacy Lynn Smallfield, MS, MD
Assistant Professor of Occupational Therapy (Pending Executive Faculty Approval) (primary appointment)

Susan L Stark, PHD, MS
Assistant Professor of Occupational Therapy (primary appointment)
Pharmacy Student Research Training Program

A key academic institution in our biomedical and clinical health center environment is the St. Louis College of Pharmacy. It is one of the premier institutions in the country for the teaching and training of pharmacists. The College's extensive pharmaceutical sciences curriculum has generated interest by a number of their students in laboratory biomedical research. Students beyond their fourth year at St. Louis College of Pharmacy who demonstrate interest in science and research, and are recommended by the College faculty, will have an opportunity to complete 10- to 14-week fellowships in any of the laboratories at the School of Medicine. Students can, with consent of their advisors at the College of Pharmacy and the laboratory principal investigator, extend their stay. This joint research collaboration should encourage those students in the program to pursue graduate degrees in the Division of Biomedical Sciences at the School of Medicine.
Physical Therapy

Physical therapy is the science of human movement applied to rehabilitation, injury, fitness, injury prevention and overall health. Practicing in a variety of settings, physical therapists diagnose and treat movement dysfunction in patients with skill, competence and compassion. The Program in Physical Therapy is committed to providing students with excellent scientific and clinical education in an environment that strives to continually lead the industry in practice, research, innovation and advocacy of movement health.

The Program in Physical Therapy at the School of Medicine offers three formal curricula that collectively foster opportunities for lifelong learning and comprehensive career development.

The professional Doctor of Physical Therapy

The professional curriculum is an intensive three-year experience leading to the degree of Doctor of Physical Therapy. The principle focus of this professional training is to develop scientific and clinical expertise in the diagnosis and treatment of movement-related conditions. By integrating biomedical and physical sciences and clinical education with behavioral and social sciences, this curriculum provides students with the scientific expertise, critical thinking skills and interpersonal communication necessary for effective clinical practice, comprehensive treatment design, patient advocacy, patient education and health promotion. Applicants for admission must have completed 1) a bachelor’s degree at an accredited institution, and 2) prerequisite courses in biology, chemistry, physics, mathematics, anatomy, physiology, English, psychology, social sciences and humanities, 3) have a minimum math/science, core prerequisites and science GPA of 3.0 and 4) the Graduate Record
Doctor of Philosophy in Movement Science

The focus of the interdisciplinary doctoral program in movement science is to prepare future researchers and faculty members who can enhance the profession of physical therapy. Admission to this curriculum requires acceptable scores on the Graduate Record Examination, excellence in previous academic work and demonstrated beginning abilities in posing questions of importance to the study of movement.

The faculty members of the Program in Physical Therapy are committed to being leaders in discovering and transmitting new knowledge related to movement dysfunction, preparing clinicians to assume multiple roles in a complex health-care environment and fulfilling the service mission to society through active participation in humanistic, scientifically-based patient care. Students in all curricula are expected to participate actively in an environment that values integrity, initiative, creativity and the strong belief that physical therapy intervention promotes health. In these ways, all individuals associated with the Program in Physical Therapy may achieve their highest professional and personal potential.

Tuition

Professional DPT curriculum: $18,634 per semester
Doctoral curriculum: $24,475 per semester

Further information

Further information, including complete admissions instructions and program descriptions, may be obtained by direct correspondence with the Program in Physical Therapy:

Program in Physical Therapy
Washington University School of Medicine
Campus Box 8502
Physical Therapy Courses

Doctor of Physical Therapy degree

Semester 1

M02 601 DIAGNOSIS AND EVIDENCE ANALYSIS IN PT I
Department: Program in Physical Therapy
Course Master: Nancy Bloom, PT, DPT, MSOT
Credit Hours: 2
The program is located in the Division of Biostatistics, on the third floor of Shriners Building (706 S. Euclid Ave. at Clayton Road), Rooms 3301-3312. Includes processes required for effective clinical decision-making such as the use of models for classifying patient problems, decision trees, diagnostic classification systems, patient interviewing, health histories and outcome measures. Patient cases will be used to practice clinical decision-making skills. An introduction to basic research methods and systematic review of the literature.

M02 602 PROFESSIONAL ISSUES AND SKILL DEVELOPMENT I
Department: Program in Physical Therapy
Course Masters: Jennifer Stith, PT, PhD, LCSW, and Suzanne Cornbleet, PT, DPT
Credit Hours: 3
An introduction to the profession of physical therapy, the APTA, professional behavior and clinical activities such as documentation and quality improvement. Includes ethics, legal issues and policies that guide professional behavior. Interpersonal skills and issues related to human diversity will be addressed. Students will complete a personal and family health history. Students will learn and practice using principles of patient teaching, negotiation and team building. Students will spend 80 hours at clinical sites.

M02 603 ESSENTIAL SKILLS IN PHYSICAL THERAPY I
Department: Program in Physical Therapy
Course Master: Susan Strecker, PT, DPT, and Judith Gelber, PT, DPT
Credit Hours: 4
Semester: 1
Beginning skills for patient management include using systems screening and reliable assessment of impairments including visual appraisal, vital signs, sensation, reflexes, pain, range of motion, muscle strength, infection control. Skill and safety in positioning, draping and managing wheelchairs and other equipment during patient-care activities such as walking and transfers will be developed.

M02 604 CELLS, SYSTEMS AND DISEASE I
Department: Program in Physical Therapy
Course Master: Ruth Clark, PT, PhD
Credit Hours: 4
Semester: 1
The first of a two-semester course, this course focuses on a comprehensive review of normal physiology of the organ systems: musculoskeletal, cardiovascular, respiratory, renal, gastrointestinal, endocrine, immune and digestive. Regulatory mechanisms to maintain homeostasis will be emphasized throughout the course. Students will be introduced to pharmacology and to the relevance of clinical laboratory values. Patient case studies will be used to integrate information. Introduction to the medical management will be provided for some diseases.

M02 605 NEUROSCIENCE
Department: Program in Physical Therapy
Course Master: Gammon Earhart, PT, PhD
Credit Hours: 3
Semester: 1
Focuses on the study of structures, organization and function of the nervous and muscular systems. Emphasis is on the sensory and motor systems involved in motor control and on basic knowledge required for clinical practice.

M02 606 KINESIOLOGY I
Department: Program in Physical Therapy
Course Master: Marcie Harris Hayes, PT, DPT, MSCI, OCS
Credit Hours: 3
Semester: 1
An introduction to the analysis of normal human movement activities through the application of mechanical concepts including displacement, velocity, acceleration, force and torque. Emphasizes kinematic and kinetic concepts relevant to human movement and study of the structures involved in movement.

Semester 2

M02 610 CELLS, SYSTEMS AND DISEASE II
Department: Program in Physical Therapy
Course Master: Ruth Clark, PT, PhD
Credit Hours: 4
Semester: 2
A continuation of the first semester. Physicians will discuss medical management of selected diseases including the etiology, diagnosis, medical management and prognosis of medical diseases frequently encountered in the practice of physical therapy. Three areas of clinical competency will be emphasized through assigned readings and case studies: 1) screening for medical referral including emergent medical referral; 2) clinical decision skills pertaining to pathological implications of underlying disease processes and their relevance to guiding physical therapy intervention; 3) clinical decision skills pertaining to implications of medical
management and their relevance to guiding physical therapy activity and exercise prescription.

M02 611 HUMAN ANATOMY
Department: Program in Physical Therapy
Course Master: Stacy Tylka, PT, DPT, WCS, CLT
Credit Hours: 5
Semester: 2
Emphasis is on 1) musculoskeletal, neural and vascular systems of the extremities, head, neck and trunk, and 2) anatomical features relevant to current physical therapy practice. Lectures are complemented by student-performed dissection of human cadavers, instructor-prepared prosections and computer-assisted instruction.

M02 612 DIAGNOSIS AND EVIDENCE ANALYSIS IN PT II
Department: Program in Physical Therapy
Course Master: Barbara Norton, PT, PhD, FAPTA
Credit Hours: 2
Semester: 2
Continuation of research methods from the first semester. Includes descriptive, experimental and quasi-experimental research designs and statistics, hypothesis testing, continuation of measurement issues, hierarchy of credibility for rating research articles.

M02 613 KINESIOLOGY II
Department: Program in Physical Therapy
Course Master: Renee Ivens, PT, DPT, and Judith Gelber, PT, DPT
Credit Hours: 5
Semester: 2
Emphasizes principles of maturation and motor learning relative to the application of biomechanical principles to the analysis of human movement. Topics include developmental, anatomical, electromyographical and physiological elements of kinesiology with regard to individual joints and common functional activities such as gait and transitional movements.
M02 614 DIAGNOSIS AND MANAGEMENT OF MUSCULOSKELETAL CONDITIONS IN PT I
Department: Program in Physical Therapy
Course Masters: Suzanne Cornbleet, PT, DPT, and Gregory Holtzman, PT, DPT
Credit Hours: 3
Semester: 2
Students will learn postural assessment and application of Movement Systems Balance. Analysis of functional activities, the essential components and compensatory strategies will prepare the student to begin to plan interventions for individuals with musculoskeletal problems. Skill in providing interventions of manual exercise, fitness training and functional mobility training will be developed. Cases will provide use of diagnostic systems relevant to musculoskeletal conditions.

M02 615 PROFESSIONAL ISSUES AND SKILL DEVELOPMENT II
Department: Program in Physical Therapy
Course Master: Gregory Holtzman, PT, DPT
Credit Hours: 0.5
Semester: 2
Students will be assigned to part-time clinical experiences for 40 hours to allow practice of acquired skills in patient care, documentation and communication. Additional class time allows students to role play a clinical situation involving a patient examination and supervision by a clinical instructor.

M02 691 and 691A CLINICAL EXPERIENCE I (8 WEEKS)
Department: Program in Physical Therapy
Course Master: Tamara Burlis, PT, DPT, CCS
Credit Hours: 4
Semester: 2
An eight-week, full-time clinical experience supervised by clinical faculty. Allows the student to practice evaluation and treatment skills acquired in the classroom and laboratory. Also emphasizes development of professional behaviors.

Semester 3
M02 621 EXERCISE PHYSIOLOGY
Department: Program in Physical Therapy
Course Masters: Susan Racette, PhD, and David Sinacore, PT, PhD, FAPTA
Credit Hours: 3
Semester: 3
A study of the responses of various physiological systems to exercise. Includes application and integration of these systems to various diseases and to human performance. Content will be coordinated with Diagnosis and Management of Cardiopulmonary Conditions in PT.

M02 622 DIAGNOSIS AND MANAGEMENT OF CARDIOPULMONARY CONDITIONS IN PT
Department: Program in Physical Therapy
Course Masters: Tamara Burlis, PT, DPT, CCS, and Ethel Frese, PT, DPT
Credit Hours: 3
Semester: 3
Students will learn to assess, diagnose and treat movement-related cardiopulmonary conditions. Treatment techniques will include exercise and conditioning, breathing techniques, postural drainage and percussion. Interpretation of laboratory tests and pharmacology will prepare students to work with patients safely. Case studies will prepare students for general practice.

M02 623 ORTHOPEDIC MEDICINE
Department: Program in Physical Therapy
Course Master: Renee Ivens, PT, DPT
Credit Hours: 2
Semester: 3
Physician lectures will provide students with information on surgical and nonsurgical procedures and post-operative management of patients with orthopedic conditions. Physicians will discuss medical diagnosis, clinical signs and symptoms, and management of selected conditions to prepare the student to use this information in Diagnosis and Management of Musculoskeletal Conditions in PT II – III.

M02 624 DIAGNOSIS AND MANAGEMENT OF MUSCULOSKELETAL CONDITIONS IN PT II
Students will acquire the skills needed to manage and prevent movement-related musculoskeletal problems of the spine, hip, knee and shoulder. Acute and post-acute care will be addressed. Integration of information from previous and concurrent courses will be stressed with emphasis on screening, examination, analysis of findings, diagnosis, design and implementation of intervention programs for patients with increasingly complex problems. Functional activities across the life span also will be addressed.

M02 625 NEUROLOGY MEDICINE

Physician lectures will provide students with information on the medical management of patients with neurological conditions. Physicians will discuss medical diagnosis, clinical signs and symptoms and their natural progression, and management of selected conditions to prepare the student to use this information in Diagnosis and Management of Neuromuscular Conditions in PT. Students attend class with occupational therapy students and work independently to meet the objectives of the course.

M02 627 ESSENTIAL CLINICAL SKILLS IN PT II

Skill in providing interventions including massage and mobilization and the application
of thermal, mechanical, hydro and electrotherapeutic modalities will be developed. Students will learn the basic indications for and prescription of adaptive equipment and wheelchairs.

M02 628 CASE INTEGRATION LAB I
Department: Program in Physical Therapy
Course Masters: Cheryl Caldwell, PT, DPT, CHT and Patricia McGee, PT, DPT, PCS
Credit Hours: 1
Semester: 3
Paper, video and live patient cases provided by faculty and students will be completed to provide practice in managing patients with varying movement-related diagnoses. Students participate in faculty-facilitated small groups to discuss their own patient cases and to develop skill in asking clinical questions, using the literature to support, practice and write a modified case report.

M02 629 DIAGNOSIS AND MANAGEMENT OF NEUROMUSCULAR CONDITIONS IN PT I
Department: Program in Physical Therapy
Course Masters: Beth Crowner, PT, DPT, NCS, MPPA, and Susan Strecker, PT, DPT
Credit Hours: 4
Semester: 3
Students will acquire the skills to examine patients with neuromuscular disorders. Emphasis will be on screening, selecting tests and measures, examination, determining impairments and functional loss, and making a movement system diagnosis. Students will practice examining both adult and pediatric patients. Content related to motor control and motor learning will be integrated into the course. Course content will be integrated with the concurrent Neurology Medicine course.

M02 692 and 692A CLINICAL EXPERIENCE II (8 WEEKS)
Department: Program in Physical Therapy
Course Master: Tamara Burlis, PT, DPT, CCS
Credit Hours: 4
Semester: 3
An eight-week, full-time clinical experience supervised by clinical faculty. Allows the
student to practice evaluation and treatment skills acquired in the classroom and laboratory. Also emphasizes development of professional behaviors.

Semester 4

M02 626 MODERATORS OF HEALTH, WELLNESS AND REHABILITATION
Department: Program in Physical Therapy
Course Master: Jennifer Stith, PT, PhD, LCSW
Credit Hours: 3
Semester: 4
Designed to explore individual attitudes toward health, illness, disability and death. Emphasizes the effect of these attitudes on individual goals, motivation, expectations, interpersonal relationships and exercise adherence. Investigates individual health attitudes, personal values, family interaction, stress management and concepts of wellness. Age-related issues will be addressed.

M02 635 PROFESSIONAL ISSUES AND SKILL DEVELOPMENT III
Department: Program in Physical Therapy
Course Master: Jennifer Stith, PT, PhD, LCSW
Credit Hours: 3
Semester: 4
Focuses on clinical application of compliance and motivation principles. Peer teaching, communication, consultation skills, leadership skills, lobbying legislation, documentation and negotiation in the clinic will be practiced. Students will practice decision making, supervision and delegation. Students will prepare résumés and begin career planning.

M02 636 DIAGNOSIS AND MANAGEMENT OF GENERAL MEDICAL CONDITIONS IN PT
Department: Program in Physical Therapy
Course Master: Tamara Burlis, PT, DPT, CCS and Traci Norris, PT
Credit Hours: 3
Semester: 4
Students will acquire the skills needed to manage movement-related problems in
patients with diabetes, burns, arthritis, wounds, amputation, obesity, oncological problems, incontinence, pregnancy, pain, genetic conditions and orthotic needs. Students will become familiar with care in both the neonatology unit and emergency room. Integration of information from previous and concurrent courses will be stressed with emphasis on screening, examination, analysis of findings, diagnosis, design and implementation of intervention programs for patients with increasingly complex problems. Functional activities across the life span will be addressed.

M02 638 DIAGNOSIS AND MANAGEMENT OF MUSCULOSKELETAL CONDITIONS IN PT III
Department: Program in Physical Therapy
Course Master: Gregory Holtzman, PT, DPT
Credit Hours: 3
Semester: 4
Students will acquire the skills needed to manage and prevent movement-related musculoskeletal problems of the spine, neck, elbow, wrist and hand, ankle and foot. Integration of information from previous and concurrent courses will be stressed with emphasis on screening, examination, analysis of findings, diagnosis, design and implementation of intervention programs for acute and post-acute patients with increasingly complex problems. Functional activities across the life span will be addressed.

M02 642 CASE INTEGRATION II
Department: Program in Physical Therapy
Course Masters: Nancy Bloom, PT, DPT, MSOT, and Tracy Spitznagle, PT, DPT, WCS
Credit Hours: 1
Semester: 4
Students will be updated on the use of movement-related diagnostic systems and hear a practice case from a faculty member. Using data on a patient studied during CE II, students will work in small groups with a faculty mentor to 1) orally present the case in five minutes using a rounds fashion; 2) develop a clinical question; 3) search the literature for 6-8 articles that will address the clinical question, summarizing the
articles and completing a systematic review using matrix method; and 4) complete a modified case report.

M02 643 DIAGNOSIS AND MANAGEMENT OF NEUROMUSCULAR CONDITIONS IN PT II
Department: Program in Physical Therapy
Course Masters: Beth Crowner, PT, DPT, NCS, MPPA, and Susan Strecker, PT, DPT
Credit Hours: 4
Semester: 4
Students will build on their skills for examining patients with neuromuscular disorders and diagnosing movement system dysfunction. Additional skills acquired will be designing and implementing intervention plans to address impairments and functional loss in patients of all ages. To aid in selecting appropriate interventions students will consider patient prognosis. Students will learn to prescribe wheelchairs and orthotics, fabricate splints, apply kinesiotape, and use a variety of medical equipment. Motor control and motor learning principles will be integrated into the course.

M02 693 and 693A CLINICAL EXPERIENCE III (10 WEEKS)
Department: Program in Physical Therapy
Course Master: Tamara Burlis, PT, DPT, CCS
Credit Hours: 5
Semester: Summer
A full-time clinical experience supervised by clinical faculty. Allows the student to practice evaluation and treatment skills acquired in the classroom and laboratory. Also emphasizes development of professional behaviors.

M02 694 and 694A CLINICAL EXPERIENCE IV (12 WEEKS)
Department: Program in Physical Therapy
Course Master: Tamara Burlis, PT, DPT, CCS
Credit Hours: 6
Semester: Fall
A full-time clinical experience supervised by clinical faculty. Allows the student to practice evaluation and treatment skills acquired in the classroom and laboratory. Also
emphasizes development of professional behaviors.

M02 650 DIAGNOSIS AND EVIDENCE ANALYSIS IN PT III
Department: Program in Physical Therapy
Course Masters: Nancy Bloom, PT, DPT, MSOT, and Tracy Spitznagle, PT, DPT, WCS
Credit Hours: 3
Semester: 5
Students will prepare written case reports based on patients seen during their clinical experiences. Students will defend the use of diagnostic classifications and integrate the literature to support their case. Students will practice selecting appropriate outcome measures, designing clinical research questions, and using data to make decisions about individual and group treatment. Students will apply concepts of reliability and validity to assess their measurements.

M02 651 ORGANIZATIONAL AND MANAGEMENT ISSUES
Department: Program in Physical Therapy
Course Master: Beth Crowner, PT, DPT, NCS, MPPA
Credit Hours: 3
Semester: 5
Dynamics of organizations and department will be discussed using case examples. Focuses on the knowledge and skills needed by physical therapists early in their careers. Principles of administration and management that enable the physical therapist to supervise supportive personnel, to understand fiscal issues including reimbursement and to recommend staffing schedules and patterns will be addressed. Students will learn marketing and public relations strategies.

M02 652 ALTERNATIVE SKILLS AND PRACTICE ENVIRONMENTS
Department: Program in Physical Therapy
Course Master: Lynette Khoo-Summers, PT, DPT
Credit Hours: 3
Semester: 5
Physical therapy practice in work and community settings will be addressed. Special PT tests and the interpretation of other tests will be integrated into cases. Students also
will be introduced to care in the ER, issues related to genetics and genomics and the importance of changes in medical care to PT. A unit on ergonomics is included. Alternative medicine and alternative PT practice (using an evidence-based practice approach) will be studied. PT topics may include craniosacral therapy, pilates, tai-chi, functional stabilization, therapeutic horsemanship, muscle energy, magnets and others. Student will learn about chiropractic, acupuncture, functional capacity evaluation and focus more on chronic pain. Students will also explore recreational options for disabled populations.

M02 653 HEALTH, FITNESS AND PREVENTION
Department: Program in Physical Therapy
Course Master: Tamara Burlis, PT, DPT, CCS
Credit Hours: 3
Semester: 5
Emphasis will be on critiquing and designing fitness and wellness programs for well and special populations. Programs will focus on those for employee fitness, diabetes, arthritis, obesity and the elderly. Students will participate in and evaluate group treatments and recreational exercise. Use of exercise equipment will be addressed.

M02 654 CASE INTEGRATION LAB III
Department: Program in Physical Therapy
Course Masters: Mary Kate McDonnell, PT, DPT, OCS, and Suzanne Cornbleet, PT, DPT
Credit Hours: 3
Semester: 5
A variety of teaching methods, including rounds format, assessment centers and student presentations will enable students to integrate information from across the curriculum to complete complex case studies. Emphasis will be on pharmacology, other tests, moderators, establishing time frames and setting priorities for care. Age-related issues will be addressed.

M02 655 PROFESSIONAL ISSUES AND SKILL DEVELOPMENT IV
Department: Program in Physical Therapy
Course Master: Tamara Burlis, PT, DPT, CCS
Focus will be on the professional skills students need to function in entry-level practice in a variety of settings. Students will study licensure, participate in lobbying and a mock House of Delegates. Skills in serving as an expert witness, a leader, peer instructor and clinical instruction will be developed. Students will be expected to participate in a service project and activities of the APTA. Cultural and race issues will be actively explored.

Courses – PhD in Movement Science Program

L63 5110 INSTRUMENTATION THEORY AND APPLICATION I
Department: Movement Science
Course Master: Joe Klaesner, PhD
Credit Hours: 4
Semester: Fall
This course is designed for the student to have a greater understanding of computer hardware, software and the interaction between these two which makes the use of the computer so useful in research. Basic computer architecture and operating systems will be discussed in this class. The student will gain a basic understanding of software programming logic and structures. The student will use “C” to write several programs for the class. The students will also be exposed to software packages that may include LabView, Matlab, Visual-3D and Excel. The class is organized in a lecture/lab structure.

L63 5115 INSTRUMENTATION THEORY AND APPLICATION II
Department: Movement Science
Course Master: Joe Klaesner, PhD
Credit Hours: 3
Semester: Spring
The main goal of this class is to make students comfortable in the identification of data acquisition equipment that is appropriate for their chosen research area. Instrumentation II is an introduction to electrical components and circuits and their role in the function of laboratory instrumentation. The student will be exposed to
basic electronic design of filters, amplifiers and A/D sampling. Also included is exposure to selected pieces of laboratory instrumentation. The class is organized in a lecture/lab structure.

L63 5210 TEACHING PRACTICUM I
Department: Movement Science
Course Master: Ruth Clark, PT, PhD
Credit Hours: 2
Semester: Fall and Spring
The teaching practicum provides an opportunity for the doctoral student to engage in a focused and supervised classroom teaching experience. The student's teaching should be in a content area relevant to the student's area of interest. Students are expected to provide at least 6 hours of formal classroom instruction; to include a minimum of 4 hours of lecture presentation to an appropriate educational audience.

L63 5220 LAB PRACTICUM I
Department: Movement Science
Course Master: Faculty
Credit Hours: 1-2
Semester: Fall and Spring
Supervised and focused laboratory research experience. Development of a specific portion of ongoing research by generating a project proposal and pilot data. Culminates with the production of a written report on the project.

L63 5230 LAB PRACTICUM II
Department: Movement Science
Course Master: Faculty
Credit Hours: 1-2
Semester: Fall and Spring
Supervised and focused laboratory research experience. Development of a specific portion of ongoing research by generating a project proposal and pilot data. Culminates with the production of a written report on the project.
L63 5410 MOVEMENT SCIENCE I: BIOENERGETICS  
Department: Movement Science  
Course Master: W. Todd Cade, PT, PhD  
Credit Hours: 3  
Semester: Spring  
This didactic course is designed to provide a comprehensive examination of skeletal muscle bioenergetics: structure, function, physiologic regulation of substrate utilization and physiological/pathological adaptation (mutability) to external and internal stimuli. The course is designed to provide the student with a solid basis in muscle structure, function and physiology needed for high-level clinical care. Course content will include skeletal muscle histology, function of intracellular and extracellular muscle proteins, mechanisms of contraction, myogenesis, utilization of fuel substrates including hormonal control and the effects of exercise, mechanical properties of muscle and the response of muscle to training, disuse and selected pathologies.

L63 5510 MOVEMENT SCIENCE II: BIOMECHANICS  
Department: Movement Science  
Course Master: Dequan Zou, DSc  
Credit Hours: 3  
Semester: Fall  
The focus of this course will be upon understanding mechanical principles as they relate to the study of human movement. The course will use an integration of quantitative principles and published literature to explore methods to study biomechanics and also to learn how the human body responds to mechanical stimuli in healthy and selected disease conditions.

L63 5610 MOVEMENT SCIENCE III: BIOCONTROL  
Department: Movement Science  
Course Master: Catherine Lang, PT, PhD  
Credit Hours: 3  
Semester: Fall  
This goal of this course is to understand how the nervous system controls movement
and how human movement is affected after pathology to the nervous system. Each class session will consist of an introductory lecture followed by student-led discussions of selected papers. During the course, we will gain insight into how the enormous repertoire of human movements (e.g., gait, posture, voluntary hand movements) is controlled by a distributed motor system (e.g., spinal cord, basal ganglia, motor cortex), how pathology to the system alters movements and how various structures in the system may or may not be able to compensate for each other.

L63 5710 INDEPENDENT STUDY IN MOVEMENT SCIENCE
Department: Movement Science
Course Master: Faculty
Credit Hours: 1-6
Semester: Fall and Spring
Opportunity to pursue individual projects under supervision of a Movement Science faculty member.

L63 5720 RESEARCH IN MOVEMENT SCIENCE
Department: Movement Science
Course Master: Faculty
Credit Hours: 1-6
Semester: Fall and Spring
Opportunity to pursue non-dissertation research on an individual basis under the supervision and direction of a Movement Science faculty member.

L63 5730 READINGS IN MOVEMENT SCIENCE
Department: Movement Science
Course Master: Faculty
Credits 1-6
Semester: Fall and Spring
Opportunity to pursue individual work under the supervision and direction of an IPMS faculty member.

L63 5850 PROGRAM SEMINAR
Department: Movement Science
Course Master: Gammon Earhart, PT, PhD
Credit Hours: 1
Semester: Fall and Spring
Departmental seminar focused on review of current literature, scholarly presentation and the development of skills in developing and presenting grant proposals. Required for each of the first four semesters of enrollment in the Movement Science program.

M17 522 INTRODUCTION TO STATISTICS FOR THE HEALTH SCIENCES
Department: Clinical Investigation
Course Master: Sarah Boslaugh, PhD
Credit Hours: 3
Semester: Every Fall
This is a basic course in statistics with particular focus on the health sciences. It is taught in a user-friendly manner with emphasis on use of SPSS, statistical analysis software commonly used in clinical research. The course will teach basic statistical methods in which clinical researchers should have facility to execute their own analyses.

M17 524 INTERMEDIATE STATISTICS FOR THE HEALTH SCIENCES
Department: CRTC
Course Master: Sarah Boslaugh, PhD
Credit Hours: 3
Semester: Every Spring
This 15-week course is designed to build on skills developed in Introduction to Statistics for the Health Sciences and to foster basic expertise required to independently use common multivariate biostatistical methods to analyze clinical research data for peer-review presentation and publication.

M17 588 EPIDEMIOLOGY FOR CLINICAL RESEARCH
Department: CRTC
Course Master: Mario Schootman, PhD
Credit Hours: 3
Semester: Every Spring
This course introduces principles of epidemiology as they apply to clinical research. The course provides basic tools used in descriptive and analytical epidemiology, which are crucial for making informed decisions in the care of patients. Critical thinking and scientific/analytic competencies are emphasized throughout the course.

BIO 5011 ETHICS AND MEDICAL RESEARCH
Department: Division of Biology and Biomedical Sciences
Course Master: Robert Mercer, PhD
Credit Hours: 1
Semester: Spring

Physical Therapy Faculty

Amy J Bastian Adjunct Assistant Professor of Physical Therapy (primary appointment)
Margheuretta Dakota Bland, MS Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Neurology
Assistant Professor of Occupational Therapy
MS Washington Univ in St. Louis 2008
BS Canisius College 2004
Marybeth Brown, PHD, MA Adjunct Associate Professor of Physical Therapy (primary appointment)
PHD University of Southern Calif 1984
BS Russell Sage College 1967
MA University of Southern Calif 1974
Tamara Lavon Burlis Associate Professor of Physical Therapy (primary appointment)
Associate Director for Clinical Education in Physical Therapy
Assistant Director of Professional Curriculum in Physical Therapy
Associate Professor of Medicine
William Todd Cade, PHD, MS
Professor of Physical Therapy (primary appointment)

Associate Director of Postdoctoral Fellowships in Physical Therapy

PHD University of Maryland 2002
MS University of Miami 1994

Cheryl Ann Caldwell, DPT, MHS
Associate Professor of Physical Therapy (primary appointment)

Associate Professor of Orthopaedic Surgery
BS University of Colorado Boulder 1976
DPT Washington Univ in St. Louis 2002
MHS Washington Univ in St. Louis 1988

Billie Ruth Clark, PHD
Professor of Physical Therapy (primary appointment)

Professor of Neurology
BS Saint Louis University 1974
PHD Saint Louis University 1988

Paul Kevin Commean
Assistant Professor of Radiology (primary appointment)

Assistant Professor of Physical Therapy
BS Georgia Tech 1982

Suzanne Marie Cornbleet, MA, DPT
Associate Professor of Physical Therapy (primary appointment)

Associate Professor of Orthopaedic Surgery
MA Washington Univ in St. Louis 1987
BS University of Colorado Boulder 1975
DPT Washington Univ in St. Louis 2003

Beth Elaine Crowner, MS, DPT, BS PT, M PP
Associate Professor of Physical Therapy (primary appointment)

Division Director of Clinical Practice in Physical Therapy

Sylvia Lin Czuppon
Associate Professor of Physical Therapy (primary appointment)

Associate Professor of Orthopaedic Surgery

Ryan Michael DeGeeter, DPT
Instructor in Physical Therapy (primary appointment)

Instructor in Orthopaedic Surgery
BS Ball State University 2007
DPT Washington Univ in St. Louis 2010

Krikor T Dikranian, PHD, MD
Professor of Anatomy (primary appointment)

Professor of Physical Therapy
PHD Medical University - Sofia 1992
MD Medical University - Varna 1978

Alexander W Dromerick, MD
Adjunct Associate Professor of Neurology (primary appointment)

Adjunct Associate Professor of Occupational Therapy

Adjunct Associate Professor of Physical Therapy
BA University of Virginia 1980
MD University of Maryland 1986

Ryan Patrick Duncan, DPT, MS
Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Neurology
DPT Washington Univ in St. Louis 2012
BS Maryville University 2007
MS Maryville University 2008
Gammon Marie Earhart, MS, PHD Professor of Physical Therapy (primary appointment)
Professor of Neuroscience
Professor of Neurology
Associate Director of Movement Science PhD Program in Physical Therapy
Executive Director of the Program in Physical Therapy
MS Beaver College 1996
BS Beaver College 1994
PHD Washington Univ in St. Louis 2000
Julaine Marie Florence, DPT, MS Professor of Neurology (primary appointment)
Professor of Physical Therapy
DPT Washington Univ in St. Louis 2002
MS Washington Univ in St. Louis 1983
BS Washington Univ in St. Louis 1975
Michael Dennison Harris Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Orthopaedic Surgery
BS University of Utah 2007
Mary Kent Hastings, MS, DPT Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
MS Washington Univ in St. Louis 1993
BS University of Illinois 1990
DPT Washington Univ in St. Louis 2002
Marcie Harris Hayes, MS, DPT Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
BS Southwest Missouri St Universi 1994
MS Northwestern University 1996
DPT Washington Univ in St. Louis 2003
Carey Lane Holleran, MS, PHD Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Neurology
MS Duquesne University 2004
BS Duquesne University 2003
PHD University of Indianapolis 2014
Gregory William Holtzman, MS, DPT Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
Associate Director of Clinical Practice in Physical Therapy
BA Emory University 1995
MS Washington Univ in St. Louis 2001
DPT Washington Univ in St. Louis 2007
Renee A. Ivens, DPT, MHS Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
BS Maryville University 1984
DPT Washington Univ in St. Louis 2006
MHS Washington Univ in St. Louis 1996
Lynnette C Khoo-Summers, MS, DPT Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
MS Washington Univ in St. Louis 1998
DPT Washington Univ in St. Louis 2008
BA Colorado St University 1990
Joseph W. Klaesner, PHD, MS Professor of Physical Therapy (primary appointment)
Professor of Radiology
BS1 Marquette University 1987
BS Marquette University 1987
PHD Vanderbilt University 1995
MS Vanderbilt University 1993
Catherine Eckels Lang, MS, PHD Professor of Physical Therapy (primary appointment)
Professor of Neurology
Professor of Occupational Therapy
MS University of Vermont 1997
PHD Washington Univ in St. Louis 2001
BS University of Vermont 1993
Vanessa Mae Lanier Instructor in Physical Therapy (primary appointment)
Instructor in Orthopaedic Surgery
BS Washington Univ in St. Louis 2007
Matthew J Matava, MD Professor of Orthopaedic Surgery (primary appointment)
Professor of Physical Therapy
BA University of MO Kansas City 1986
MD University of MO Kansas City 1987
Debra Ann McDonnell, MS, DPT, AS Associate Professor of Emergency Medicine in Medicine (primary appointment)
Associate Professor of Orthopaedic Surgery
Associate Professor of Physical Therapy
BS Washington Univ in St. Louis 1990
MS Washington Univ in St. Louis 1990
DPT Washington Univ in St. Louis 2005
AS Oakton Community College 2000
Mary Kate McDonnell, DPT, MHS Associate Professor of Physical Therapy (primary appointment)
Assistant Professor of Orthopaedic Surgery
Associate Director of Residencies and Fellowships in Physical Therapy
BS Saint Louis University 1981
DPT Washington Univ in St. Louis 2003
MHS Washington Univ in St. Louis 1985
Patricia Navarro McGee Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Orthopaedic Surgery
Marie Elizabeth McNeely, PHD Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Neurology
BS Ohio Wesleyan University 2008
PHD Washington Univ in St. Louis 2012
Gretchen Ann Meyer, PHD, MS Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Neurology
Assistant Professor of Orthopaedic Surgery
PHD University of CA San Diego 2011
Jennifer Alaine Miller-Katsafanas, DPT, BBA
Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Obstetrics and Gynecology
BA University of MO St Louis 1996
DPT Washington Univ in St. Louis 2012
BBA University of MO St Louis 1996

John Carl Morris, MD
Harvey A and Dorismae Hacker Friedman Distinguished Professor of Neurology (primary appointment)
Professor of Physical Therapy
Professor of Pathology and Immunology
Professor of Occupational Therapy
MD University of Rochester 1974
BA Ohio Wesleyan University 1970

Michael Jeffrey Mueller, PHD, MHS
Professor of Physical Therapy (primary appointment)
Division Director of Research in Physical Therapy
Professor of Radiology
PHD Washington Univ in St. Louis 1992
BS Washington Univ in St. Louis 1979
MHS Washington Univ in St. Louis 1984

Barbara Jean Norton, MHS
Professor of Physical Therapy (primary appointment)
Associate Director for Education Technology in Physical Therapy
Professor of Neurology
MHS Washington Univ in St. Louis 1985

Diana C. Parra Perez, MS, PHD
Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Surgery (Prevention and Control)
MS Saint Louis University 2008
PHD Washington Univ in St. Louis 2013
BA Universidad del Rosario 2001

Joel S Perlmutter, MD
Professor of Neurology (primary appointment)
Professor of Radiology
Professor of Occupational Therapy
Professor of Neuroscience
MD University of MO Columbia 1979
BA Princeton University 1975

Susan B. Racette, PHD
Professor of Physical Therapy (primary appointment)
Professor of Medicine
PHD University of Chicago 1994
BS Bucknell University 1988

Shirley Ann Sahrmann, MA
Professor Emeritus of Physical Therapy (primary appointment)
Prof Emeritus of Physical Therapy (primary appointment)
BS Washington Univ in St. Louis 1958
MA Washington Univ in St. Louis 1971

David R Sinacore, MHS, PHD
Professor of Physical Therapy (primary appointment)
Professor of Medicine
MHS Washington Univ in St. Louis 1983
Nancy Bloom Smith, DPT
Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
DPT Washington Univ in St. Louis 2002
BS Washington Univ in St. Louis 1984
BA University of Virginia 1976
Theresa M Spitznagle, DPT, MHS
Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Obstetrics and Gynecology
DPT Washington Univ in St. Louis 2006
MHS Washington Univ in St. Louis 1994
BS Marquette University 1986
Jennifer S Stith, MSW, MS, PHD
Professor of Physical Therapy (primary appointment)
Associate Director of Professional Curriculum in Physical Therapy
Division Director for Education in Physical Therapy
Professor of Neurology
BS University of California 1976
MSW Washington Univ in St. Louis 2006
MS University of Southern Calif 1979
PHD Washington Univ in St. Louis 1994
Stacy Lynne Tylka, DPT, MS
Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
Associate Professor of Obstetrics and Gynecology
BS Saint Louis University 2000
DPT Washington Univ in St. Louis 2009
MS Saint Louis University 2002
Linda R Van Dillen, MS, PHD
Professor of Physical Therapy (primary appointment)
Professor of Orthopaedic Surgery
Associate Director of Musculoskeletal Research in Physical Therapy
MS Washington Univ in St. Louis 1985
BS University of Missouri 1979
PHD Washington Univ in St. Louis 1994
Pamela M. Wendl, DPT
Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Orthopaedic Surgery
BS North Park College 1991
DPT Washington Univ in St. Louis 2007
Dequan Zou, D SC, MS, ME
Professor of Physical Therapy (primary appointment)
Professor of Radiology
BS Harbin Engineering University 1982
D SC Washington Univ in St. Louis 1993
MS Washington Univ in St. Louis 1991
ME Harbin Engineering University 1984
No entries found
Population Health Sciences

The Master of Population Health Sciences (MPHS), offered by the School of Medicine, is a 10-month degree program for clinicians, clinical doctorates, medical students and health sciences students seeking training in clinical research methods. The curriculum emphasizes the role of epidemiology and biostatistics in approaching clinical effectiveness and outcomes research for all medical specialties. The MPHS does not require a research thesis upon completion of the program. Instead, the program innovatively uses applied course work to focus on the long-term mastery of skills. Using topics relevant to their careers and interests, MPHS students practice the art of developing research study protocols, performing systematic reviews, designing epidemiologic studies and much more. Many students go on to produce award-winning research using their applied coursework and skills learned in the program. MPHS students deepen their learning by choosing one of four concentrations: Clinical Epidemiology, Health Services, Quantitative Methods or Psychiatric and Behavioral Health Sciences.

Prospective students

Applicants should be in the process of completing a degree in a clinical training program at the doctoral level or should have completed such a degree. The pace of course work assumes students have familiarity with clinical medicine.

Program format

The MPHS program is a full-time, 10-month format. A minimum of 12 credit hours is required for full-time student status, and the maximum course load is 18 credit hours per semester. Part-time study options are available.

Core MPHS courses

Introduction to SAS for Clinical Research (M19 510)
Introductory Clinical Epidemiology
Applied Epidemiology
Introductory Biostatistics for Clinical Research
Intermediate Clinical Epidemiology
Ethics in Population and Clinical Health Research
Current Topics in Public Health (medical and health sciences students only)

Information on elective courses is available at www.mphs.wustl.edu

**MD/MPHS program**

The MD/MPHS provides medical students with an opportunity to supplement their clinical training and course work with a quantitative approach to population health science research. Students develop core skills in epidemiology and biostatistics, which can be applied to research in any clinical field, from primary to specialty care. The program is intended for medical students who plan to incorporate clinical or population health research into their clinical careers, including clinical effectiveness and outcomes research. The program is not restricted to Washington University medical students; students from other medical schools are encouraged to apply. The program combines the traditional medical school curriculum with one additional year of full-time study for the MPHS degree. This added year is typically taken after the second or third year of medical school.

**Application deadlines**

For 2017 – 2018 academic year: January 13, 2017
Notification of students of admission decision: February 20, 2017
Commitment deadline: May 1, 2017

**Further information**

The director of the MPHS program is Graham Colditz, MD, DrPH. Additional information can be obtained at [http://www.mphs.wustl.edu](http://www.mphs.wustl.edu) or by emailing Joyce Linn, Program Coordinator, at linnj@wudosis.wustl.edu.
Population Health Sciences Faculty

Arpana Agrawal, PhD
Assistant Professor, Department of Psychiatry

Ross Brownson, PhD
Professor, George Warren Brown School of Social Work

Kathleen Bucholz, PhD
Professor, Department of Psychiatry

Su-Hsin Chang, PhD
Assistant Professor, Division of Public Health Sciences, Department of Surgery

Graham Colditz, MD, DrPH
Niess-Gain Professor, Department of Surgery

Benjamin Cooper, MPH
Manager, Public Health Data & Training Center

Bettina Drake, PhD, MPH
Assistant Professor, Department of Surgery

Sarah Gehlert, PhD
E. Desmond Lee Professor, George Warren Brown School of Social Work

Jeff Gill, PhD
Professor, Division of Public Health Sciences, Department of Surgery

Anne Glowinski, MD, MPE
Associate Professor, Department of Psychiatry

Melody Goodman, MS, PhD
Assistant Professor, Division of Public Health Sciences, Department of Surgery

Richard Griffey, MD, MPH
Assistant Professor, Department of Internal Medicine

Richard Grucza, PhD, MPE
Associate Professor of Psychiatry, Department of Psychiatry

Katy Henke, MA
Media and Marketing Administrator, Division of Public Health Sciences

Aimee James, MD, MPH
Assistant Professor, Department of Surgery

Allison King, MD, MPH
Assistant Professor, Department of Occupational Therapy

Mallory Leung, PhD, MSc
Postdoctoral Research Associate, Division of Public Health Sciences, Department of Surgery

Esther Liu, PhD
Faculty, Institute of Clinical and Translational Sciences

Ying Liu, MD, PhD
Instructor, Division of Public Health Sciences
Margaret Olsen, PhD, MPH
Associate Professor, Department of Internal Medicine

Amy Ostendorf
Department of Surgery

Mary Politi, PhD
Assistant Professor, Department of Surgery

Rumi Price, PhD, MPE
Professor, Department of Psychiatry

Enola Proctor, PhD
George Warren Brown School of Social Work

Siobhan Sutcliffe, PhD
Associate Professor, Division of Public Health Sciences, Department of Surgery

Adetunji Toriola, MD, MPH, PhD
Assistant Professor of Surgery

Methodius Tuuli, MD, MPH
Assistant Professor of Obstetrics and Gynecology

Anke Winter, MD, MSc
Assistant Professor of Surgery

Yan Yan, MD, PhD
Research Associate Professor, Division of Public Health Sciences
Postgraduate Training

Residency training

Postgraduate residency training in an approved hospital is considered essential preparation for the practice of medicine. Most Washington University graduates serve three or more years of residency training, and many will gain additional experience as postdoctoral fellows.

To aid students in obtaining desirable residency appointments, an active counseling program is maintained. Students in their preclinical years can participate in a career counseling workshop in which they are given specific information about subspecialties. They are encouraged to look at their own interests, attributes and priorities and, with this information, begin to make decisions about the specialty best suited for them. In addition, small group conferences are held for students to meet with faculty members from a variety of the specialty divisions at Washington University to learn more about the fields that they are interested in.

During their third and fourth years, students interact closely with the Career Counseling Office, which provides them with individual counseling to help plan for the residency application process. Students receive general background information about the kinds of residencies available, special issues concerning certain extremely competitive residencies and help identifying faculty members for further assistance. The Career Counseling Office maintains a web site (residency.wustl.edu) where students can find information regarding 20 residency specialties. The number of U.S. seniors applying in the match each year has been steadily increasing. The match process continues to be competitive, and students must make their choices with considerable care. The School of Medicine participates in the National Resident Matching Program, which offers distinct advantages to applicants.

Results of these efforts have been consistently gratifying. The first-year post-graduate (PGY-1) residencies selected in the most recent residency matching (2016) are
identified in the Alphabetical List of Students in the Register of Students section of this web site.

The School of Medicine maintains an active interest in its graduates and is pleased to assist them in subsequent years as they seek more advanced training or staff appointments in the communities in which they settle.

**Postdoctoral training**

Those departments that offer postdoctoral fellowships individualize such educational activity up to a maximum of 36 months of academic time. Such fellowships lead integrally to certification by the appropriate specialty and/or subspecialty boards of the American Medical Association.

**Fellowship and other funds**

**Alexander and Gertrude Berg Fellowship Fund.** Created in 1952 through the bequest of Gertrude Berg to provide a fellowship in the Department of Molecular Microbiology.

**Glover H. Copher Fellow in Surgical Research.** Established in 1971 to support a postdoctoral fellow in surgery.

**William H. Danforth Loan Fund for Interns and Residents in Surgery.** Provides financial assistance in the form of loans for postdoctoral students in surgery.

**Ron and Hana Evens Fellowship.** Established in 2014 to support a Post-Doctoral Fellowship in the Mallinckrodt Institute of Radiology.

**Antonio Hernandez, Jr. Fellowship in Pediatric Cardiology.** Established in 1987 as a memorial to Dr. Hernandez.

**Leopold and Theresa Hofstatter Fellowship.** Established in 2000 from the estate of Leopold and Theresa Hofstatter to be used to support fellowships in neurological research.
J. Albert Key Fellowship Fund. Provides a stipend for a fellow in orthopaedic surgery.

Louis and Dorothy Kovitz Fellowship Fund. Established in 1970 by an alumnus and his wife to provide support for research by qualified residents or students interested in surgery, at the discretion of the Head of the Department of Surgery.

Carol B. and Jerome T. Loeb Teaching Fellowships at the School of Medicine. Established in 2004 to honor and thank St. Louis-area physicians with clinical excellence to encourage teaching that excellence to residents and students.

Stephen I. Morse Fellowship. Established in 1980 by Carl and Belle Morse in memory of their son; awarded to predoctoral or postdoctoral students pursuing research careers in microbiology, immunology and infectious diseases.

William D. Owens Anesthesiology Research Fellowship. Established in 2000 in honor of William D. Owens, MD. This fund will allow an individual to do a clinical or basic research fellowship for a two-year period.

The Esther and Morton Wohlgemuth Foundation Fellowship. Established to support a fellow in the Division of Cardiovascular Diseases.

Continuing medical education

The study of medicine is a lifelong process with continuing medical education being an integral component of the continuum. Since 1973 the School of Medicine has supported this learning endeavor through the operation of the Continuing Medical Education (CME) Program. The Program’s mission is to collaborate with teams of healthcare professionals and/or individual members of the healthcare team to provide opportunities for educational renewal and advancement in order to facilitate life-long learning, maintenance of professional competencies, and enhancement of knowledge and skills to improve performance, clinical care and patient outcomes.

Pursuant to this mission the objectives of the CME program include the following:
• Enable the acquisition of new knowledge and skills for the delivery of quality patient care
• Translate the results of research to clinical diagnosis and treatment for healthcare practitioners
• Apply educational approaches in support of continuous quality improvement and patient safety in health care delivery
• Integrate clinical outcome measures into the educational process
• Assist with adaptation to changing health care delivery environments
• Support faculty development as postgraduate medical educators and leaders
• Evaluate and refine educational activities

Each year more than 160 symposia and more than 180 recurring academic rounds and conferences as well as videos, monographs, and self-directed learning are provided with CME credit by this office. About 9,000 registrants attend these courses annually and receive more than 110,000 hours of instruction. CME-Online provides educational programs via the Internet. Since starting in 2000, the CME online program has grown to include more than 250 hours of available CME credit. The educational program is fully accredited by the Accreditation Council for Continuing Medical Education and provides credits to physicians pursuant to the Physician’s Recognition Award of the American Medical Association, as well as various other types of state and specialty recertification and relicensure activities.

Public Health
The purpose of this joint degree is to train physicians in the knowledge and skills needed to recognize, analyze, and solve the key problems affecting the health of our community and society. The MPH degree offered through the Brown School is unique in that it prepares students to apply public health sciences and transdisciplinary approaches to problem solving for improving population health, especially in vulnerable communities. Courses involve learning systematic approaches to implement and sustain public health discoveries regionally, nationally and internationally. Both the Brown School and the Medical School are top-ranked academic centers making this joint degree an outstanding opportunity.

**Prospective students**

Applicants should be in the third year of their medical school program. Prior to entering the MPH program, students should have taken courses (up to 11 credit hours) that count toward their MPH degree.

**Program format**

Medical students will spend their fourth year in the MPH program. The MD/MPH curriculum is comprised of three full-time semesters of course work, (Summer, Fall, Spring) at the Brown School, followed by the MPH Practicum and Culminating Experience. Students will meet the 52 required credit hours with the 11 credits earned in the MD program, 40 credits at the Brown School, and 1 credit in either program.

**Core MPH courses**

Cross-cutting Themes in Public Health  
Epidemiology  
Biostatistics  
Environmental Health  
Health Policy and Administration  
Health Behavior and Health Promotion
MD/MPH program

The MD/MPH provides medical students with an opportunity to supplement their clinical training with courses and experiences designed to create transdisciplinary competencies on how to improve population health. Students learn the basics of public health from the foundations courses. MD/MPH students also can choose from a wide variety of Transdisciplinary Problem Solving Courses (2 are required) and they will participate in small group public health discussions in Public Health Seminar. The faculty and staff at the Brown School will help guide students to relevant practicum experiences. When coursework and practicum are completed, MD/MPH students take a comprehensive case study exam that is the final MPH requirement (Culminating Experience). In addition to coursework at Brown, MD/MPH students also have an opportunity to apply for Masters Research Fellows program, allowing them to work on research projects during their MPH program.

Application Deadlines for 2016-17 Academic Year

Applicants will apply through https://sophasexpress.liaisoncas.com/
Application deadline: December 15, 2015
Admission decisions sent: February 1, 2016
Commitment deadline: April 1, 2016

Further Information

If you are interested in the MD/MPH program, please contact Amy Eyler, PhD, the Assistant Dean for Public Health at aeyler@wustl.edu or 314-935-0129. Additional information can be obtained at https://mph.wustl.edu/ or by emailing brownadmissions@wustl.edu
Admission

Costs, admission requirements and application procedures vary from program to program. Please contact individual programs for more information.

Standards for Satisfactory Academic Progress for Financial Aid Eligibility: Other School of Medicine Programs and Joint Degree Programs

The following policy applies to students pursing graduate/professional training in the following programs:

- Applied Health Behavior Research
- Audiology and Communications Sciences
- Biostatistics
- Clinical Investigation
- Genetic Epidemiology
- Occupational Therapy
- Physical Therapy
- Population Health Sciences

Federal law and regulations require that all students receiving financial assistance from Federal Title IV funds maintain satisfactory academic progress (SAP). This policy
presents the standards adopted by the Washington University School of Medicine and applies to all non-MD students.

The School of Medicine at Washington University in St. Louis evaluates SAP at the end of each semester for all non-MD students receiving financial aid. A student failing to meet the standards of progress as determined by the Committee on Academic and Professional Evaluation of Students (CAPES) shall be placed on financial aid probation and notified by CAPES and the Director of Financial Aid. While on probation the student may receive financial assistance for one semester, trimester, or equivalent period of time. At the conclusion of this period, the student must have achieved compliance with each standard. A student who does not achieve compliance and is not making SAP by the conclusion of the probationary period is suspended from federal aid eligibility. The Office of Student Financial Aid must notify a student of implementation of probationary status and/or suspension.

In order to be compliant in maintaining SAP, and thus eligible for financial aid, students must be satisfactorily progressing toward their academic objectives. Federal regulations require the following measurements for determining SAP: time frame and quantitative/qualitative requirements.

**Maximum Time Frame:**
To maintain eligibility you must complete your program by attempting no more than 150% of the credits required to complete your program. For example, if your program requires 120 credits to complete your degree, you must be able to complete the program by attempting no more than 180 credits. This includes credits attempted without financial aid. Specific information for each program may be found in each program’s Handbook or Bulletin.

Periods of non-enrollment are NOT counted in the measurement of satisfactory academic progress but all periods of attendance, regardless of whether the student received Title IV aid, are counted.

If you reach a point where you cannot complete your program within the 150%
maximum, students become ineligible for aid.

Quantitative/Qualitative Requirement:
The minimum semester and cumulative GPAs needed to meet the SAP requirement are set by each program. The program’s Bulletin or Handbook will help you determine your minimum GPA requirements.

If you are not achieving the minimum GPA requirements for your program at the end of each semester when the SAP review is performed, you are not considered to be making SAP.

Financial Aid Warning:
A student failing to meet the standards of progress as determined by their Program at the end of each semester will be placed on “financial aid warning” for the following term. At the end of that term, the student must be meeting SAP to receive financial aid for future semesters. Any student not meeting SAP at the end of the warning period will be suspended from future financial aid. The student will be eligible for aid when they achieve SAP or the student may appeal. Students who choose to appeal must state the reasons for failing to meet SAP (e.g. injury/illness of the student, death in the family or other special circumstance) and what has changed in the student's situation so that he or she can now make SAP. If the student successfully appeals, the student will be place on financial aid probation and may receive financial assistance for one semester. At the conclusion of this period, the student must have achieved compliance with each standard or be progressing per their individual academic plan to receive additional aid. A student who does not achieve compliance with each standard by the conclusion of the probationary period is suspended from financial aid eligibility.

The Office of Student Financial Aid must notify a student of implementation of probationary status and/or suspension.

The Director of Student Financial Aid shall have primary responsibility for enforcement of this policy. The Office of Student Financial Aid shall ascertain at the time of each disbursement of funds and prior to certification of a financial aid application that the
Financial Assistance — Graduate and Professional Programs

The Ability to finance a graduate/professional education at Washington University School of Medicine does not influence the student selection process. As all students accepted for admission have proven scholastic ability, financial assistance is awarded solely on the basis of documented financial need which cannot be met by student and family resources.

Accepted students interested in applying for financial aid will receive electronic communication from the Financial Aid Office providing instructions for completing the FAFSA and additional forms necessary for a financial aid award to be determined. Everyone applying for financial aid must complete a Free Application for Federal Student Aid (FAFSA) and designate Washington University School of Medicine, School Code #G24620, as a recipient. Financial aid application documents and detailed instructions will be made available after January 1.

The financial aid application materials solicit information about the applicant and their spouse, if married, including a detailed description of resources and liabilities. The School expects the applicant to complete and submit the financial aid documents within two weeks from the date the applicant receives them. Specific items will always be outlined on your individual student portal, Netpartnerstudent.wustl.edu, to which access is granted after students are accepted by their program and their information is forward to the Financial Aid Office.
Once all documentation has been received and evaluated, an award package is determined for that student. He or she will then be notified via email once the award is available to view online. All awards must be accepted online using the student portal. Financial aid awards are credited toward payment of tuition and fees on the student’s WebSTAC account. If there is an excess of funds on a student’s account after tuition and other charges, the Registrar’s Office will issue a student refund check.

Students may reapply for financial assistance in succeeding years if they remain in good academic and personal standing, and if there is continued financial need. Awards made to a student may vary from year to year, depending upon the student’s needs and upon the availability of funds. Students are responsible for filing applications for renewal of awards in the spring of each year.

The financial aid committee holds that students receiving assistance have an obligation to notify the committee in writing if their financial situation changes, for example, through employment or receipt of a scholarship not anticipated at the time the application was submitted.

All scholarship funding is awarded by a student’s specific program and not through the Financial Aid Office. The Financial Aid Office applies all program scholarships to a student’s financial aid award and awards Federal and Institutional program-specific loans when applicable.

MD Program Admission

Visit the MD Admissions website for full admissions information and to check the status of your application.
Admission requirements for the study of medicine

Entrance requirements to the School of Medicine include:

1. Evidence of superior intellectual ability and scholastic achievement;
2. Completion of at least 90 semester hours of college courses in an approved college or university;
3. Completion of the Medical College Admission Test of the Association of American Medical Colleges; and
4. Evidence of character and integrity, a caring and compassionate attitude, scientific and humanitarian interests, effective communication skills, and motivation suitable for a career in medicine.

Chemistry, physics and mathematics provide the tools for modern biology, for medicine and for the biological basis of patient care. Thus, a firm grounding in these subjects is essential for the study of medical sciences. Entering students are expected to have accomplished at least the equivalent of one-year courses at the undergraduate level in physics and biology; mathematics through calculus, including integral equations and differential equations; and chemistry, including one year of general or inorganic chemistry and one year of organic chemistry. Course work in biochemistry is encouraged although not required. In addition one semester of biochemistry can be substituted for one semester of organic chemistry. Similarly, one semester of statistics can be substituted for one semester of calculus. In selected instances, one or more of these prerequisites may be waived by the Committee on Admissions, but applicants are strongly advised to pursue their interests in these and in other areas of science.

A major goal of undergraduate college work should be development of the intellectual talents of the individual. This often involves the pursuit of some area of knowledge in-depth, whether in the humanities, social sciences or natural sciences. At the same time, a diversity of background is encouraged in order to provide a necessary foundation for the development of cultural awareness, sensitivity and competence.
Specific courses, other than the few in the natural sciences, are not prerequisites because a great variety of courses and life experiences may prepare students for the many roles they may play in their medical careers.

Application procedure

General information for prospective medical students and how to apply can be found on the MD Admissions website.

Washington University School of Medicine participates in the American Medical College Application Service (AMCAS) of the Association of American Medical Colleges. AMCAS provides a centralized system for applying to any participating medical school with only one application and one set of official transcripts of academic work.

The AMCAS Application for Admission, common to all participating medical schools, is available online at https://www.aamc.org/students/. Applicants are urged to file their applications as early as possible.

Applicants to the first-year class must submit their AMCAS application no later than December 1 of the year prior to that in which they want to matriculate. On receipt of the application from AMCAS, the Office of Admissions contacts the applicant regarding the additional steps to be taken to complete the application. These include completing a supplemental application via the Internet at http://wumsapply.wustl.edu, submission of letters of recommendation and payment of a nonrefundable Application Service Fee of $80. These materials must be received no later than December 31. Applicants can check the status of their application via the Internet at the http://wumsapply.wustl.edu web site. Once the application is complete, the Committee on Admissions evaluates it.

Selected applicants are invited for a personal interview, as well as a tour of the School of Medicine and the Washington University Medical Center. This visit provides extensive opportunities for the applicant to meet and talk with students and faculty members.
If an applicant is planning a trip to the St. Louis area, it is appropriate to contact us by email (wumscoa@wustl.edu) to inquire if an interview has been authorized. The inquiry should be submitted at least three weeks in advance of the anticipated travel. The Office of Admissions is open weekdays from 8:30 a.m. to 5 p.m. Central Time.

Admission decisions are made by the Committee on Admissions on a rolling schedule beginning in early October. Applicants are notified as soon as a final decision has been made on their application, but by April 15, every applicant should be notified whether he or she is accepted, on the waiting list or not accepted.

Upon notification of acceptance for admission to the School, the applicant is required to file a Statement of Intent to Matriculate within two weeks. Three options are presented: 1) accept the offer of admission; 2) accept the offer of admission and request financial aid materials; or 3) decline the offer of admission. The School of Medicine abides by the traffic rules regarding application timelines as established by AMCAS. Accepted applicants who are non-compliant with AMCAS traffic rules and medical school deadlines may have their acceptance into the class rescinded.

After the applicant has been accepted, matriculation is contingent upon sustained superior academic performance as well as continued ethical, honest and mature deportment. Accepted applicants must report to the Registrar all institutional judicial or academic sanctions and/or legal actions in which he/she has been a party prior to matriculation at the School of Medicine. Accepted applicants must report all institutional judicial and academic charges and/or legal charges brought against them before matriculation at the School of Medicine where such charges could result in sanctions. Concealing or failing to report such sanctions and/or charges promptly and, more generally, failure to maintain high standards of moral and ethical behavior may result in rescission of acceptance or dismissal from the School of Medicine or revocation of the Doctor of Medicine degree.

**Merit-based scholarships**

Please see the Financial Assistance section.
Policy for International Students

The admission decision at Washington University School of Medicine is based on academic and personal merit and not on the ability of the student to pay the costs of education. However, individuals who are not citizens of the United States of America or who do not hold U.S. Permanent Resident Visa status, including DACA students, are not eligible for financial aid due to regulations covering many programs used by the School to fund financial assistance. Therefore, in order for the School to complete the required documents which are necessary for issuance of a visa, the student must document, by a date and in a manner designated by the School, that the necessary amount of funds, as established by the School, is available to pay the costs of education (tuition and living expenses) for the anticipated period of enrollment, normally four years. Documentation of the required amount of financial resources may be by a letter of credit or by deposit of funds in an escrow account with a bank designated by the School.

Background Checks and Screening for Controlled Substances

Students entering the School of Medicine who will have contact with patients are required to have criminal background checks and screening for controlled substances (THC-cannabis, cocaine, opiate, amphetamine, PCP-phencyclidine) in order to qualify
for participation in patient care activities at Washington University School of Medicine-affiliated facilities. Drug screening usually will be conducted during student orientation prior to the start of classes. Incoming, prematriculant students, or visiting students will be disqualified to study at the School of Medicine if they do not consent to background checks, if they have significant positive findings on the background checks, or if they have illicit substances detected on drug screening without a bona fide medical indication. Disqualified prematriculant students and disqualified visiting students will be precluded from matriculation and will not be registered as students in the School of Medicine.

In addition, no final action will be taken on an application until the Admissions Committee has received satisfactory statement(s) (“Dean's Certification” form(s)) from each college or university at which the applicant has completed a program of study. The certification form(s) inquire whether the applicant was subject to disciplinary charges or actions and must be completed by institutional official(s) with access to the applicant's disciplinary records. The certification inquires about past, current, pending or future disciplinary charges or actions.

Third-Year Class Transfer Program

Each year, Washington University School of Medicine accepts a limited number of transfer students into its third-year class depending on the availability of positions. Transfer applications are accepted from well-qualified second-year students who are enrolled in good standing and eligible to continue in their LCME-accredited U.S. medical schools. Applicants must also have a compelling personal reason for requesting transfer and must have the full approval of the dean of their current school. Accepted students are required to successfully complete the USMLE Step 1 examination.
Transfer application forms for admittance into the third-year class are available after October 1 for the following academic year. The deadline for submission of applications is March 31. Those applicants selected for an interview will be invited to visit the Washington University Medical Center. Applicants will be notified of the decision of the Committee on Admissions by May 15 or when a position becomes available. Inquiries should be directed to:

Third-Year Class Transfer Program  
Washington University School of Medicine  
Campus Box 8077  
660 S. Euclid Ave.  
St. Louis, MO 63110-1093  
Phone: (314) 362-6844  
Fax: (314) 362-4658  
wumscoa@wustl.edu

Cost of Education

For the first-year class matriculant, tuition and estimated expenses for the 2016-17 academic year are listed below. Students who enter in 2016 will benefit from a tuition stabilization plan, which provides that their annual tuition of $60,798 will be constant for up to five consecutive years. The stabilized rate will expire five academic years after matriculation. Therefore, students whose medical education is interrupted for any reason for more than one year will be charged the rate of the class they rejoin. Appeals of this policy should be submitted in writing to the registrar. The items listed below provide an estimate of the expenses for a single student in the 39-week first-year class. The total of these figures suggests a basic minimum budget of approximately $79,642. Allowances for entertainment, travel, clothing and other
miscellaneous items must be added to this estimate.

**Tuition** (includes Student Health Service and Microscope Lending Plan): $60,798

**Books, supplies and instruments:** $1,396

**Housing and food:** $12,768

**Travel and personal:** $4,680

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**Registration, Payments, and Withdrawal & Refunds Policy**

The University billing system provides a central financial account against which most student expenses incurred at the University will be posted, including but not limited to tuition, housing charges, parking, library fines, etc. This policy, when referring to tuition and other charges, includes any and all charges posted to this account.

All payments of tuition and other University charges are due and payable on the dates specified in the published calendars of the programs in the School of Medicine. Failure of a student to register when required, and pay tuition and other charges incurred on or before the date specified in the published calendar, will result in a late fee of $50 to be added to the amount due. The late fee will be imposed seven days after the due date if full payment has not been received. Tuition and other charges are usually payable twice a year, at the start of the academic year, and again at the middle of the academic year, as listed on the schedule on the academic calendar.

In addition to the $50 late fee, any payment due from the student and not paid by the specified date will accrue interest at the current market rate in effect on the first business day of the month in which the payment is due. This fee will be imposed on any accounts not paid in full within 30 days of the due date. Any amount not paid
when due (plus accrued interest thereon) must be paid in full within three months of the due date to avoid potential suspension from classes.

If a student fails to make payments within three months of the original due date, the School will not release the student’s academic record, grade reports or transcript, pending settlement of the unpaid account. A student who has not satisfied all of his/her delinquent financial obligations to Washington University (tuition, University housing, parking, etc.) one month before the end of the academic year will not be allowed to progress to the next academic year, nor can they be issued a diploma.

Federal financial aid funds for the next academic year cannot be disbursed until all prior year balances are paid in full.

Students who rely on financial aid funds to meet their obligations should submit their applications for processing according to application deadlines published by the Office of Financial Aid. Deadlines allow for receipt of financial aid funds by payment due dates if applications are filed by the deadline. The Office of Student Financial Aid will assist students with loan applications and financial planning upon request.

A student who withdraws or takes a leave of absence from the School will receive a pro rata refund of tuition and appropriate fees. The refund will be based on the ratio of the class days enrolled (from the first day of classes to the termination date) to the total number of class days in the term for which tuition and fees were paid. It is understood that the date on which a student formally notifies the Registrar’s Office in writing of the decision to withdraw or take a leave of absence from the School of Medicine shall be regarded as the termination date, with no retroactive clause to be accepted. A prospective date will be accepted, however. If tuition and fees were paid entirely or in part by financial aid from the School, the refund will be applied first to the total repayment of the accounts from which financial aid was drawn, with any remaining refund balance given to the student. Financial aid received in excess of the costs of tuition and fees must be refunded by the student to the School on the same pro rata basis as calculated for the tuition refund outlined above – per “Return of Title IV” Federal guidelines. Any questions about these policies may be directed to either
Standards for Satisfactory Academic Progress for Financial Aid Eligibility

Please visit the Policies section for Standards for Satisfactory Academic Progress for Financial Aid Eligibility: MD Students.

Financial Assistance — Medical Students

The ability to finance a medical education at Washington University does not influence the student selection process. As all students accepted for admission have proven scholastic ability, financial assistance is awarded solely on the basis of documented financial need which cannot be met by student and family resources. Students who consider themselves financially independent of their parents must arrange for loans to replace the amount of support parents are analyzed to have the potential to contribute. The School of Medicine's Office of Financial Aid (Box 8059) will assist students in making these arrangements.
In responding to the Admissions Committee’s offer of admission, an accepted student may request financial aid application materials. The Financial Aid Office acknowledges the student’s intent and provides instructions for completing the FAFSA. Everyone applying for financial aid must complete a Free Application for Federal Student Aid (FAFSA) and designate Washington University School of Medicine, School Code #G24620, as a recipient. Medical school financial aid application documents and detailed instructions will be made available after January 1.

The financial aid application materials solicit information about the applicant and parents, including a detailed description of resources and liabilities. If an applicant’s parents are separated or divorced, the financial information is required from both biological parents (excluding income and assets of their spouse, if remarried). If the applicant is married, similar information is required of the spouse. The School expects the applicant to complete and submit the financial aid documents within two weeks from the date the applicant receives them. Official copies of both biological parents’ individual U.S. Income Tax Returns and the applicant’s official IRS transcripts complete the data required for financial aid consideration.

While “permanent residents” of the United States are eligible for most federal financial aid programs, need-based financial aid from Washington is only awarded if the applicant and both biological parents can provide official, audited documents with the same detailed information as provided on a U.S. income tax return. All information is held in strict confidence.

Financial aid awards are credited toward payment of tuition and fees. If there is an excess of funds on a student’s account after tuition and other charges, the Registrar’s Office will issue a refund check. The loan portion of an award will be funded through the resources of the School of Medicine or through the Federal Direct Loan program. Financial aid awards are made for a given academic year. Students may reapply for financial assistance in succeeding years if they remain in good academic and personal standing, and if there is continued financial need. Awards made to a student may vary from year to year, depending upon the student’s needs and upon the availability of funds to the Committee. Students are responsible for filing applications for renewal of
awards in the spring of each year.

The committee holds that students receiving assistance have an obligation to notify the committee in writing if their financial situation changes, for example, through employment or receipt of a scholarship not anticipated at the time the application was submitted.

First- and second-year students are urged not to accept employment during the academic year. A number of fourth-year students find employment in hospitals within the Medical Center. The personnel office may provide assistance to students’ spouses seeking employment.

**Merit-based scholarships**

In 1978, the School of Medicine established a scholarship program that based selection on merit rather than financial need. As one of the first merit scholarship programs for medical students, the Distinguished Student Scholarship Program has recognized and rewarded academic excellence and personal achievement for 33 years. And, to honor outstanding alumni of Washington University, the Medical Center Alumni Association created in 1989 the Distinguished Alumni Scholarship Program. In 1998, the Barnes-Jewish Hospital Medical Staff Association committed to funding one full-tuition, four-year scholarship to a student in each entering class. Beginning with the 2002-2003 academic year, one additional “named” scholarship was made available through the generosity of a donor.

Most merit-based scholarships are awarded to students in the first-year class and are subject to annual renewal. Recipients of these scholarships are expected to maintain academic excellence. If a scholarship is not renewed, the student may file for financial aid from the School. For scholarship recipients who document financial need above the full-tuition scholarship, additional funds are available to provide support up to the total cost of education. Scholarship recipients may not concurrently participate in the School’s Medical Scientist Training Program, the Armed Forces Health Professions Scholarship Program, or the National Health Service Corps Scholarship Program.
Now known collectively as the Distinguished Scholars Program, its aim is to attract and enroll the most outstanding students in the School of Medicine, thus enriching the scholarly environment and broadening the scope of learning for all students. Scholarship recipients are selected on intelligence, character, personal accomplishments and goals, motivation for medicine, aptitude for science, leadership potential, communication skills and diversity of life experience. Scholarships awarded under this Program include the Barnes-Jewish Hospital Scholars, Danforth Scholars in Medicine, Distinguished Alumni Scholars (DAS), Distinguished Faculty Scholars (DFS), and Distinguished Student Scholars (DSS).

**Barnes-Jewish Hospital Medical Staff Association Scholarship**

One full-tuition, four-year scholarship will be awarded to a student in each entering class beginning in 1999. Selection of the Barnes-Jewish Hospital Medical Staff Association Scholar is the same as for the Distinguished Student Scholarship.

**Danforth Scholars in Medicine**

Named in honor of William H. and Elizabeth Gray Danforth, the chancellor and first lady of the University from 1971 to 1995, the Danforth Scholars Program is a tribute to their legacy of exemplary leadership and service.

**Distinguished Alumni Scholarships**

Up to four full-tuition scholarships are awarded annually to members of the entering first-year class. The application procedure and selection process are the same as for the Distinguished Student Scholarships. Since 1989, Distinguished Alumni Scholarships have been named in honor of:

Leonard Bacharier, MD
Thomas Bailey, MD
Thomas Baranski, MD/PhD
Walter F. Benoist, MD
Leonard Berg, MD
Grace E. Bergner, MD
Laura Bierut, MD
Ellen F. Binder, MD
Stanley J. Birge, MD
Eugene M. Bricker, MD
Keith H. Bridwell, MD
Angela Brown, MD
Elmer B. Brown, MD
J. William Campbell, MD
David B. Clifford, MD
C. Robert Cloninger, MD
Jennifer W. Cole, MD
John N. Constantino, MD
Justin J. Cordonnier, MD
Michael Crowder, MD, PhD
Carlos Daughaday, MD
John D. Davidson, MD
Louis P. Dehner, MD
Brian Dieckgraefe, MD, PHD
Robert C. Drews, MD
Bradley Evanoff, MD, MPH
Ronald G. Evens, MD
Lewis C. Fischbein, MD
I.J. Flance, MD
James W. Fleshman, MD
James Forsen Jr., MD
Bernard T. Garfinkel, MD
Deborah J. Gersell, MD
Jerome J. Gilden, MD
Harvey S. Glazer, MD
David Goldring, MD
Distinguished Alumni Scholarship Program honorees 2016-2017:

R. Mark Grady, MD ’89
Judy C. Lieu, MD ’92
Lisa M. Moscoso, MD/PhD ’98, HS ’02
Janice W. Semenkovich, MD ’81

Distinguished Faculty Scholars

The Distinguished Faculty Scholar Program provides merit-based scholarships (up to full-tuition for four years) to students who demonstrate their commitment to bringing diverse people together and to enhancing service to disadvantaged groups.

These awards are for students who have:

- Been recognized as scholars from groups that are historically underrepresented in medicine;
- Challenged themselves and excelled academically;
- Demonstrated leadership;
- Engaged in or shown a commitment to community service;
- Demonstrated their commitment to bringing diverse people together (as, for example, by having been involved in diversity initiatives in their schools or communities); and,
- Demonstrated a commitment to serving historically underprivileged populations, and/or demonstrated achievement and determination in the face of personal challenges.

**Distinguished Student Scholarships**

Distinguished Student Scholarships are awarded annually (up to full-tuition for four years) to selected members of the entering first-year class based on meritorious academic and personal accomplishments. Final selection of scholarship recipients is made by a committee of the faculty based on demonstrated superior intellectual achievement as well as an assessment of the applicant’s character, attitude, motivation and maturity.

**Scholarship funds**

**Grace Bergner Abrams Scholarship.** Established in 1995 through the bequest of Dr. Grace Bergner Abrams, MD ’43. Friends and patients also contributed to this endowed scholarship.

**Helen M. Aff-Drum Scholarship Fund.** Established in 1988 to provide scholarship support to financially deserving medical students.

**Anderson Student Scholarship.** Established through bequest in 2001 by Rolf L. Anderson, MD ’62.

**Franz and Harriet I. Arzt Student Loan.** Established by the estate of Dr. and Mrs. Franz Arzt in 2013.

**Isak and Breine Ascher Scholarship Fund.** The late Dr. Eduard Ascher, MD, ’42, established this scholarship through a trust to memorialize his parents, who were lost in the Holocaust during World War II. He chose Washington University School of Medicine because of their willingness to “give a chance” to an Austrian refugee.

**Arthur I. Auer MD1956 and Marian D. Auer, NU1955 Scholarship.** Established in 2012
by Dr. and Mrs. Auer to provide scholarship assistance to worthy students.

Dr. William Monroe Baker Fund. Established in 1988 under the will of Miss Lola Braxton in memory of Dr. Baker to provide scholarship assistance to worthy students.

Barnes-Jewish Hospital Medical Staff Association Scholarship. Established in 1998 by the Barnes-Jewish Hospital Medical Staff Association to provide financial assistance to students based on academic excellence.

Floyd A. and Rita Sue Barnett Scholarship. Established in 1994 from a trust agreement (1989) of Floyd and Rita Sue Barnett for scholarships for students who are academically well-qualified and financially deserving.

Dr. Frederick Barry Scholarship. Established in 2009 through the estate of Dr. Frederick Barry for medical student education.

The Dr. Joseph A. and Helene H. Bauer Scholarship. Created in 1987 by Dr. and Mrs. Joseph A. Bauer to provide scholarship support to academically well-qualified and financially deserving medical students.

Edward Baumhardt Scholarship. Established in 2014 through the estate Dr. Edward Earl Baumhardt.

William L. Becker, MD Scholarships. Established in 2012 by Dr. William Becker, MD ‘87 and awarded based on financial need.

Albert G. Blanke, Jr. Endowed Scholarship. Established by a generous gift in 1982, the fund provides scholarship assistance for deserving students in the School of Medicine.

Dr. John A. Bowers Scholarship Fund. Established through the estate of Dr. and Mrs. John Bowers. The scholarship is awarded based on need.

Warren Bowersox, MD Scholarship Fund. Established in 2005 by Mrs. Warren
Bowersox in memory of her husband, who was a member of the MD class of 1943, to support scholarships.

**Isabel Valle Brookings Scholarship.** Established in 1957 by Isabel Valle Brookings (Mrs. Robert S.) for scholarships and loans in the School of Medicine.

**The Seymour Brown, MD and Rose Tropp Brown Scholarship.** Established by the estate of Dr. Seymour and Mrs. Rose Tropp Brown.

**Jane Stewart and Robert S. Brua, MD Scholarship Fund.** Established in 1996 through the generosity of Dr. Brua.

**The Bruce Family Scholarship.** Established in 2012 by Robert and Suzanne Bruce to commemorate three generations of physicians: Helen L. Bruce, MD; her son, Robert M. Bruce, MD; and her grandson, Carl T. Bruce, Washington University School of Medicine, Class of 2015.

**Robert W. Butcher, MD Scholarship.** Established in 2012 by an anonymous donor.

**Ruth Elizabeth Calkins Scholarship Fund.** Established by Dr. Delevan Calkins in honor of his granddaughter.

**Dr. Richard Brookings and Mr. Robert Carter Medical School Scholarship.** Established through a bequest of Robert S. Brookings.

**Gilbert L. Chamberlain, MD Scholarship Fund.** Created in 1971 by Dr. Gilbert L. Chamberlain to be used to aid worthy students in acquiring their medical education.

**Cecil M. Charles – Nu Sigma Nu Medical Student Scholarship Fund.** Established by the Nu Sigma Nu Medical Fraternity in memory of Dr. Charles.

**Tien Hsin Cheng, MD Endowed Scholarship in Medicine.** Established in 2007 by Dr. Tien Hsin Cheng, MD ’76, for deserving medical students with financial need.
Dr. Kehar S. Chouke Loan. Established by the estate of Dr. Kehar Singh Chouké.

Class of 1945 Scholarship. Established by the alumni from the Class of 1945 in honor of their 45th reunion.

Class of 1954 Scholarship In Memory of Dan Nathans. Established in 2000 by the alumni from the Class of 1954 in memory of their classmate, Daniel Nathans, who was awarded the Nobel Prize in Medicine in 1978. Members of the Nathans family also contributed to the establishment of the fund.

Class of 1956 Scholarship. Established in 1996 by members of the Class of 1956 in honor of their 40th reunion.

Class of 1959 50th Reunion Scholarship. Established in 2008 by members of the Class of 1959 in honor of their 50th reunion.

Class of 1960 Scholarship. Established in 2010 by the members of the Class of 1960 in honor of their 50th reunion.


Class of 1964 Scholarship. Established in 1993 by the alumni from the Class of 1964 to support scholarships.

Class of 1968 Scholarship. Established in 1998 by the alumni from the Class of 1968 in honor of their 30th reunion to support student scholarships.


Class of 1971 Scholarship. Established in 1999 by members of the Class of 1971 in honor of their 25th reunion.

Class of 1972 Scholarship. Established in 1999 by members of the Class of 1972 in honor of their 25th reunion.


Class of 1974 Scholarship in Honor of Dr. Jonathan Mann. Established in 2002 by members of the Class of 1974 for their 25th reunion and to honor the memory of their classmate, Dr. Jonathan Mann, a pioneering AIDS researcher, who died in the Swissair Flight 111 accident in 1998.

Class of 1975 Scholarship. Established in 2000 by members of the Class of 1975 in honor of their 25th reunion.


Class of 1977 Scholarship. Established in 2002 by members of the Class of 1977 in honor of their 25th reunion.


Class of 1979 Scholarship. Established in 2003 by members of the Class of 1979 in honor of their 25th reunion.


Class of 1981 Scholarship. Established in 2005 by members of the Class of 1981 in...
honor of their 25th reunion.

**Class of 1982 Scholarship.** Established in 2006 by members of the Class of 1982 in honor of their 25th reunion.

**Class of 1983 Scholarship.** Established in 2007 by members of the Class of 1983 in honor of their 25th reunion.

**Class of 1984 Scholarship.** Established in 2008 by members of the Class of 1984 in honor of their 25th reunion.

**Class of 1985 Scholarship.** Established in 2016 by members of the Class of 1985.

**Class of 1986 Scholarship.** Established in 2011 by members of the Class of 1986 in honor of their 25th reunion.

**Grace Strong Coburn Scholarship.** Created in 1962 through the bequest of Mrs. Grace Strong Coburn for scholarships in the School of Medicine.

**Jack W. Cole, MD Scholarship Fund.** Established in 2002 by Mrs. Ruth Kraft Cole, in memory of her late husband, a 1944 graduate of WUSM, and to recognize Dr. Cole’s deep appreciation for the education he received. Preference will be given to a student pursuing a career in academic medicine.

**T. Griswold Comstock Scholarships.** Established under the will of Marilla E. Comstock for students who would otherwise be unable to obtain a medical education.

**Robert Emmet Connor Family Scholarship Fund.** Established in 2010 by Dr. Robert Connor in appreciation for the medical education he received at Washington University.

**Clark and Mildred Cox Scholarship for Women.** Established in 1998 with a donation from the Clark Cox Trust.
Arpad Csapo, MD Memorial Scholarship Fund. Established in 1982 by Elise Csapo in memory of her husband, and by his friends and colleagues to provide assistance for students who have shown promise in fields relating to reproductive medicine.

William H. and Elizabeth Gray Danforth Scholars Program. Established in 1998 in honor of Chancellor Danforths retirement. The Scholarship recipients must demonstrate outstanding academic promise and a record of community service that reflects Dr. Danforths values and actions.

Harriet Arey and John D. Davidson Scholarship. Established in 2000 by Harriet Arey and John D. Davidson for scholarships in the School of Medicine.

Davie Family Endowed Scholarship. Established by Joseph Davie, MD '68, and his family to support scholarships for deserving medical students.

Paul H. and Ruth K. DeBruine Endowed Scholarship. Established in 1994 by Dr. and Mrs. Paul DeBruine in honor of his 35th medical school reunion to provide scholarship support to academically well-qualified and financially deserving medical students.

The Melvin DeHovitz Scholarship. Established by the estate of Mr. DeHovitz in honor of his mother, Jeanette DeHovitz.

Distinguished Alumni Scholarship. These scholarships are made available by generous donations from our alumni. The Washington University Medical Center Alumni Association Executive Council names the scholarships for alumni each year to honor their outstanding contributions and leadership.

Distinguished Faculty Scholarship. These scholarships are for students who have challenged themselves and excelled academically, demonstrated leadership, engaged in or shown a commitment to community service, demonstrated their commitment to bringing diverse people together, and enhanced service to disadvantaged groups. In addition, it links each of the scholarship recipients with a faculty mentor who has contributed to the diversity of the medical school.
Distinguished Student Scholarship. These scholarships are awarded to students who are selected primarily on the basis of merit (demonstrated superior intellectual and personal achievements, and an assessment of the applicant’s character, attitude, motivation, and maturity.)

Dr. Charles Drabkin Scholarship. Created in 1964 to provide financial assistance to medical students.


Eichner-Dominguez Family Scholarship. Established in 2005 by Lora Eichner, MD ’93, to make it easier for students to attend medical school.

Dr. Howard Eisen and Dr. Judith Wolf Scholarship. Established in 2013 by Dr. Howard Eisen and Dr. Judith Wolf, who both completed their residencies at Washington University School of Medicine. Provides support to medical students based on need or merit.

Dr. and Mrs. Max Elliott Scholarship. Established in 2000 by Dr. Elliott, MD ’64, to assist medical students.

Robert B. Fickel, DDS Scholarship Fund. Established by a 1941 graduate of Washington University School of Dental Medicine.

Carl Fisch Scholarship Fund. Created in memory of Dr. Fisch by his daughter, Marguerite F. Blackmer. Provides support to students who demonstrate financial need.

Flance Medical Scientist Traineeship. Established in honor of faculty member and alumnus I. Jerome Flance, MD ‘35 by the Harry Edison Foundation for support of a student in the Medical Scientist Training Program.

Ann Randolph Flipse, MD Scholarship in Medicine. Established in 2007 by Dr. Ann
Randolph Flipse to support deserving medical students with a preference for students whose undergraduate degree was in English, history, philosophy, music, arts or a graduate degree in the humanities.

**George F. Gill Scholarship in Pediatrics.** Instituted in memory of a former clinical professor of pediatrics.

**Helen H. Glaser Scholarship for Women Medical Students.** Established in 1999 by Robert J. Glaser, M.D., emeritus trustee and former faculty member, in memory of his wife, Helen H. Glaser, MD ’47.

**Anne T. and Carl Goetsch Scholarship.** This fund was established in 2003 through the bequest of Dr. Anne T. Goetsch, MD ’41, HS44, and Dr. Carl Goetsch, HS ’43, to support medical students.

**Norman M. and Eleanor H. Gross Scholarship Fund.** Established in 2001 through a bequest from Mr. Gross to provide financial assistance to qualified medical students.

**Paul H. and Lila L. Guttman Scholarship Fund.** Established in 1976 to provide financial assistance to qualified medical students.

**Paul O. and Nancy P. Hagemann Scholarship Fund.** Established by Dr. and Mrs. Hagemann to assist academically well-qualified students with documented financial need.

**Donald R. and Mary N. Harkness Family Scholarship.** Established in 2004 by Drs. Donald and Mary Harkness, both MD ’58, in memory of their daughter, Laurel, MD ’86.

**Lee B. and Virginia G. Harrison Scholarship.** Established in 1996 for scholarships for students who intend to pursue a career in internal medicine or family practice. Dr. Harrison was a 1927 graduate of the School of Medicine.

**Thomas James Hartford, Jr. Scholarship.** Established in 2008. Priority is given to a
medical student who is considering a career in health administration.

**Harvielle-Bailey Scholarship for Medicine or Surgery.** Established in 1970 under the will of Miss Isabel Bailey Harvielle as a memorial to Dr. Charles Poplin Harvielle and Dr. Steele Bailey, Jr., alumni of the School.

**Ronald C. and Nell W. Hertel Endowed Scholarship for the School of Medicine.** Established in 1995 and endowed in 2005 in memory of Mrs. Nell Hertel to provide financial aid to medical students.

**Raymond F. Holden, Jr. and Gertrude K. Holden Scholarship.** Established in 2009 by the Estate of Dr. Raymond F. Holden, Jr., MD ’33, to provide scholarship support to medical students.

**Allan O. and Doris M. Holtzman Scholarship.** Established by Dr. David and Mrs. Tracy Holtzman in honor of Dr. Holtzman's parents.

**Donald J. Horsh Scholarship.** Established in 1985 to honor Dr. Donald J. Horsh, former Associate Professor and Deputy Director for the Health Administration Program. Provides support to medical students.

**Dr. and Mrs. Charles Y. (Yueh-Gin Gung) Hu Scholarship.** Established in 2002 to provide a scholarship to medical students.

**Dr. Grace Huse Memorial Fund.** Provides scholarship awards for deserving Washington University medical students.

**Justan Icks Scholarship.** Established in 2008 by anonymous donor to support students with high academic achievement.

**Jackson Johnson Scholarship.** Provided through a bequest in 1930 from Jackson Johnson.
Dr. Lorraine A. Johnsrud Scholarship. Established in 1983 as a memorial to Lorraine from her classmates, friends, and family to assist deserving medical students in the funding of their medical expenses.

Henry J. Kaiser Family Foundation – Medical Century Club Scholarship Endowment. Following the foundation’s generous gift in 1980 for medical student scholarships, the Medical Century Club accepted the challenge to raise new scholarship funds to match an additional gift from the foundation.

Jay and Ronnie Kaiser Endowed Scholarship. Established in 2004 by Dr. Jay Kaiser, MD ’72, and Mrs. Ronnie Kaiser in appreciation of the financial aid Dr. Kaiser received as a student and to provide support for medical students.

George D. Kettelkamp Scholarship. Established in 1969 by Mrs. Kettelkamp in memory of her husband, an alumnus of the School of Medicine.

M. Kenton King, MD Scholarship. Created by the Executive Faculty to honor Dr. King at the time of his retirement in 1989 as Dean of the School of Medicine after having served in that position for 25 years.

Saulo Klahr Endowed Scholarship. Established in 2010 by Mrs. M. Carol Klahr in memory of her husband, Dr. Saulo Klahr, a WUSM professor of kidney disease for 46 years, to provide scholarship support to medical students.

Ira J. Kodner Scholarship. Established in 2014 to honor Dr. Ira Kodner, MD, Professor Emeritus of Surgery.

Albert F. Koetter, MD Scholarship Fund. Established in 1978 by Mrs. Stella Koetter Darrow in memory of her father, an alumnus and former faculty member of the School of Medicine.

Nicholas T. Kouchoukos, MD ’61 and Judith B. Kouchoukos Scholarship. Established in 2011 by Dr. Nicholas T. and Mrs. Judith B. Kouchoukos, to provide scholarship
support to medical students.

**Helen Hoerr Kurtz Endowed Scholarship in the School of Medicine.** Established by the estate of Mrs. Helen Hoerr Kurtz.

**Anne L. Lehmann Scholarship Fund.** Established in 1983 to grant continued scholarship support to medical students.

**Life Insurance Medical Scholarship Fund.** Created in 1972 from residual funds in the Life Insurance Medical Research Fund. Scholarship support is now awarded to students in the MD degree program.

**Maude L. Lindsey Memorial Scholarships.** Created in 1976 to assist students in the School of Medicine.

**John R. Lionberger, Jr. Medical Scholarship Endowment Fund.** Created in 1982 by Dr. John R. Lionberger to be used to aid worthy students in acquiring their medical education.

**E.A. Marquard Memorial Student Scholarship.** Established in 1994 from the E. Alfred Marquard Memorial Student Loan Fund to provide scholarships for deserving medical students.

**Alma Mavis Scholarship.** Created in 1988 under the will of Alma Mavis to assist students intending to practice family medicine.

**Eliza McMillan Scholarship.** Provides assistance to young women in any of several schools of the University to secure an education.

**Medical Alumni Scholarship Fund.** Awarded on the basis of academic achievement and financial need.

**Edith and Martin Meltzer Scholarship.** Established in 2004 by the Meltzer Family
Foundation to honor Dr. Gerald Meltzer’s MD ’63, parents, who established the foundation.

**Dr. Charles Miller, Jr. and Florence Noland Miller Scholarship.** Established in 2014 to support medical students.

**Roy B. and Viola R. Miller Memorial Fund.** Created in 1963 through the bequest of Roy B. Miller to provide scholarships for medical students.

**The Warren S. and Dorothy J. Miller Scholarship Fund.** Established in 1982 through the bequest of Dorothy J. Miller to provide scholarships for any students engaged in studies leading to the degree of Doctor of Medicine.

**Joseph J. and Ernesta G. Mira Scholarship Fund.** Established in 1988 by Dr. and Mrs. Mira to provide assistance to students from the Alton, Illinois area. Available to others when there are no students from the Alton/Madison County area.

**George and Elizabeth Ann Neilson Scholarship.** Established by the estate of George and Elizabeth Neilson.

**David and Janine Nelson Scholarship in Medicine.** Established in 2011 by Dr. David Nelson, a 1963 graduate of Washington University School of Medicine, and his wife, Janine.

**Nancy S. Newlin, MD and Henry H. Newlin, JD Scholarship Fund.** Established by Dr. Newlin and her late husband.

**Norland Endowed Scholarship.** Established in 2015 by Dr. Charles C. Norland, a 1959 graduate of Washington University School of Medicine, and Mrs. Dorothy Norland.

**Mr. and Mrs. Spencer T. Olin Fellowships for Women.** Provides for annual financial support to female graduates of an undergraduate institution in the United States in any of several disciplines. Application deadline is February 1.
Spencer T. and Ann W. Olin Medical Fellowships. Created in an effort to help fill the continuing shortage of physicians who pursue careers in biomedical research, the awards are primarily for students in the Medical Scientist Training Program.

Dr. Roy W. Osterkamp Memorial Scholarship Fund. Established in 2003 by Mrs. Linda Osterkamp Desloge and Mrs. Lila Osterkamp Haberberger, in memory of their father, Dr. Roy W. Osterkamp, DE ’36. Preference will be given to a student pursuing a career in a medical field related to dental medicine, such as maxillo-facial surgery. If no student shares this interest, it will be awarded based on need.

F. Thomas Ott (MD ’65) and Mary Miller Ott (MSN ’68) Scholarship. Established in 2010 by Dr. F. Thomas and Mrs. Mary Miller Ott to provide scholarship support to medical students.

Dr. Sidney F. (Class of ’29) and Dora K. Pakula Scholarship. Established in 2001 by Dr. and Mrs. Lawrence C. Pakula in memory of Dr. Pakula’s parents to support student scholarships.

Mary Langston Parker Scholarship. Established in 2014 by The Parker Family to honor Dr. Mary Langston Parker, MD53, Professor Emerita of Preventive Medicine and past director of Student Health Services.

William B. Parker Scholarship. Established in 1976 by the School of Medicine in honor of William B. Parker’s 51 years of service.

The Robert W. and Elise Hampton Parsons Scholarship Fund. Established in 2014 by Dr. Robert W. Prasons, MD54, to support medical students.

William A. Peck, MD Scholars in Medicine. Established in 2002 to recognize Dr. Peck’s 14 years of service to the Medical Center and Washington University community. University trustees, faculty, staff, alumni, and friends honored Dr. Peck with gifts to this scholarship.
Peterson Group Scholarship. Established in 2014 by Peterson Group to provide financial support to medical students.

Philpott Family Scholarship. Established in 1995 by the Philpott family to provide support for medical students with financial need and excellent academic achievement.

Pi Beta Phi – Charles Ruggieri Scholarship Fund. Established in 1985 by the Washington University Alumni of the Pi Beta Phi medical fraternity to honor Charles Ruggieri and to assist deserving medical students enrolled in Washington University School of Medicine with the funding of their medical education.

The Virginia Keck, George M. (M.D. ’32) and George K. (M.D. ’64) Powell Medical Student Scholarship Fund. Established in 1984 by Mrs. George M. Powell in grateful appreciation for the medical education provided to her husband and son by Washington University School of Medicine, which so positively affected the lives of the Powell families.

Henry and Louise Reller Scholarship. To be given to medical students in the name of the parents of Louise Reller.

Gennaro Resta Scholarship. Established in 2014 by Dr. Regina M. Resta (Class of 1985) and Dr. Michael A. Kolodziej (Class of 1984) to honor Dr. Resta’s father.

Lyman K. Richardson, MD Scholarship Fund. Established in 1993 by Mrs. Ellen Richardson to provide scholarship support to medical students.

John E. Rittmann Scholarship. Established in 2015 by Dr. John E. Rittman, a 1962 graduate of Washington University School of Medicine.

Samuel Jennings Roberts Scholarship Fund. Created to provide scholarships for any students engaged in study leading to the degree of Doctor of Medicine.

Robert Allen Roblee Scholarship Fund. Established in 1948 through a gift of Mrs.
Joseph H. Roblee for students in the School of Medicine.

**Thomas W. and Elizabeth J. Rucker Scholarship Fund.** Created in 1956 through the bequest of Eugenia I. Rucker, in memory of her mother and father.

**J. Max Rukes Scholarship Fund.** Established in 1987, the fund provides scholarship support to deserving medical school students, with a preference for those who are interested in endocrinology.

**Joseph H. Scharf Scholarship Fund.** Provided in 1949 through the bequest of Dr. Joseph H. Scharf.

**Robert G. and Maxine W. Scheibe Scholarship.** Established in 1999 by Robert G. Scheibe, a 1960 Washington University graduate who also received his medical degree here in 1964 and his wife, Maxine, who is a 1966 graduate of the Washington University School of Nursing.

**William H. and Ella M. Schewe Scholarship.** Established to provide financial assistance to worthy students in the medical school.

**Dr. David Schlessinger Endowed Scholarship.** Created in 2006 by Dr. Dan Longo in honor of his mentor, Dr. Schlessinger, who was a Professor of Molecular Microbiology, Professor of Genetics and Professor of Microbiology at Washington University School of Medicine.

**Dr. Gustav and Mrs. Miriam Schonfeld Scholarship.** Established in 2010 by Dr. Gustav and Mrs. Miriam Schonfeld to support medical students. Dr. Schonfeld, MD60, was past chair of the Department of Internal Medicine and physician-in-chief at Barnes-Jewish Hospital.

**Edna Schrick, MD Scholarship Fund.** Established in 1992 by Dr. Schrick to provide scholarship support.
Mordecai E. Schwartz Endowed Scholarship. Established in 2006 by Dr. Mary R. Schwartz, Dr. David Cech and Alexander I. Schwartz in memory of their father, who was committed to the training of future physicians.

Edward L. Schweich Scholarship. Established in 2010 by Mr. and Mrs. Henry L. Schweich, in memory of Edward L. Schweich, for medical student scholarship support.

Senior Merit Scholarship. Established by an anonymous alumnus of the School of Medicine, it provides a scholarship to a senior student who has earned a distinguished record of academic and personal achievements during the first three years in the medical school.

Charlie W. Shaeffer, Jr. Endowed Scholarship Fund. Established in 2008 by Charlie Shaeffer (MD ’64) and his wife, Claire, for medical students, based on academic merit and/or financial need.

Dr. John B. Shapleigh Scholarship Fund. Established in 1926 through the bequest of Dr. John B. Shapleigh and supplemented by contributions from Mrs. Shapleigh and Miss Margaret Shapleigh.

Alexander Balridge Shaw Scholarship Fund. Created in 1958 through the bequest of Roy A. Shaw in memory of his father, Dr. Alexander Balridge Shaw.

William T. Shearer and Lynn Des Prez Diversity Scholarship. Created by William T. Shearer, MD ’70, and his wife, Lynn Des Prez. Scholarships are awarded with a preference for under-represented students.

Dr. Edward Hiroshi Shigeoka Scholarship Fund. Created in 1988 by Dorothy F. Shigeoka in memory of her husband, Dr. Edward Hiroshi Shigeoka, to help disadvantaged and deserving students pursue their careers in medicine.

Ernie Simms Scholarship Fund. Founded in 1984 by friends, colleagues and former students of Professor Simms in recognition of his contributions to scholarly research
and teaching in the Department of Microbiology and Immunology.

**Dr. and Mrs. Vergil N. Slee Endowed Scholarship Fund.** Established in 2012 through a bequest from 1941 graduate of the School of Medicine, Dr. Vergil N. Slee and his wife.

**Stanley B. Smith, MD Scholarship.** Established in 2001 in memory of Samuel and Dora Smith, Dr. Smith’s parents, to support student scholarships.

**Dr. Dwight H. Stone Scholarship.** Established by Mr. Dwayne Stone in honor of his brother, Dr. Dwight H. Stone, a 1959 graduate of the School of Medicine.

**Beulah B. Strickling Scholarship Fund.** Established in 1960 with a bequest from Mrs. Beulah B. Strickling.

**Marleah Hammond Strominger Scholarship.** Established in 1971 by Donald Strominger, MD and supported by family and friends of Marleah Hammond Strominger. The recipient shall be a motivated student with need for financial assistance.

**Mary and Ernst Stuehrk Scholarship Fund.** Established in 1987 to assist medical students with documented financial need.

**Edwin H. and Virginia M. Terrill Scholarship Fund.** Established in 1964 with the bequest of Dr. Edwin H. Terrill, an alumnus.

**Betty L. Thompson Scholarship Endowment.** Established in 2001 by Anthony Thompson, in honor of his mother, Betty.

**Mildred Trotter Scholarship Fund.** For students with documented financial need, the fund was established in 1979 by Dr. and Mrs. Paul Guttman, and supplemented by former students of Dr. Trotter, as a tribute to her many years of teaching in the Department of Anatomy.
Hiromu Tsuchiya Scholarship Fund. Created to provide scholarships in the School of Medicine.

Tuholske-Jonas-Tuholske Medical Scholarship Fund. Established in 1974 by Rose T. Jonas in memory of her father, husband and brother. The recipient shall be a senior student preparing to enter the field of surgery, obstetrics and gynecology, or internal medicine.

Cornelia Van Prooyen, MD Scholarship Fund. Established in 1987, the fund provides scholarship support and other financial assistance to female medical students.

George S. and Aspasia N. Vellios Scholarship. Established by Frank Vellios, MD ’46, in honor of his parents. Scholarships are awarded to deserving medical students with financial need.

Louis H. Waltke and Marie Waltke Memorial Fund for Medical Education. Created in 1984 to provide scholarships and fellowships at the School of Medicine.

Dr. Robert A. Weiss Scholarship. Established by Dr. and Mrs. Robert Weiss.

George and Irene Wolf Medical Scholarship Fund. Established by the donors to benefit students in the School of Medicine.

Pamela F. Gallin Yablon, MD Scholarship. Established in 2008 by Dr. Pamela F. Gallin Yablon and Mr. Leonard H. Yablon to support medical students.

Dr. Mitchell and Elaine Yanow Scholarship Fund. Established in 2002 by the children of Dr. and Mrs. Yanow to honor the memory of their parents and to provide support for deserving medical students.

George Zografakis Memorial Scholarship Fund. Created by the family and friends of Dr. Zografakis, a distinguished faculty member in the Department of Surgery.
Loan funds

**Auer-Rosenfeld Memorial Loan Fund.** Established by Mrs. Elizabeth Auer to be used for educational loans to students.

**Dr. John C. Boetto Loan Fund.** Established in 1993 by a bequest from Mrs. Josephine D. Boetto as a memorial to her son to provide loans for deserving medical students.

**Otto W. Brandhorst Loan Fund.** Created in 1985 by the estate of Fern Crawford. This fund supports loans to students in the School of Medicine.

**Dr. Harold A. Budke Loan.** Established in 1998 to provide financial assistance to needy and deserving medical students.

**Harold A. Budke, MD, Loan Fund II.** Established in 2001 with a bequest from the estate of Etta Elise Wedemeyer to provide loans to needy and deserving female students who will practice family medicine, internal medicine or obstetrics-gynecology medicine.

**Class of 1947 Loan Fund.** Established in 1996 by members of the class of 1947 in honor of their 50th reunion.

**Jess K. Goldberg Memorial Loan Fund by Ophelia H. Kooden and Violet G. Sachs.** Created in 1970 to provide zero-interest loans for medical students in memory of the donors’ brother who passed away while attending medical school.

**Health Professions Student Loan Fund.** Established by federal legislation for medical students with a demonstrated financial need. Loans are available for long terms at favorable rates.

**William Randolph Hearst Medical Scholars Loan Fund.** In 1989, the Hearst Foundation provided funding for a new and innovative loan program which provides interest-free loans to students in their last year of study.
Ursula Hecker Loan Fund. Established in 1967 by a bequest from Ursula Lee Hecker for the use and benefit of worthy, deserving and needy medical students.


Horncrest Foundation — School of Medicine Loan Fund. In 1982, the trustees of the Horncrest Foundation approved a proposal on behalf of the School of Medicine to match up to a generous annual cap for five year loan funds solicited by the School. The campaign was extremely successful and now provides loan funds to students with documented financial need.

W. K. Kellogg Foundation Loan Fund. Provides financial assistance to medical students in need of such aid.

Gustel and Edith H. Kiewitt Scholarship Loan Fund. Provides loan funds for medical students.

Medical Scholars Loan Program. Established in 1985 by members of the William Greenleaf Eliot Society, this fund provides an interest-free source of long-term student loans. Annual contributions from alumni and friends support this perpetual and growing resource upon which current and future medical students will draw.

George W. Merck Memorial Loan Fund. Established in 1959 by The Merck Company Foundation, the original purpose of the loan was modified in 1983 to provide loans to graduating students which would help bridge the transition from student to resident physician.


Dr. Lloyd L. Penn and Goldie H. Penn Student Loan. Dr. Penn, MD ’33 established the
fund in 1977 to aid well-qualified and deserving students.

**Perkins Student Loan.** A federal program (formerly National Direct Student Loan) to provide loans to students with financial need. Permits repayment over an extended period at a favorable interest rate.

**Dr. William C. and Elva Pratt Loan Fund.** Established in 1982 for medical students with demonstrated financial need.

**G.H. Reinhardt Memorial Scholarship Loan Fund.** Established in 1947 through the bequest of G. H. Reinhardt.

**Aline Rixman Loan Fund.** Created in 1940 by William Rixman in memory of his wife, the fund is used to alleviate unexpected financial emergencies of medical students.

**James L. and Dorothy Rouner Loan Fund.** Established in 1997 by Dr. James and Mrs. Dorothy Rouner to be used for medical students pursuing a career in primary care–general internal medicine.

**Caroline O. Schlesinger Loan Fund.** Established in 1969 to provide financial support for medical students.

**School of Medicine Student Loan Fund.** Established to make loans to students with documented financial needs.

**Washington University Medical Center Alumni Association Loan Fund.** Provides emergency loans to medical students.

**The Alan A. and Edith L. Wolff Loan Fund.** Established in 1993 by Mrs. Edith L. Wolff to provide loans to students with demonstrated financial need who are in their final year of study for the Doctor of Medicine degree.
Applied Health Behavior Research Admission

Please visit the Applied Health Behavior Research website for admissions information.

Further information:

- Financial Assistance
- Standards for Satisfactory Academic Progress for Financial Aid Eligibility

Audiology and Communication Sciences Admission

Please visit the Program in Audiology and Communication Sciences website for admissions information.

Further information:

- Financial Assistance
- Standards for Satisfactory Academic Progress for Financial Aid Eligibility
Biology and Biomedical Sciences Admission

Please visit the Division of Biology and Biomedical Sciences website for admissions information.

Biomedical Engineering Admission

Please visit the Biomedical Engineering website for admissions information.

Biostatistics Admission

Please visit the Division of Biostatistics website for admissions information.

Further information:

- Financial Assistance
- Standards for Satisfactory Academic Progress for Financial Aid Eligibility
Clinical Investigation Admission

Please visit the Clinical Research Training Center website for admissions information.

Further information:

- Financial Assistance
- Standards for Satisfactory Academic Progress for Financial Aid Eligibility

Doctor of Philosophy Admission

Please visit the Division of Biology and Biomedical Sciences website for admissions information.

Genetic Epidemiology Admission
Please visit the Division of Biostatistics website for admissions information.

Further information:

- Financial Assistance
- Standards for Satisfactory Academic Progress for Financial Aid Eligibility

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Occupational Therapy Admission

Please visit the Program in Occupational Therapy website for admissions information.

Further information:

- Financial Assistance
- Standards for Satisfactory Academic Progress for Financial Aid Eligibility

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Physical Therapy Admission

Please visit the Program in Physical Therapy website for admissions information.

Further information:

- Financial Assistance
Population Health Sciences Admission

Please visit the Master of Population Health Sciences website for admissions information.

Further information:

- Financial Assistance
- Standards for Satisfactory Academic Progress for Financial Aid Eligibility

Public Health

Please visit the Master of Public Health website for admissions information.

Student Life
Students at Washington University of School of Medicine meet the highest academic standards and also possess many talents outside of their studies. With full support and encouragement from the School of Medicine, its students initiate and run a number of student organizations; their missions run the gamut from serving the community to professional development to pursuing personal interests in the arts. Students also participate in intramural sports and fully enjoy all that the city of St. Louis has to offer.

**Intramural Programs**

Students enrolled in Washington University School of Medicine enjoy an active and diverse Intramural (IM) Program. The IM Program offers students the opportunity to participate in a wide range of sports. Utilizing the state-of-the-art facilities in the University’s Athletic Complex, medical students pursue personal athletic interests and enjoy interaction with students enrolled in both undergraduate and graduate degree programs. The IM Program provides an excellent opportunity to socialize with colleagues as well as other graduate students. Differences in curricular demands among participants are considered in scheduling games so that neither academic nor athletic goals are compromised.

The School has always made a strong showing in both the mixed and graduate school division.

For further information about intramural sports, visit the Recreation website.
Student Groups

Students at Washington University School of Medicine are active participants in medical student organizations on the local, state and national levels. The American Medical Student Association (AMSA), the Student National Medical Association (SNMA), the American Medical Women's Association (AMWA), the Asian-Pacific American Medical Students Association (APAMSA), the Medical Student Section of the American Medical Association (AMA-MSS), the Missouri State Medical Association (MSMA), the Organization of Student Representatives (OSR) in the Association of American Medical Colleges (AAMC) and the Student Organized Community Clinic (SOCC) provide forums for addressing the educational, social and political concerns of medical students. The School of Medicine supports student participation in these national organizations and provides partial funding for travel and other expenses on an annual basis. Medical Student Government (MSG) represents the student interests, supports social and educational activities and expands the perspectives of the future graduates of the medical school.

Visit the Office of Medical Student Affairs for a complete list of student groups.

Academic Societies

To foster communication between students and faculty, three academic societies — The Joseph Erlanger and Evarts Graham Society, The Carl and Gerty Cori Society, and The Oliver Lowry and Carl Moore Society — meet independently throughout the academic year to enjoy a social hour, dinner and conversation. The societies promote
a collegial environment for the medical school’s diverse faculty and student body. Medball, held in March of each year, is hosted in part by the academic societies and provides a formal social evening with medical faculty and medical students.

For a complete list of academic societies, visit the Office of Medical Student Affairs.

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Washington University Medical Center Housestaff Auxiliary (WUMCHA)

WUMCHA, the Washington University Medical Center Housestaff Auxiliary (a department of Barnes-Jewish Hospital) is an organization made up of medical students, residents, fellows, attending physicians, as well as the spouses, partners and “significant others” of those affiliated with Washington University Medical Center, including Barnes-Jewish and St. Louis Children’s hospitals, the School of Medicine and Mallinckrodt Institute of Radiology. The purpose of the organization is to provide friendship and social support among its members. In addition to sponsoring numerous recreational and educational activities, WUMCHA provides a welcome guide containing information about relocating to St. Louis and area attractions. Annual dues are $35. Information about membership and applications can be obtained by contacting wumchamembership@gmail.com, or by visiting WUMCHA online.

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Community Service Experience
Participation in a host of community service projects nurtures students’ altruistic nature and provides an alternative educational experience. University-sponsored, student-run, community-based service activities include the Perinatal Project, which provides information concerning well-baby care and prenatal care to women from lower socioeconomic groups.

Students Teaching AIDS to Students (STATS) allows trained medical students to provide sixth- and seventh-graders with information about AIDS. The combined efforts of medical students, faculty, middle school teachers, parents and speakers with AIDS have made STATS a very successful program. The Geriatrics Outreach Program helps prepare students for the challenges and rewards of working with older patients.

Pediatric Outreach Program (POP) matches children in the St. Louis area who are suffering from chronic illnesses and the siblings of these children with big brothers and big sisters from Washington University School of Medicine. Community CPR trains medical students to become instructors in CPR for the medical school curriculum and in the community of St. Louis.

The Mental Health Outreach Program (MHOP) works to increase the awareness of mental health issues among medical students and the general public. The Family Medicine Interest Group works with the local community by providing health screenings and nutritional classes. SPOTS (Sun Protection Outreach Teaching by Students) is piloted to teach middle school students about the dangers of skin cancer and how to protect themselves from the sun.

A newer group, the Public Health Interest Group (PHIG) is a student organization committed to partnering in the St. Louis community to include health screenings, nutrition outreach and public policy discussions. The Smoking Cessation Project works with the American Lung Association Freedom from Smoking Program and students are trained in counseling smoking cessation groups.
Student Publications

Students organize and spearhead several publications at the School of Medicine. The *Dis-Orientation Guide* is produced annually as a student-to-student guide to the curriculum and the city. *Hippocrene* is a literary magazine published once a year where you will find poetry, short stories, essays and photographs submitted by members of the WUSM community.

St. Louis

Situated at the confluence of two great North American rivers — the Mississippi and the Missouri — the St. Louis region has been a favored destination since Lewis & Clark began their historic westward “Corps of Discovery” here in 1804.

Today, the pioneers of St. Louis are the engineers, scientists, business leaders, educators, artists and other innovative and creative professionals who are working at the forefront of a multitude of fields and endeavors. Thanks in large part to Washington University, other regional universities and key Fortune 500 corporations, St. Louis has developed into a national hub for important research and business development, especially in the fields of biotechnology and plant science.

Consistently ranked among the nation’s most affordable and best places to live and raise a family, the St. Louis region offers many opportunities to watch or participate in a wide range of sports, recreational activities and cultural events. Not far from St. Louis’ urban core are the beautiful rolling hills of the Ozark Mountain region and outdoor activities such as hiking, canoeing and spelunking in some of Missouri’s more
than 6,000 caves.

**Cultural opportunities**

New St. Louisans discover the rich cultural life here in theaters, galleries, museums and festivals. The *Saint Louis Symphony*, among the finest in the nation, performs at historic Powell Hall. Symphony members bring their skills to the community through teaching and chamber concerts as well. In the downtown area, the rich St. Louis traditions in jazz, blues and ragtime music are continued in a number of lounges and clubs. The *Community Music School of Webster University* offers community music education to all ages, and COCA (Center of Creative Arts) is the largest multidisciplinary arts institution in the metropolitan area.

The *Opera Theatre of St. Louis* has been enormously successful, nationally and internationally, bringing English-language versions of the classics and presentation of contemporary operas to the stage. The *Repertory Theatre of St. Louis* has an extensive annual season, which includes experimental works and traditional dramas. The Stages St. Louis Theatre Co., *Kirkwood Theatre Guild, West End Players Guild, Act. Inc.* and the *Saint Louis Black Repertory Company* enrich the dramatic offerings available in the immediate area. On campus, Edison Theatre offers the highest quality in national and international programs in theater, dance and music. For open-air summer entertainment, the *Shakespeare Festival of St. Louis* and *The Muny*, both in Forest Park, are prime destinations.

Broadway comes to St. Louis at the *Fox Theatre*, a renovation of a 1929 example of exotic cinema temple art. Galleries sprinkled throughout the area bring current visual arts to St. Louis, while antique shops remind us of the past. The *St. Louis International Film Festival* takes place every fall. Supplementing the standard movie fare available throughout the metropolitan area are two cinemas close to campus, the *Hi-Pointe* and the Tivoli, both offering excellent foreign and independent films.

When the *Saint Louis Art Museum* was built for the 1904 World's Fair, much of the Washington University collection was housed in it. Ties with the Art Museum remain
very close. Students in art and in business intern at the Art Museum, working in arts management and gallery organization. St. Louis also features Laumeier Sculpture Park, which displays large-scale sculptures by artists of international renown.

St. Louis has two major history museums as well: the Missouri History Museum in Forest Park and the Jefferson National Expansion Memorial under the Gateway Arch.

Recreation

For recreation, St. Louisans may use any of the numerous parks that dot the metropolitan area. In Forest Park, which lies between the two Washington University campuses, are the Art Museum, The Muny, Missouri History Museum, the Saint Louis Zoo, municipal golf courses, tennis and handball courts, a skating rink, and acres of paths, picnic areas, gardens and wooded groves. Tower Grove Park is in south St. Louis, and adjacent is the Missouri Botanical Garden, world famous for its research, collections and facilities.

Farther afield, St. Louis residents find outdoor adventure in the countryside beyond the city. In the Ozark Mountains, on the rivers of Missouri, on the lakes of neighboring Illinois, variety abounds. Camping, hiking, floating, rock climbing and caving are among the many possibilities within a few hours’ drive of St. Louis. For those who like to sail, there is Carlyle Lake in Illinois. And for those with rod and reel, Missouri streams are made to order.

The Washington University Athletic Complex provides outstanding resources to athletes at every level of ability. Open to all members of the University community, it includes an eight-lane, 25-meter pool, two gymnasiums, weight rooms, racquetball courts, outdoor tennis courts and a track complex. Built on the site of the 1904 Olympic Games, this facility offers recreational opportunities year-round for students, faculty and staff.

For the spectator, St. Louis is a great sports town. For more than a century, it has hosted one of the oldest traditions in baseball — the St. Louis Cardinals. Dizzy Dean
and the Gashouse Gang, Stan Musial, Lou Brock, Ozzie Smith and Mark McGwire are all part of Cardinal history. The current Busch Stadium opened in spring of 2006 and played host to the 2009 All-Star Game.

The St. Louis Blues hockey team moved here in 1967 and enjoys loyal fans. St. Louis also supports a number of semi-pro sports teams.

**Employment and university ties with St. Louis**

St. Louis is a great place to work; job opportunities are varied and abundant. Many companies are distinguished for their excellent working conditions, and commuting is easier than in many other large cities.

Many major corporations are located here, as are a variety of retail, transportation and banking organizations. Among the top firms are Ameren, Boeing, Edward Jones, Emerson Electric, Enterprise Rent-a-Car and Express Scripts. Many support services have grown up around these corporations — including law, accounting, data processing, advertising, public relations and design firms, as well as photographic and audio-visual studios.

Employing more than 20,000 people, the Washington University Medical Center (WUMC) is made up of the **School of Medicine**, the **Alvin J. Siteman Cancer Center**, **Barnes-Jewish Hospital** and **St. Louis Children's Hospital**. The medical center generates an annual economic impact of nearly $4.3 billion for the St. Louis area, according to an economic model maintained by the St. Louis Regional Commerce and Growth Association.

The **John M. Olin School of Business** at Washington University enjoys a rich and varied partnership with the business community. As a laboratory for internship opportunities, entrepreneurship study, and student practicums offered through Olin's Center for Experiential Learning, St. Louis plays an integral role in the education of business students. In turn, Olin creates value for area businesses by matching top Olin talent with pivotal positions in their firms.
Similarly, the School of Law has close ties with the St. Louis legal community and, through its clinical program, offers internships in private and local government offices and in state and federal courts. In addition, the law school is fortunate in the active and interested role of the local bar associations in the development of the school’s special programs.

The George Warren Brown School of Social Work also is linked in many ways to the St. Louis social work community. Students find practicum assignments throughout the area, and both students and faculty do research and consult with local agencies.

A strong partnership exists between technology-based businesses and industries in St. Louis and the School of Engineering & Applied Science. There is a network of more than 80 faculty members associated with Department of Biomedical Engineering, representing numerous divisions of the university, including many from the School of Medicine.

In addition to their ties to local business, both the Danforth Campus and the School of Medicine at Washington University are dedicated to the support of K-12 education. Students from the medical school participate in a variety of outreach programs, including Students Teaching AIDS to Students (STATS), designed to teach awareness and responsible behavior to junior high school students; the Young Scientist Program, an interactive learning experience that brings high school students to the medical center; and health and preventive programs on drug and sex education.

In short, Washington University enjoys a special relationship with St. Louis.

Interesting St. Louis-area facts

St. Louis has many nicknames, including the “Gateway City,” “Gateway to the West,” “The Mound City,” “St. Louie,” “River City,” and “The Lou.”

There are more free, world-class attractions in St. Louis than any place in the nation outside of Washington, DC.
The Saint Louis Zoo was the first municipally supported zoo in the world and a pioneer in the use of open enclosures, placing animals in natural environments without bars.

Some of the world's favorite foods were popularized and introduced to a wide audience at the 1904 World's Fair in St. Louis. The ice cream cone, iced tea and hamburgers all became food favorites there. It is said that the fair was the first place where hot dogs met French's mustard.

The Eads Bridge over the Mississippi River, near the present site of the Gateway Arch, was the first arched steel truss bridge in the world. When it was first proposed, it was scoffed at as impossible to build. Completed in 1874, it is still in use today.

In 1904, the first World Olympics in the United States and the Western Hemisphere was held in St. Louis at Washington University's Francis Field.

The Cathedral Basilica of St. Louis contains the largest collection of mosaic art in the world.

In 1876, St. Louis hosted the first national political convention west of the Mississippi.

In 1927, a group of St. Louis businessmen gave financial backing to the first solo transatlantic flight from New York to Paris. The pilot was Charles Lindbergh and the plane was named “The Spirit of St. Louis.”

St. Louis' McDonnell Douglas Corporation, now Boeing, designed and built the space capsule that carried the first men into space in the 1960s.

C.L. Grigg, a soft drink salesman, introduced a drink to St. Louisans in 1929 that would eventually become known as 7-Up.
Services

The School of Medicine is fully dedicated to providing an outstanding learning environment in which students are supported in meeting their individual professional goals. Services include:

**Office of Diversity Programs**: Offers programs and services to prepare medical students to become leaders in a global society

**The Office of Education**: Supports School of Medicine educational programs at all levels, including graduate, postgraduate and continuing medical education

**Office of Student Financial Planning**: Guides students through the process of understanding and applying for financial aid

**The Office of Medical Student Education**: Supports all aspects of medical student education for students, faculty and staff

**Office of Medical Student Affairs**: Provides support services in areas of physical and mental wellness, academics, mentoring and shadowing, and extracurricular activities

**Office of the Registrar**: Offers information about obtaining transcripts, access to student records, and tuition payment

**Protective Services**: Protects the Washington University School of Medicine campus and certain off-campus properties

**Transportation Services**: Offers campus parking passes, free passes for MetroLink and MetroBus, and access to shared WeCar services
Financial Aid/Student Financial Planning

For information on financial planning, please visit the Office of Student Financial Planning website.

Housing

Those who come to St. Louis to be associated with Washington University School of Medicine find apartments, houses, condos, lofts, and short-term housing that range in price from $700 to $2,200 per month, all in the immediate area. Apartment Referral Services, located on North Campus, maintains listings of housing appropriate for students, faculty and staff. For information, contact Apartment Referral Services at ars@wustl.edu, Campus Box 1016, 700 Rosedale Ave., St. Louis, MO 63112 or (314) 935-5092. Visit both Quadrangle Housing and Parallel Properties for more information about Washington University-owned housing options.

Olin Residence Hall

The Spencer T. Olin Residence Hall, at 4550 Scott Ave. at the Washington University Medical Center, has accommodations for approximately 144 single men and women
from all programs at the School of Medicine. The building was made possible by generous gifts from Spencer T. Olin, alumni and friends of the School of Medicine. Olin Hall is planned for the convenience of students in the medical or paramedical sciences and includes shared cooking facilities, a gymnasium, weight room and state-of-the-art workout facility, laundry room and penthouse with a recreational area and large-screen television with satellite system. Every effort is made to provide an atmosphere that not only aids residents in meeting their study obligations, but also recognizes their privileges as graduate students. We are dedicated to making your Washington University experience one that you will remember both in and outside the classroom by hosting events that spark your interest with community events. Our professional on-site staff is dedicated to serving your needs!

Phone: 314-362-3230 (normal business hours), 314-362-3100 (after hours)
Website: http://facilities.med.wustl.edu/olin-residence-hall/
Email: olinresidence@wusm.wustl.edu

Facilities

Danforth Chapel: Non-denominational chapel available for student use.

Reber Library: Available for student use for studying and leisure reading. DVD and book rental is also available for resident use. The library includes over 400 DVD's and more than 500 books for free rental.

Student Lounge: Available to all students for leisure and/or studying. The lounge is equipped with comfortable furniture and a large screen television with a state of the art satellite system. The multi-purpose room is available for music practice and small student or class gatherings.

Penthouse: The private 11th floor Penthouse offers striking views of the city and serves as a recreational area for students. Complete with ping pong, shuffleboard, and pool tables, along with a large screen television with satellite system, the Penthouse is a place to kick back and relax. The Penthouse is only available to Olin Students at this
**Dining Facilities:** Dining facilities are located throughout campus. The Shell Cafe', is located just seconds from Olin Hall. The Shell Cafe', serves hot breakfast and lunch as well as snacks and drinks. Food trucks are also occasionally available just outside Olin’s front door. Full kitchens are located on every other floor of Olin Hall and include an oven, stove, microwave, and ice maker.

**Additional Amenities:** Located on the ground floor is a large gymnasium perfect for a basketball or volleyball game with friends. Coin laundry is also available on site. The second floor has a state of the art work out facility reserved for medical school students.

**Accommodations**

Room types available at Olin Hall are singles, large singles, and suites. Single rooms are 12-1/2' x 10' 4-1/2", Large Singles are 15' x 11' and Suites are two rooms consisting of one 10-1/2' X 10-1/2' and one 11' by 10-1/2'.

Each room is provided with an X-long twin bed, chest of drawers, built-in desk, desk chair, and study lamp. All rooms are air conditioned and have mini blinds for privacy. You will be required to provide your own sheets (extra-long twin 36" x 80"), pillow, blanket, towels, rug, fan, alarm clock, and anything else that will make your room feel more like home.

Single and large single rooms consist of a wash basin and medicine cabinet with common bathroom facilities on each floor. Suites consist of a bedroom, study room big enough for a couch or futon, and a private bathroom with full size tub shower, sink, and toilet.

Every other floor within the dorm contains a fully equipped kitchen for use by students. Students may bring a refrigerator (4-cubic feet or smaller), microwaves, and coffee pots for convenience in their rooms.
Network service is provided to the resident free of charge. Phone and cable are available at the student’s expense.

Parking

Parking for a limited number of cars, at a monthly or yearly fee, is available at the Clayton-Taylor garage located just east of the Olin Residence Hall. For more information, please contact the Facilities Service Center at 314-362-3100 or wusmfacilities@wusm.wustl.edu.

Rates for 2016-2017

School Year: August-Mid May (Nine months)

Current Resident
Single Room: $5,193
Large Single: $6,228
Solo Suite: $7,569

12 month contract
Single Room: $6,672
($556 per month)
Large Single: $8,040
($670 per month)
Solo Suite: $9,768
($814 per month)
Medical Student Carrels, Lockers and Mail

Medical student carrels

The Farrell Learning and Teaching Center (FLTC) offers study carrels at no cost for every first- and second-year student. The carrels are equipped with personal desk space, secure storage and data ports. Third-floor carrels and keys are distributed to all incoming medical students during 1st year orientation. Rising 2nd year students will receive new carrels on the 4th floor subsequent to an email notification at the end of their 1st year. (i.e., old keys from prior year will need to be returned.) A $10 fee is assessed for lost keys..

Lockers

Student lockers with combination padlocks are available for use on the third and fourth floors of the Farrell Learning and Teaching Center. Locker assignments are made by the Registrar's Office for a nominal fee to cover the cost of the padlock. Only padlocks issued by the Registrar's Office may be used. Students interested in being assigned a locker should email the Registrar’s office.

Postal mail

If the Office of Student Services or the Registrar’s office receives postal mail for a medical student, the student will be notified via email about the delivery. First-class student postal mail sent to the School of Medicine for first- and second-year students will be put in student mailboxes located on the third and fourth floors of the FLTC. This can serve as a temporary mailing address until new students are settled in St. Louis. It is important that mail addressed and sent to the School of Medicine include both student name and year, as follows:
Voter Registration

The Gephardt Institute for Civic and Community Engagement has partnered with TurboVote to offer online voter registration in all 50 states, including text and email reminders before elections. All members of the WashU community are encouraged to use this convenient service.

TurboVote handles online voter registration in all states that support it, and will facilitate paper registration in states that require it (they will mail you a completed form to sign and send in!). Once you sign into TurboVote (a free service), you may change your address and re-register in a new municipality at any time.

If you are already registered as a voter, you may sign in to request text and email reminders before elections.

WashU Votes

Washuvotes.wustl.edu is the central hub for all things Election 2016 at Washington University in St. Louis. On the site, you will find a calendar of important dates and events related to the election, details about how to apply for funding of debate related programs, and important voter registration information. Like our page on Facebook to receive live updates about Election 2016 at WashU.
Resources

For more information about selecting which state to register in or checking the status of your voter registration, please visit washuvotes.wustl.edu/registration.

You may also register directly through the Missouri Secretary of State website.

If you have any questions or would like to get involved with our voter engagement efforts, please email washuvotes@wustl.edu.

Office of Diversity Programs

For more information on diversity at the School of Medicine, please visit the Office of Diversity Programs website.

Office of Education

For more information on education at the School of Medicine, please visit the Office of Education website.
Office of Medical Student Education

For more information about medical student education, please visit the Office of Medical Student Education website.

Office of Medical Student Affairs

For more information about medical student affairs, please visit the Office of Medical Student Affairs website.

Parking and Transportation (UPass and Enterprise CarShare)

Hourly, daily and permit parking is available in the 2300-space School of Medicine Clayton Garage (corner of Clayton and Taylor avenues) and also in 800 WUSM spaces in the Duncan-Central Garage. Parking in patient or visitor spaces by faculty, staff or students is strictly prohibited at all times. Parkers must establish parking to park in the garages or lots during business hours Monday through Friday, 7 a.m. to 4 p.m.
Additional information, maps and fees are available the Parking and Transportation section of the Facilities Management Department website. Requests for parking information can be directed to the Facilities Integrated Service Center (FISC) on the First Floor of Olin Hall.

For those who occasionally drive to the medical school, you can purchase a Prepaid Exit Pass for the Clayton Garage. The exit pass can be purchased in advance at the FISC desk.

Shuttle service is available for transportation from one site to another within the Medical Campus in accordance with specific shuttle schedules. If additional information, maps or shuttle schedules are needed, please visit the Facilities website.

Students living in the Central West End or Skinker/DeBaliviere neighborhood can ride the dedicated shuttle service during the evening hours. The brochure can be found online.

If you are a registered full-time student of Washington University, Washington University School of Medicine, or a benefit-eligible employee of the same, you can register for a U-PASS online. There is no charge for the U-PASS.

For those needing a car to run an errand or for overnight, we have a car-sharing program. Simply print the agreement and within three to six business days after membership approval, you will be issued your personal key fob and customer PIN number. Then go online and reserve a time.

Registrar's Office
Security

Security at the School of Medicine is the responsibility of WUSM Protective Services. Uniformed Protective Services Officers are on duty 24 hours a day, seven days a week to provide for personal safety, reduce the opportunity for crime, apprehend law violators, provide crime prevention and awareness training and assist in enforcement of University rules and regulations. Armed Response Officers and unarmed Public Safety Officers are radio-dispatched. They respond immediately to telephone calls made to (314) 362-4357. Officers patrol the campus on foot, on bicycles and in marked mobile units. Contract Agency guards staff a few fixed posts to supplement the in-house officers.

The Medical School access control program makes the campus accessible after hours and on weekends. Faculty, staff and students are issued a photo identification badge that identifies the wearer as a member of the medical school community. The badge has a magnetic strip that activates the computerized door lock entrances to the School’s buildings. These entrances have two-way intercoms for direct communication with Protective Services’ Communications Officers, as do direct-ring telephones located outside selected campus buildings and “Code Blue” emergency telephones on surface parking lots and in the garages.

Each year Protective Services publishes a summary of statistical information concerning campus crime, as required by federal law, on the WUSM Facilities website. This information may be found under “Campus Crime Statistics 2013-2014-2015.” A daily crime log, information on crime prevention tips and the many services and
programs provided by Protective Services also appear on the web. For a printed copy of the annual security report, contact Washington University School of Medicine, Protective Services Department, Campus Box 8207, 660 S. Euclid Ave., St. Louis, MO 63110, or by calling (314) 362-0460. You can also print out the report online.

Student Health Services

**Director:** Karen S. Winters, MD  
**Information/Appointments:** (314) 362-3523  
**Billing/Benefits:** (314) 362-2346

For a complete description of benefits please visit the [Student Health Services](#) website.

The Student Health Service provides a complete service for full-time students registered in the School of Medicine. The WUSM Student Health Service provides preventative and therapeutic health benefits through a mandatory self-funded program of services available to all full time medical degree seeking students and their eligible dependents. The goal of the Student Health Service is to deliver efficient, accessible, high-quality essential medical care in order to prevent and treat health problems that may interfere with a student’s education and professional goals while attending WUSM. The Student Health Service is under the direction of Karen S. Winters, MD. Benefits provided through this service include: ambulatory patient services, emergency services, ambulance services, hospitalization, maternity and newborn care, on and off campus mental health, including behavioral health treatment, prescription drugs, allergy services, physical therapy services, dermatology
services, rehabilitative and habilitative services and devices, laboratory service, x-rays, preventive and wellness services, and chronic disease management, vision and dental care, and pediatric services. Students also receive disability and life insurance. Most medical care will be provided at no cost, except for applicable deductibles or co-pays.

The Student Health Service is a multidisciplinary facility conveniently located on campus and dedicated to providing quality health care to WUSM students and their covered family members. The well-qualified staff consists of physicians, nurses, psychologists, and other medical support personnel. The Student Health Service offers easy access to medical and psychiatric care so that physical and emotional problems will not interfere with university life.

The Health Service is open Monday through Friday from 8:00 a.m. to 4:00 p.m. The Student Health Service is closed Saturday, Sundays and University holidays. Services are available by appointment at 4525 Scott Ave., Suite 3420. The Health Service offers an after-hour phone service monitored by Dr. Winters. Students may call 362-3526 after hours for non-urgent care.

There are no lifetime or annual limits on Essential Health Benefits that the Student or Covered Dependent may claim from Student Health Services. However, covered services that are Non-Essential Health Benefits are subject to a $2,000,000 per person annual benefit limit on all benefits covered by Student Health Services. Once you have reached the annual benefit limit, you will be responsible for 100% of all Non-Essential Health Benefits. The responsibility of the Student Health Service for hospitalization and emergency care will end 30 days after an individual ceases to be an officially enrolled student.

The Health Service pre-screens every incoming student prior to their arrival at the School to ensure all federal requirements have been met regarding communicable diseases. Entering students are required to have a medical examination and tuberculosis testing within one year of matriculation and to provide proof of immunity to measles (rubeola), rubella and mumps, varicella, hepatitis B and a tetanus-diphtheria (tdap at least one dose required since 2005). The Health Service tracks all
immunizations during and prior to enrollment. Statements of Health for internships and practicums are provided.

**Spouses, dependents**

Students may enroll their eligible dependents in the Student Health Service by paying an additional Student Health Service access fee. Students may enroll dependents into this program only at the following times: At the time the student enrolls in WUSM (at student matriculation), or within thirty-one (31) days of a Qualifying Event. If a student elects to enroll his or her eligible dependents at matriculation, coverage for dependents will become effective on the same date the covered student's benefits become effective, provided enrollment for the dependents occurs on or before the deadline. No enrollment for dependents is allowed after the deadline unless a Qualifying Event occurs. Dependent coverage terminates when the student's coverage terminates or when the dependent no longer meets the definition of a Dependent as described above, if earlier.

**Dental care**

Benefits provided by Student Health Service for injury to a sound natural tooth only. Coverage for injury to a sound natural tooth is 100% of the first $300 of expenses, and 80% of the balance, not to exceed $1,000 as a result of any one accident. Student Health Services will provide a list of private dentists upon request.

In addition to the benefit provided by Student Health Service, all eligible full-time students registered in the medical and allied professional schools of the Medical Campus and their enrolled dependents will be covered by a prepaid dental plan through Assurant Employee Benefits Heritage. All full-time students are covered automatically, with the coverage premium paid for by WUSM Student Health Service. There are no enrollment forms for the student to complete. However, you will NOT officially have coverage until a participating dentist is selected. To select a participating dentist, you may call Assurant Customer Service at (800) 443-2995 or visit their web site at www.assurantemployeebenefits.com. You must select a participating general
dentist in Assurant’s Heritage network before you can use your benefits. This plan is available to your family members as well for the yearly premium; see Student Health Benefit office for details.

Counseling services

Students at the Medical Center may have concerns over poor concentration, ineffective study habits, anxiety over their performance, low self-esteem, relationships, grief or depression. The psychiatry and clinical psychology staff members are available to help students cope with these concerns. Initial evaluations are made at the Student Health Service. Subsequent care may be at the Medical Campus or a designated physician’s office. Call 362-3523 for more information. All records are confidential and may not be reviewed by anyone without the student’s written consent.

In addition, Student Health Service provides a Student Assistance Program (SAP) for all enrolled students and their immediate family members. This prepaid benefit is offered as a way to help our Students resolve issues that may have an impact upon their personal lives and their school performance.

The SAP provides confidential, professional assistance to full-time enrolled students and their family members to help resolve problems that are affecting their personal life or school performance. The program is managed by ENI, a nationally known professional consulting firm specializing in SAP services.

Students can contact ENI 24 hours a day, seven days a week to arrange a confidential appointment with an SAP specialist. SAP specialists have professional training and expertise in a wide range of issues such as academic problems, eating disorders, credit problems, adjusting to school, marriage and family problems, alcohol and drug abuse, emotional and psychological concerns, financial difficulties, stress and much more.

The SAP can be reached by calling (800) 327-2255 and selecting prompt #3.

Disability insurance
All students are covered by group disability insurance. A student who is completely disabled for six consecutive months is eligible to receive $500 per month benefit. Coverage increases to $1,500 per month in the third year. Individual disability policies are issued to fourth-year students, increasing the total monthly benefit to $2,000. Individual policies are portable, guaranteed issue and can be increased after graduation up to a maximum $4,700 per month benefit. Call 362-2346 for more information.

**Life insurance**

All eligible full-time students registered in the Washington University Medical School and allied professional schools are covered automatically, premium paid for by WUSM Student Health Service. An enrollment form listing your beneficiaries is required to complete enrollment. In brief, the term life insurance plan and AD&D plan for medical students and affiliated programs provided by Guardian is as follows: term life plan provides $10,000 of term life insurance and the AD&D plan $10,000 of accidental death and dismemberment protection. A detailed description of the plan is available at Student Health Services.

Upon graduation, you can convert the amount of your term life insurance to a participating whole life plan underwritten by Guardian.

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**The School of Medicine's official course catalog**

The Bulletin of Washington University School of Medicine presents the academic policies, services, and course and degree program offerings of the school. It also includes academic calendars, leadership and directories for faculty, students and staff.
Departments

Washington University School of Medicine has 20 academic departments, all of which support the School's tripartite mission of conducting outstanding patient care, education and research. The School excels applying a multidisciplinary approach to all its endeavors, allowing faculty to easily cross administrative boundaries to address medicine's biggest challenges.

For more information about the faculty, please visit Faculty at a Glance.

For more information about department research, please visit Research Activities.

For more information about departmental educational activities, please visit the departmental links at left.

Department of Anesthesiology

Anesthesiology is a medical specialty encompassing a broad range of medical and scientific activities. The clinical practice of anesthesiology includes:

1. assessment of, consultation for and preparation of patients for anesthesia and surgery;
2. provision of insensitivity to pain during surgical, obstetric, therapeutic and
3. monitoring and restoration of physiologic homeostasis during the perioperative period, as well as homeostasis in the critically ill or seriously injured patient;

4. diagnosis and treatment of painful syndromes; and

5. clinical management and teaching of cardiopulmonary resuscitation (CPR).

The realm of scientific investigation in anesthesiology also spans a broad range. Scientific efforts at the cellular and molecular levels are directed to understanding the molecular mechanisms of anesthesia and analgesia. Clinical research in anesthesia includes broad epidemiological approaches to identifying indicators of outcome as well as prospective clinical studies examining new technologies, anesthetic agents and methods.

The Department of Anesthesiology presents the student with the opportunity to:

1. acquire and apply pharmacologic knowledge related to anesthetic, narcotic, paralytic and sedative drugs and to drugs affecting the autonomic nervous system;

2. understand and apply the basic principles of airway management and mechanical ventilation;

3. understand and apply the principles of cardiopulmonary resuscitation;

4. understand and apply the technical skills and anatomic and pharmacologic knowledge used in performing regional nerve blocks;

5. learn and apply the fundamental principles of acute and chronic pain management; and

6. learn and apply the basic principles of critical care medicine.

Anesthesiology bridges the gap between basic science and clinical medicine. It provides experience in the clinical evaluation and management of patients, and in applied physiology and pharmacology. The Department of Anesthesiology offers
student experiences in the operating room, the intensive care unit, the pain clinic and the laboratory.

This clerkship introduces all of the basic aspects of anesthetic practice, including preoperative assessment, intraoperative anesthetic administration, placement and interpretation of invasive and noninvasive physiologic monitoring, airway management and regional anesthetic administration. Students taking this clerkship work one-on-one with attending anesthesiologists and are an integral part of the anesthetic care team. By the end of the clerkship, the student should be able to provide (under supervision) anesthesia for an uncomplicated surgical procedure. This rotation offers a unique opportunity for the student to work directly with attending physicians and to acquire fundamental skills (airway management, invasive monitoring, regional anesthesia) applicable to all aspects of acute medicine.

Students who have taken the anesthesia clerkship in the third year may elect to repeat this rotation in the fourth year. These students will be exposed to more complicated cases and techniques, and will be given increased responsibility for perioperative patient management. Students who have taken the clerkship in the third year also may elect to take an elective in the subspecialty areas of Cardiothoracic Anesthesiology, Pediatric Anesthesiology, Obstetric Anesthesiology or Anesthesia for Neurosurgery. Visit Department of Anesthesiology Courses for more information. Students taking these electives will be exposed to surgical cases of increased complexity requiring specialized invasive monitoring and anesthetic techniques.

Four-week electives are also offered in surgical critical care and cardiothoracic critical care. In these electives, the student is an integral part of the intensive care team. Students learn techniques of mechanical ventilation, hemodynamic monitoring, resuscitation and vasoactive drug treatment while managing all aspects of patients assigned to their care.

The clerkship in pain management offers the student the opportunity to participate in comprehensive, multidisciplinary management of acute, chronic and cancer pain problems. Students will be expected to assist in the care of both inpatients and
outpatients. Students will learn fundamental aspects of pain management, which should provide the knowledge with which to manage routine acute and cancer pain in their subsequent practice.

Special electives in basic science research as it applies to anesthesiology can be arranged with the principal investigators in the Department of Anesthesiology, in the Anesthesiology Research Unit and the Washington University Pain Center under the direction of Rob Gereau, PhD or the Division of Clinical and Translational Research under the direction of Evan Kharasch, MD, PhD.

These laboratories focus on various aspects of molecular neurobiology, including ion channel structure and function; G-protein molecular biology; molecular mechanisms of volatile anesthetic action; genetics of anesthetic responsiveness; and the molecular, cellular and genetic basis of acute and chronic pain. Arrangements for these special electives are made through the specific investigators: Walter A. Boyle III, MD; Zhou-Feng Chen, PhD; Alex S. Evers, MD; Narasimhan Gautam, PhD; Richard S. Hotchkiss, MD; Christopher J. Lingle, PhD; Joseph H. Steinbach, PhD; Michael Bruchas, PhD; Yu-Qing Cao, PhD; or Robert W. Gereau, PhD. In addition, opportunities exist for clinical research in the Clinical Research Division, under the direction of Evan Kharasch, MD. PhD.

For more information

Please visit the Department of Anesthesiology website for more information.
Electives

M10 805 ANESTHESIOLOGY

Instructor(s): Jake Aubuchon, MD; Tracey Stevens, MD; and Thomas Cox, MD

Location: Barnes-Jewish Hospital, South Campus; Department of Anesthesiology, Third Floor

Elective Contact: Maurice Rackley, 314-362-2446

Other Information: Please contact the department student secretary, Maurice Rackley, 314-362-2446 prior to the elective for specific instructions. Students should meet in the Clinical Simulation Center, 3rd floor Barnes-Jewish Hospital Service Building, 8:30 a.m. first day of elective.

Enrollment limit per period: 2

Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This clinical elective is designed to familiarize the student with basic aspects of anesthesiology practice. The primary teaching method is patient care in a clinical setting (one-on-one). The student will learn the basics of preoperative evaluation of surgical patients, the use of intraoperative monitoring in patient management and postoperative care. During the 4 week rotation, the student will learn airway management skills, practical perioperative fluid and electrolyte therapy, along with general and regional anesthetic techniques. As an integral part of the anesthesia care team, the student will participate actively in the anesthetic management of surgical patients. The student’s specific requests to be assigned to certain types of cases will be honored as time and availability dictate. The rotation will include 3 clinical simulator sessions using a simulator mannequin for practical management of airway problems, resuscitation and trauma emergencies. By the end of the rotation, the student should be able to independently (under supervision) provide anesthesia for uncomplicated surgical procedures. NOTE: Presence and participation in the three Friday Simulator Sessions and the Presentation on the last day of the rotation are required to receive a grade. If there is a conflict with attendance, prior arrangements can be made to accommodate the student.

Student time distribution: Inpatient 85%, Conferences/Lectures 15%; Subspecialty Care
Major teaching responsibility: Jake Aubuchon, MD
Patients seen/weekly: 15

On call/weekend responsibility: Medical students are required to take one call shift during their rotation, either in the main operating rooms or in the obstetrical suite any evening or weekend during the rotation.

M10 811 CARDIOTHORACIC ANESTHESIOLOGY
Instructor(s): Rashmi Rathor, MD, 314-362-5111
Location: Barnes-Jewish Hospital, South Campus
Elective Contact: Lydia Swink, 314-362-1196
Other Information: Students should meet at the offices of the Division of Cardiothoracic Anesthesia, 3rd Floor Barnes-Jewish Service Building, 9:30 a.m. first day of elective.
Enrollment limit per period: 2
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This clinical elective offers practical experience in the perioperative assessment and management of surgical patients undergoing cardiothoracic procedures. The student, as an integral part of the cardiothoracic anesthesia team that is composed of faculty members, fellows and residents, will learn basic principles of airway management and lung ventilation, essential aspects of pharmacologic treatment of hemodynamic abnormalities and cardiac dysrhythmias, and management of intraoperative coagulation disturbances. Emphasis will be placed on the interpretation of intraoperative hemodynamic data, echocardiographic finding (TEE), and laboratory results. During this rotation, the student will also gain practical experience in endotracheal intubation as well as the placement of intravenous lines and invasive monitoring lines, including radial artery and pulmonary artery catheters. Students will learn how to use these parameters in clinical decision making during anesthesia. At the conclusion of the rotation, the student will have a better understanding of invasive monitoring and data interpretation, as well as a more systematic approach to the
management of intra- and post-operative hemodynamic, pulmonary and coagulation abnormalities. The students are expected to attend the didactic sessions of CTA and the Department of Anesthesiology. A presentation will be assigned.

Student time distribution: Inpatient 100%; Subspecialty Care 100%
Major teaching responsibility: Rashmi Rathor, MD
Patients seen/weekly: 15
On call/weekend responsibility: None

M10 812 PEDIATRIC ANESTHESIA
Instructor(s): Kelly Chilson, MD; Gary Hirshberg, MD; Tessa King, MD; and David Murray, MD, 314-454-6215
Location: 5th Floor, St. Louis Children’s Hospital
Elective Contact: Kelly Chilson, MD, 314-454-6215, John McAllister, MD
Other Information: Students should contact Samantha Gurney, 314-454-4572, one week prior to the start of the elective.
Enrollment limit per period: 3
Valid start weeks for 4-week blocks are: Weeks 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This clinical elective is designed to teach the theory and practice of pediatric anesthesiology and pain management. It features individualized instruction with faculty who specialize in the perioperative care of pediatric patients. The elective consists of four weeks of active participation with pediatric anesthesiologists at St. Louis Children’s Hospital and St. Louis Shriners Hospital learning preanesthetic assessment, the performance of routine anesthetics (which includes instruction and practice in pediatric airway skills), learning other technical skills such as intravenous line placement and the management of post-anesthesia care and pain therapies. The final week may be tailored to meet the student’s individual interests, needs and career goals. Possibilities include exposure to sedation and anesthesia for procedures outside of the operating rooms, and to subspecialties including cardiovascular anesthesia, neurosurgical anesthesia, and acute and chronic pediatric pain management. Students also will have an opportunity to learn the management of some common medical emergencies in the Clinical Simulation Center.
Student time distribution: Inpatient Surgery 5%, Outpatient Surgery 80%, Conferences/Lectures 15%; Subspecialty Care 100%

Major teaching responsibility: Attending, fellows and senior anesthesiology residents; students will generally spend most of each day with a single attending or senior anesthesiology trainee (fellow or resident).

Patients seen/weekly: 25

On call/weekend responsibility: None

M10 819 CARDIOTHORACIC CRITICAL CARE

Instructor(s): Charl de Wet, MD, Course Master; Michael Avidan, MD; Keki Balsara, MD; Heidi Coco, DO; Julianne Donnelly, MD; Daniel Emmert, MD; TJ Graetz, MD; Mohammad Helwani, MD; Faraz Masood, MD; Clare Ridley, MD, and Adnan Sadiq, MD

Location: Barnes-Jewish Hospital, Southwest Tower

Elective Contact: Maureen Arends, 314-747-4155

Other Information: Students should meet in the Cardiothoracic Intensive Care Unit, 5600 ICU, 5th Floor Southwest Tower Physician Workroom, 6:30 a.m. first day of elective.

Enrollment limit per period: 3

Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This clinical elective offers practical experience in the postoperative management of cardiothoracic patients. The student will be fully integrated into the intensive care team and have the opportunity to contribute to the management of critically ill patients. Students will be afforded the opportunity to follow specific patients over the course of their stay on the ICU, during which time they will gain insight into holistic management of patients with multi-organ dysfunction. The CTICU environment is both challenging and exciting. Cardiorespiratory physiology and pharmacology will be demonstrated at the patients’ bedside, an invaluable and unforgettable learning experience. Students will have numerous opportunities to learn and sometimes assist with procedures, such as central lines, chest tubes, bronchoscopy and pulmonary artery catheter insertion. Principles of management and resuscitation of hemodynamically unstable patients following surgery will be emphasized. Students
will also see and help manage patients on ventricular assist devices, ECMO and following heart and lung transplantation. At the conclusion of the rotation, the student will have a better understanding of shock, sepsis, multi-organ failure, organ system support and compassionate withdrawal of life support. In addition to bedside teaching, there will be informal teaching sessions on a wide variety of topics as well as teaching on interpreting cardiac echo exams. Students will be encouraged to present on their patient at morning ward rounds, during which constructive feedback and interactive teaching will occur. Students will present on a topic related to one of their patients at the end of the block.

Student time distribution: Inpatient 100%; Subspecialty Care 100%
Major teaching responsibility: CTICU attendings
Patients seen/weekly: 21
On call/weekend responsibility: During the 4-week rotation, you are asked to take a weekday call (day of your choice). You will come in at 4:00 p.m. and leave the next morning after you have presented your patients on morning rounds. In addition during the 4-weeks rotation, you are asked to take a weekend call (again your choice) Saturday or Sunday shift 6:00 a.m. to 7:00 p.m.

M10 820 CRITICAL CARE
Instructor(s): Heidi Coco, DO, Course Master, 314-362-1196; Enyo Ablordeppey, MD; Chukwuma Apakama, MD; Walter Boyle, MD; Grant Bochicchio, MD; Sara Buckman, MD; Julianne Donnelly, MD; Eleanor Drew, MD; Anne Drewry, MD; Stephen Eaton, MD; Daniel Emmert, MD; Alex Evers, MD; Brian Fuller, MD; Thomas J. Graetz, MD; Mohammad Helwani, MD; Richard Hotchkiss, MD; Kareem Husain, MD; Obeid Ilahi, MD; Jacob Keeperman, MD; Paul Kerby, MD; Justin Knittel, MD; John Kirby, MD; John Mazuski, MD; Tiffany Osborn, MD; Christopher Palmer, MD; Patricia Penkoske, MD; Clare Ridley, MD; Adnan Sadiq, MD; Doug Schuerer, MD; William Symons, MD; Isaiah Turnbull, MD; Jessica Zenga, MD; Brian Wessman, MD
Location: Barnes-Jewish Hospital, South Campus
Elective Contact: Barbara McKinney, 314-747-3581
Other Information: Students should meet in the 4400 Surgical Intensive Care Unit, 4th Floor of Barnes-Jewish Hospital at 7:00 a.m. on the first day of the elective.
Enrollment limit per period: 4
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Students on this rotation are integral members of the multidisciplinary intensivist-led critical care team in the Surgical Intensive Care Unit (SICU). Students learn an organ systems-based approach for evaluation and management of critically ill and injured patients, and application of evidence-based principles in delivery of state-of-the-art critical care. Emphasis is placed on critical care knowledge and techniques used at the bedside in the clinical management of serious traumatic and surgical conditions. Students become familiar with resuscitation and cardiopulmonary support, including methods for non-invasive and invasive hemodynamic monitoring, and techniques for airway management and pulmonary support in respiratory failure. Basic knowledge and skills in the management of neurologic injuries, liver and/or renal failure, and life-threatening infections in the surgical patient are also taught, as is the importance of treatments to alleviate anxiety and pain, maintain fluid and electrolyte balance, and provide adequate nutrition. Practical experience is gained in placement of vascular access devices, interpretation of laboratory data, and use of guidelines, protocols and quality assurance tools in the management of critically ill patients.

Student time distribution: Inpatient 80%, Conferences/Lectures 20%; Subspecialty Care 100%
Major teaching responsibility: ICU Attendings and Fellows
Patients seen/weekly: 50
On call/weekend responsibility: Variable

M10 821  PAIN MANAGEMENT
Instructor(s): Folasade Oladapo, MD, 314-747-0202
Location: Barnes-Jewish Hospital, South Campus
Elective Contact: Folasade Oladapo, MD, 314-747-0202, oladapof@anest.wustl.edu
Other Information: Students should report to 14th Floor CAM Building, 8:00 a.m. first
Acute pain is the most common symptom of medical illness and is ubiquitous after major surgery. Chronic pain is the leading cause of worker disability. Severe pain afflicts most people with advanced cancer. Learning the fundamentals of pharmacologic, interventional, and multidisciplinary pain management is important for all areas of clinical medicine. Rotation is based at Barnes-Jewish Hospital with focus adjusted to meet student’s interest and career plans.

Student time distribution: Inpatient 30%, Outpatient 60%, Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attendings
Patients seen/weekly: 70
On call/weekend responsibility: No on-call responsibility

M10 822 ANESTHESIA FOR NEUROSURGERY
Instructor(s): René Tempelhoff, MD, 314-362-2330 and M. Angele Theard, MD, 314-362-1460
Location: Barnes-Jewish Hospital, South Campus
Elective Contact: René Tempelhoff, MD, 314-362-2330
Other Information: Students should meet on 3rd Floor Barnes-Jewish Hospital, South Campus, Department of Anesthesiology, 7:00 a.m. first day of elective. Enrollment limit per period: 1
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Students will help care for patients having challenging neurosurgical procedures. Students will become familiar with complex procedures, brain monitoring, cardiovascular support and airway management and will be exposed to all kinds of neurosurgical pathology. Student must be prepared to participate in the intricate anesthetic management of patients undergoing surgery in our novel intraoperative
MRI rooms. For those interested, clinical research projects are ongoing and student participation is encouraged.

Student time distribution: Inpatient 80%, Conferences/Lectures 20%; Subspecialty Care 100%
Major teaching responsibility: Attending, fellow, and senior resident
Patients seen/weekly: 8
On call/weekend responsibility: None

**M10 823 OBSTETRICAL ANESTHESIA**
Instructor(s): Swarup Varaday, MD, 314-362-6252
Location: Barnes-Jewish Hospital, South Campus
Elective Contact: Swarup Varaday, MD, 314-362-6252 or 314-362-2628
Other Information: Students should report to 5400 Labor and Delivery, 7:00 a.m. first day of elective. Enrollment limit per period: 1
Valid start weeks for 2 or 4-week blocks are: Weeks 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, and 43.

The medical students will learn the different analgesia/anesthetic options for the labor patient. They will also learn how the physiological adaptations of pregnancy influence anesthetic management. They will be actively involved in the parturient’s management, i.e., starting an IV, placement of spinal, epidural or CSE (combined spinal epidural) anesthetics. They will also attend the OB anesthesia conferences and interview patients in labor (with an OB anesthesia attending).

Student time distribution: Inpatient 90%, Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attending, Senior Resident
Patients seen/weekly: 20
On call/weekend responsibility: None (optional)
Faculty — Anesthesiology

Alex S Evers
Henry E Mallinckrodt Professor of Anesthesiology (primary appointment)
Head of the Department of Anesthesiology
Professor of Developmental Biology
Professor of Medicine
BS Yale University 1974

Enyo Ama Ablordeppey, M PH, MD
Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Emergency Medicine in Medicine
M PH University of Pittsburgh 2007
MD University of Pittsburgh 2007

Sirajuddin Agha
Assistant Professor of Anesthesiology (primary appointment)

Gustav Akk, PHD
Assistant Professor of Anesthesiology (primary appointment)
BS Moscow State University 1991
PHD State Univ of NY Buffalo 1997

Ream Al-Hasani, PHD
Instructor in Anesthesiology (primary appointment)
PHD University of Surrey 2009

Umeshkumar Athiraman, MD
Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)
MD M.G.R. Medical University 2013

Jacob D AuBuchon
Assistant Professor of Anesthesiology (primary appointment)
Michael Simon Avidan, MBBCH
Professor of Anesthesiology (primary appointment)
Professor of Surgery (Cardiothoracic Surgery)
MBBCH University of the Witwatersra 1991

Arbi Ben Abdallah, PHD
Assistant Professor of Anesthesiology (primary appointment)
PHD Washington Univ in St. Louis 2011

George Richard Benzinger III, MD
Associate Professor of Anesthesiology (primary appointment)
MD University of Chicago 2000

Adam J. Bloom, PHD
Assistant Professor of Psychiatry (primary appointment)
Assistant Professor of Anesthesiology
PHD Washington Univ in St. Louis 2006

Laila M Bottros, MD
Assistant Professor of Anesthesiology (primary appointment)
MD Ain Shams University 1977

Michael M Bottros
Assistant Professor of Anesthesiology (primary appointment)

Walter A Boyle III, MD
Professor of Anesthesiology (primary appointment)
Assistant Professor of Developmental Biology
Professor of Surgery (General Surgery)
MD University of CA San Francisco 1977

Sarah Michelle Brown
Assistant Professor of Pediatrics (primary appointment)
Assistant Professor of Pathology and Immunology
Instructor in Anesthesiology

Michael Raymond Bruchas, PHD
Associate Professor of Anesthesiology (primary appointment)
Associate Professor of Neuroscience
PHD Creighton University 2004
Yuqing Cao
Associate Professor of Anesthesiology (primary appointment)
Laura Francesca Cavallone
Assoc Professor of Anesthesiology (primary appointment)
Zhoufeng Chen
Professor of Anesthesiology (primary appointment)

Professor of Psychiatry

Ziwei Chen, PHD, MS, MBBS Assistant Professor of Anesthesiology (primary appointment)
PHD Peking University 2001
MS Dalian Medical University 1998
MBBS Dalian Medical University 1995
Kelly Lynne Chilson, MD Associate Professor of Anesthesiology (primary appointment)
MD University of MO St Louis 1999
Heidi Atwell Coco, DOST Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
BS Truman State University 2000
DOST Kirksville College of Osteopath 2005
Albert Murray Cohen, MD Assistant Professor of Anesthesiology (primary appointment)
MD Baylor University 1977
Zachary Robert Cohen, MD Assistant Professor of Anesthesiology (Pending Executive Faculty Approval) (primary appointment)
MD University of Illinois 2010
Douglas Floyd Covey, MA Professor of Pharmacology in Developmental Biology (primary appointment)
Professor of Anesthesiology
Professor of Psychiatry
BS Loyola College 1967
MA Johns Hopkins University 1969
Thomas E Cox, MD Professor of Anesthesiology (primary appointment)
BA Johns Hopkins University 1981
MD University of Virginia 1985
Sarah Marie Dance, MD Instructor in Anesthesiology (primary appointment)
MD Univ of Nebraska Med Center 2009
Bakul Dave, MD Assistant Professor of Anesthesiology (primary appointment)
MD1 University of Toledo 1997
MD BJ Medical College 1984
Victor G Davila-Roman, MD Professor of Medicine (primary appointment)
Professor of Radiology
Professor of Anesthesiology
MD University of Puerto Rico 1981
BS University of Puerto Rico 1977
Charl Johan De Wet
Associate Professor of Anesthesiology (primary appointment)
Associate Professor of Surgery (Cardiothoracic Surgery)
George J Despotis
Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Anesthesiology
BA Greenville College 1981
Michael N Diringer, MA, MD Professor of Neurology (primary appointment)
Professor of Anesthesiology
Professor of Occupational Therapy
Professor of Neurological Surgery
MA University of Louisville 1978
MD University of Kentucky 1982
Julianne Elizabeth Donnelly, MD Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
MD University of Kansas 2009
Anne Meredith Drewry, MD Assistant Professor of Anesthesiology (primary appointment)
MD Washington Univ in St. Louis 2006
Julie Kosto Drobish, MD Assistant Professor of Anesthesiology (Pending Executive Faculty Approval) (primary appointment)
BS Pennsylvania State University 2006
MD Washington Univ in St. Louis 2009
Nicole Marie Durko, DOST Assistant Professor of Anesthesiology (primary appointment)
DOST Midwestern University 2001
BS St Xavier University 1995
Daniel Emmert, MD Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
MD Saint Louis University 2005
James J Fehr III Professor of Anesthesiology (primary appointment)

Professor of Pediatrics
Steven Edward Feit, MD Assistant Professor of Anesthesiology (primary appointment)
MD University of MO Columbia 1982
BA Indiana State University 1978
Beverly J. Field, PHD, B MUS Associate Professor of Anesthesiology (primary appointment)
BA University of MO Columbia 1987
PHD Washington Univ in St. Louis 1993
B MUS Southern Illinois University 1972
Mitchell Evan Fingerman, MD Assistant Professor of Anesthesiology (primary appointment)
MD University of Connecticut 2004
Rosemary Foster, MD Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)
MD Saint Louis University 2013
David Alan Friedman, MD Assistant Professor of Anesthesiology (primary appointment)
BS University of Kansas 1981
MD University of Kansas 1985
Brian M Fuller, MD Assistant Professor of Emergency Medicine in Medicine (primary appointment)
Assistant Professor of Anesthesiology
Assistant Professor of Anesthesiology
MD University of Alabama 2003
BA University of Alabama 1998
Narasimhan Gautam, MS, PHD Professor of Anesthesiology (primary appointment)
Professor of Genetics
MS School Not Listed 1979
BS School Not Listed 1977
PHD University of Bombay 1985
Preeta George Instructor in Anesthesiology (primary appointment)
Robert W Gereau, PHD  Dr Seymour and Rose T Brown Professor of Anesthesiology (primary appointment)

Professor of Neuroscience
PHD Emory University 1995
BS Southwest Missouri St University 1991
Erin A Gibbons  Assistant Professor of Anesthesiology (primary appointment)

Jason R Gillihan, MD  Assistant Professor of Anesthesiology (primary appointment)
MD Southern Illinois University 2006

Yehuda Ginosar, MD  Professor of Anesthesiology (primary appointment)
MD University of London 1986

Thomas James Goblirsch, MD  Assistant Professor of Anesthesiology (primary appointment)
MD Loyola University Chicago 1985
BS University of Notre Dame 1980

Judith P Golden, PHD  Assistant Professor of Anesthesiology (primary appointment)
PHD Saint Louis University 1994
BS Hofstra University 1984

Vivian Maria Gonzalez-Perez, PHD  Instructor in Anesthesiology (primary appointment)
PHD University of Valparaiso 2009

Thomas J Graetz, MD  Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
MD Saint Louis University 2005

Barry A Graff, MD  Assistant Professor of Anesthesiology (primary appointment)
BA Macmurray College 1973
MD Saint Louis University 1976

Russell J.I. Groener, MBCHB  Associate Professor of Anesthesiology (primary appointment)
MBCHB University of Cape Town 1983

Anthony Herbert Guarino, MA, MD  Associate Professor of Anesthesiology (primary appointment)
MA Yale University 1988
MD University of Maryland 1992
BA Yale University 1986

Ryan C Guffey, MD  Assistant Professor of Anesthesiology (primary appointment)
MD Wayne State University 2007

Duncan Lee Hamilton, MD  Instructor in Anesthesiology (primary appointment)
MD University of Nottingham 1992

Edward B. Han, PHD  Assistant Professor of Neuroscience (primary appointment)
Assistant Professor of Anesthesiology
PHD University of CA San Diego 2004
BS Cornell University 1995

Charles B Hantler, MA, MD  Professor of Anesthesiology (primary appointment)
MA Davenport University 1973
MD Davenport University 1977
BS Davenport University 1971

Simon Haroutounian, PHD, MA  Assistant Professor of Anesthesiology (primary appointment)
PHD Hebrew University 2011
MA Hebrew University 2005

Jason M Held, PHD  Assistant Professor of Medicine (primary appointment)
Assistant Professor of Anesthesiology
PHD University of San Francisco 2006
Daniel Luke Helsten, MD, Associate Professor of Anesthesiology (primary appointment)

Mohammad Anas Helwani, MD, Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)

Robert E Herold, MD, Assistant Professor of Anesthesiology (primary appointment)

Gary E Hirshberg, MD, Professor Emeritus of Anesthesiology (primary appointment)

Richard S Hotchkiss, Professor of Anesthesiology (primary appointment)
Professor of Surgery (General Surgery)
Professor of Developmental Biology
Professor of Medicine

Hawpeng Stephen Hsu, MS, MD, Assistant Professor of Anesthesiology (primary appointment)

Hongzhen Hu, PhD, Associate Professor of Anesthesiology (primary appointment)

Susan Allison Ironstone, MD, Assistant Professor of Anesthesiology (primary appointment)

Selma E.h.o. Ishag, PhD, MD, Assistant Professor of Anesthesiology (primary appointment)

Daniel Thomas Kane, MD, Assistant Professor of Anesthesiology (primary appointment)

Ivan M Kangrja, MD, Professor of Anesthesiology (primary appointment)

Menelaos Karanikolas, MD, Associate Professor of Anesthesiology (primary appointment)

Jacob Brian Keeperman, MD, Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Emergency Medicine in Medicine

Rainer Kentner, MD, Assistant Professor of Anesthesiology (primary appointment)

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Nicholas Kessides, MD, Instructor in Anesthesiology (primary appointment)
MD University of Maryland 2010
Evan David Kharasch, PHD Russell and Mary Shelden Professor of Anesthesiology (primary appointment)
Professor of Biochemistry and Molecular Biophysics
PHD Northwestern University Med 1983

Shahrad Khodamoradi, MD Assistant Professor of Anesthesiology (primary appointment)
MD Washington Univ in St. Louis 1990

Brian Kim, MD Assistant Professor of Medicine (Dermatology) (primary appointment)
Assistant Professor of Anesthesiology
Assistant Professor of Pathology and Immunology
MD University of Washington 2007
BS Haverford College 2001

Tessa Marie King, MD Assistant Professor of Anesthesiology (primary appointment)
MD University of Kansas 1997
MD1 University of Kansas 1997
BA School Not Listed 1993

Justin Knittel Assistant Professor of Anesthesiology (primary appointment)
Helga Komen Instructor in Anesthesiology (primary appointment)

Joseph F Kras, DDENT, MD Associate Professor of Anesthesiology (primary appointment)
DDENT Loyola University Chicago 1982
MD Hahnemann University 1991

Catherine P Krucylak, MD Assistant Professor of Anesthesiology (primary appointment)
BA Rutgers University 1982
MD U Medical-Dental Of New Jersey 1986

Hing Hung H Lai, MD Associate Professor of Surgery (Urologic Surgery) (primary appointment)
Associate Professor of Anesthesiology
MD Cornell University 1999

Anand Lakshminarasimhachar, MBBS Assistant Professor of Anesthesiology (primary appointment)
MBBS Bangalore University 1994

Chakrapol Lattanand, MD Assistant Professor of Anesthesiology (primary appointment)
MD Hahnemann University 2000

Chris Cheng-Fu Lee, PHD, MD Associate Professor of Anesthesiology (primary appointment)
PHD Beijing Medical University 1991
MD Hubei Medical University 1985

Christopher J Lingle Professor of Anesthesiology (primary appointment)
Professor of Neuroscience
BS University of Oregon 1972

Qianjin Liu, MD, PHD Assistant Professor of Anesthesiology (primary appointment)
MD Nanjing Medical University 1983
PHD Saint Louis University 1997

Qin Liu, PHD Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Ophthalmology and Visual Sciences
PHD Chinese Academy of Sciences 2004
BS Wuhan University 1998

Ellen M Lockhart Professor of Anesthesiology (primary appointment)
Vice Chairman of Anesthesiology

Tanying Mao, MD Instructor in Anesthesiology (primary appointment)
John D McAllister, MD
Professor of Anesthesiology
MD University of Manitoba 1980
BS University of Manitoba 1982
Molly Ann McCormick Assistant Professor of Anesthesiology
Heather McKenzie Assistant Professor of Anesthesiology
Konrad Meissner, MBBS Adjunct Instructor in Anesthesiology
MBBS University of Leipzig 1998
Sara Hargarten Mesick, MD Instructor in Anesthesiology (Pending Dean's Approval)
MD Washington Univ in St. Louis 2012
Durga Prasanna Mohapatra, PHD Associate Professor of Anesthesiology
PHD University of Erlangen 2011
Robert Paul Moore, MD Assistant Professor of Anesthesiology
MD Washington Univ in St. Louis 2004
Jose Moron-Concepcion, PHD Associate Professor of Anesthesiology
Associate Professor of Neuroscience
PHD University of Barcelona 1998
Jeremiah J Morrisey, PHD Professor of Anesthesiology
PHD Saint Louis University 1974
BA Macmurray College 1969
David J Murray, MD Carol B. and Jerome T. Loeb Professor of Anesthesiology
MD University of Saskatchewan 1978
BS University of Saskatchewan 1973
Peter Nagele Associate Professor of Anesthesiology
Associate Professor of Genetics
Joan M Niehoff, MD Associate Professor of Anesthesiology
MD University of MO Columbia 1982
BA University of MO Kansas City 1982
Carl Helge Nielsen, MD Professor of Anesthesiology
MD University of Copenhagen 1979
Daniel C Nieva, MD Assistant Professor of Anesthesiology
MD University of Iowa 2003
Sydney Marie Nykiel-Bailey Assistant Professor of Anesthesiology
BS Saint Louis University 2001
Patrick Ross O'Neill Instructor in Anesthesiology (Pending Dean's Approval)
Folasade Oladapo, MD Assistant Professor of Anesthesiology
MD U Medical-Dental Of New Jersey 2008
Ben Julian Palanca Assistant Professor of Anesthesiology
BS University of Washington 1997
Chris M Palmer, MD Assistant Professor of Anesthesiology
Assistant Professor of Emergency Medicine in Medicine
BS Virginia Tech 2004
MD SUNY - Empire State College 2008
Patricia A. Penkoske Instructor in Anesthesiology
BS Lindenwood University 1969
**Mitchell R Platin, MD** *Assistant Professor of Anesthesiology* (primary appointment)
MD Kent St University 1987

**Adrianne Rae Poe, PHD** *Instructor in Anesthesiology* (Pending Dean's Approval) (primary appointment)
PHD Washington St University 2011

**Debra D Pulley, MD, MME** *Associate Professor of Anesthesiology* (primary appointment)
BS Vanderbilt University 1978
MD Saint Louis University 1987
MME University of MO Columbia 1982

**Carlos Angel Puyo, MD** *Assistant Professor of Anesthesiology* (primary appointment)
MD Juan N Corpas School of Medici 1989

**Lesley Kathryn Rao, MD** *Assistant Professor of Anesthesiology* (primary appointment)
MD Saint Louis University 2006

**Rashmi R Rathor, MD** *Assistant Professor of Anesthesiology* (primary appointment)
MD University of Illinois 2007

**Jebadurai Ratnaraj, MD** *Assistant Professor of Anesthesiology* (primary appointment)
MD1 Northrhein Westfalen Medical 1985
MD Madurai Kamaraj University 1979

**Eduardo Reina, MD** *Instructor in Anesthesiology* (Pending Dean's Approval) (primary appointment)
MD University of Illinois Chicago 2011

**Micheal Todd Rice, MD** *Assistant Professor of Anesthesiology* (primary appointment)
MD Univ of Texas San Antonio 2002

**Clare H Ridley, MD** *Assistant Professor of Anesthesiology* (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
MD Washington Univ in St. Louis 2008
BA Columbia College of Phy & Surg 2002

**Evan Ward Roller, MD** *Assistant Professor of Anesthesiology* (Pending Executive Faculty Approval) (primary appointment)
MD University of Cincinnati 2010

**Adnan Sadiq, MD** *Assistant Professor of Anesthesiology* (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
MD Royal College of Surgeons 2001
BS State Univ of NY Buffalo 1996

**Angela K Saettele, MD** *Assistant Professor of Anesthesiology* (primary appointment)
BS Simpson College 2004
MD University of MO Columbia 2008

**Charles R Schrock, MD** *Associate Professor of Anesthesiology* (primary appointment)
MD University of MO Columbia 1991

James Serot
**Assistant Professor of Anesthesiology** (primary appointment)

**Rajiv K Shah, MD** *Assistant Professor of Anesthesiology* (Pending Executive Faculty Approval) (primary appointment)
MD University of Rochester 2010

**Sonia Malhotra Shahrawat, MD** *Instructor in Anesthesiology* (primary appointment)
MD Bharati Vidyapeeth Med College 2000
BS Tufts University 2001

**Anshuman Sharma, MD** *Professor of Anesthesiology* (primary appointment)
Andrew John Shepherd, PHD Instructor in Anesthesiology (primary appointment)
PHD University of Manchester 2006
John Charles Spitler, MD Assistant Professor of Anesthesiology (primary appointment)
BS University of MO Columbia 1998
MD University of MO Columbia 2003
Tracey Wagner Stevens Assistant Professor of Anesthesiology (primary appointment)
Robert A Swarm Professor of Anesthesiology (primary appointment)
Martha Zorko Szabo Assistant Professor of Anesthesiology (primary appointment)
Rene Tempelhoff, MD Professor of Anesthesiology (primary appointment)
Professor of Neurological Surgery
MD University of Lyon 1974
Raghu P Terkonda, MD Assistant Professor of Anesthesiology (primary appointment)
MD University of MO Columbia 1987
BS University of MO Columbia 1983
Marie Angele Theard, MD Assistant Professor of Anesthesiology (primary appointment)
MD University of Illinois 1989
Andrea Vannucci, MD Associate Professor of Anesthesiology (primary appointment)
MD University of Milan 1989
Swarup Varaday, MBBS Assistant Professor of Anesthesiology (primary appointment)
MBBS Andhra University 1989
Gershon Ram Volotzky, MD Assistant Professor of Anesthesiology (primary appointment)
MD Tel-Aviv University 1979
Ashley Brooke Weinhold, MD Instructor in Anesthesiology (primary appointment)
MD University of Arkansas 2011
Timothy P Welch, MD Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Pediatrics
MD University of Cincinnati 2004
Brian T Wessman, MD Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Emergency Medicine in Medicine
MD Commonwealth College 2005
BS College of William and Mary 2000
Troy S Wildes, MD Associate Professor of Anesthesiology (primary appointment)
BS Illinois Wesleyan University 1998
MD Washington Univ in St. Louis 2002
Anke Christiane Winter, MD, MS Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
Assistant Professor of Anesthesiology
MD RWTH Aachen University, 2006
MS Harvard University 2010
Brett D Wolff, MD Associate Professor of Anesthesiology (primary appointment)
BA Indiana University Bloomington 1981
MD Indiana University Bloomington 1985
Xiaoming Xia, PHD Assistant Professor of Anesthesiology (primary appointment)
BS Fudan University 1984
PHD Vollum Institute OHSU 1998
Branden Edward Yee, MD Assistant Professor of Anesthesiology (primary appointment)
Department of Biochemistry and Molecular Biophysics

The faculty of the Department of Biochemistry and Molecular Biophysics perform research in a broad spectrum of biomedically relevant areas, including DNA and RNA structure and enzymology; protein folding, misfolding and aggregation; cellular mechanics, membrane receptor-mediated signaling, and hemostasis, thrombosis and vascular biology. The Department offers training opportunities at the crossroads of biochemistry, biophysics, systems biology, computational science and pharmacological sciences.

The Department's approaches to research often focus on understanding the energetics, structure and mechanisms of biological processes. Investigators employ a variety of experimental methods such as X-ray crystallography, NMR, optical spectroscopy, thermodynamics and rapid kinetics, in combination with computational
approaches, to unravel the molecular underpinnings of processes of relevance to health and disease. Novel single-molecule methods are providing new insight into the molecular details of enzyme mechanisms and macromolecule dynamics. High-throughput screening of chemical libraries and synthetic medicinal chemistry to develop small molecule probes of biological systems provide new avenues for translational research and the development of experimental therapeutics.

The faculty in the Department organize and teach basic science courses in the medical school curriculum, including The Molecular Foundations of Medicine course. In the graduate school curriculum, the faculty teach courses in Nucleic Acids and Protein Synthesis (Bio 548), Chemistry and Physics of Biological Molecules (Bio 5357), and Macromolecular Interactions (Bio 5312). The overarching theme of these courses is to understand the principles of the molecular interactions that underlie the biological process of health and disease. Students in the School of Medicine and the Graduate School of Arts & Sciences are eligible for these courses and may elect to pursue biomedical research under the direction of our faculty. A full listing of advanced courses topics can be found at biochem.wustl.edu/studentinfo/courses.

For more information

Please visit the Department of Biochemistry and Molecular Biophysics website for more information.

MD Courses — Biochemistry and Molecular Biophysics

First year
M15 502 MOLECULAR FOUNDATIONS OF MEDICINE
Instructor: Linda J. Pike, PhD, 362-9502
This course is designed primarily for medical students and will cover fundamental aspects of biochemistry and cell biology. The course begins with a treatment of protein structure and the principles of enzyme kinetics. This leads to a description of the basic pathways for the synthesis and metabolism of carbohydrates and lipids, with a focus on how the body maintains glucose homeostasis and provides energy under various metabolic stresses. This leads into a discussion of membrane structure and the function of cellular organelles in biological processes, culminating in the replication of DNA and the control of cell proliferation. Non-medical students should register under L41 (Bio) 5319. Please note that Molecular Foundations of Medicine runs on the medical school calendar and thus starts on August 16.

Fourth year

Electives

Descriptions of the elective courses are listed under the Division of Biology and Biomedical Sciences. In some instances, these courses are offered in alternate years. The faculty member in charge of the course should be contacted for specific times.

L41 (Bio) 5312 MACROMOLECULAR INTERACTIONS
L41 (Bio) 5318 DNA REPAIR
L41 (Bio) 5357 CHEMISTRY AND PHYSICS OF BIOLOGICAL MOLECULES
L41 (Bio) 548 NUCLEIC ACID AND PROTEIN BIOSYNTHESIS

Note — The number preceding the course title indicates that the course carries credit in the Graduate School of Arts & Sciences.
Research — Biochemistry and Molecular Biophysics

(M15 900)
Cross-listed with L41 (Bio) 590

Wayne M. Barnes, PhD
2nd Floor McDonnell Science Building
314-362-3351
We are developing a new way to sequence DNA, under the “$1000 Genome Project”. This project involves the addition of experimental fluorescent probes to DNA polymerase, with the goal of watching a single molecule flicker as it copies DNA. Student involvement may be at the level of making mutations and purifying mutant enzymes, testing ways to prepare the templates, or testing observations of working molecules.

T7 RNA polymerase is used to express our proteins, and we have double and triple mutants of it that improve expression of problematic proteins, but we only have theory as to how they work better: we think they are slower, and that slower is better. Student involvement may be in constructing comparative strains that use the enzyme, and measuring the speed somehow, in vivo and in vitro.

Peter M. J. Burgers, PhD
1st Floor South Building
314-362-3872
Molecular biology of DNA replication, DNA damage response mechanisms, and DNA repair in eukaryotes.

Carl Frieden, PhD
2nd Floor McDonnell Science Building

Eric A. Galburt, PhD
2nd Floor McDonnell Science Building
314-362-5201
Use of single-molecule biophysical techniques such as magnetic and optical trapping to study DNA transcription.

Roberto Galletto, PhD
2nd Floor McDonnell Science Building
314-362-4368
Mechanistic studies of DNA motor proteins and telomere binding proteins; single-molecule approaches.

Kathleen Hall, PhD
2nd Floor North Building
314-362-4196
RNA structure/function. RNA protein interactions. NMR spectroscopy.

Timothy M. Lohman, PhD
2nd Floor North Building
314-362-4393
Biophysical chemistry of proteins, nucleic acids and their mechanism of interaction. Mechanisms of DNA unwinding and translocation by helicases and SSB proteins.

Garland R. Marshall, PhD
2nd Floor Cancer Research Building, Center for Chemical Genomics
314-935-7911
Targeting Epigenetic Control in Pathology. A major concern regarding the use of therapeutics targeting the epigenetic control of gene expression is undesirable side effects, particularly those associated with fetal development. Despite the intense
interest in targeting histone deacetylases (HDACs, eleven zinc-based enzymes expressed in humans) for multiple therapeutic applications and the fact that two non-specific HDACIs are already FDA-approved in oncology, isoform-specific HDACIs are not available. Professor Marshall and his collaborators in Rome have a comprehensive program to develop isoform-specific inhibitors for applications for reversing HIV latency with Professor Lee Ratner for treatment of HIV, with Dr. Michael D. Onkin for treatment of uveal melanoma, and for potential antiparasitics with Professors Dan Goldberg, Eva Istvan, Makedonka Mitreva and Audrey Odom. Two uniquely specific inhibitors of HDAC6 have already been discovered in the Marshall lab in the past month.

The research involves bioinformatics to identify homologs of HDACs in parasites, molecular modeling to generate homology models of target proteins, virtual screening to identify potential inhibitors and bioassays to quantitate efficacy. Projects can be customized to fit individual preferences.

Linda Pike, PhD
1st Floor South Building
314-362-9502

Mechanism of EGF and ErbB receptor function. We use a combination of radioligand binding and molecular imaging via luciferase fragment complementation to study the interactions of ErbB family receptors. The goal is to gain insight into structure/function relationships within these receptors to better understand how to target them therapeutically.

Gregory Bowman, PhD
253C McDonnell Medical Sciences Building
314-352-7433

Systems Biophysics. We combine simulation and experiment to understand the conformational changes proteins undergo and how these changes allow information to flow, both within single proteins and within networks of interacting proteins. Two major application areas are (1) understanding hidden allosteric sites and the opportunities they present for drug design and (2) understanding the molecular
mechanisms of vision, especially the origins of inherited forms of blindness. To facilitate these applications, we also develop enhanced sampling algorithms for simulating long timescale dynamics of proteins and nucleic acids.

Faculty — Biochemistry and Molecular Biophysics

**John A Cooper, PhD**
Professor of Cell Biology and Physiology  
Head of the Department of Biochemistry  
Professor of Biochemistry and Molecular Biophysics  
BS Brown University 1977  
PHD Johns Hopkins University 1983

**Samuel I Achilefu, PhD**
Michel M Ter-Pogossian Professor of Radiology (primary appointment)  
Professor of Biochemistry and Molecular Biophysics  
PHD University of Nancy I 1991

**Gaya K Amarasinghe, PhD**
Associate Professor of Pathology and Immunology (primary appointment)  
Associate Professor of Biochemistry and Molecular Biophysics  
Associate Professor of Molecular Microbiology  
PHD University of Maryland 2001

**Usha P Andley, MS**
Professor of Ophthalmology and Visual Sciences (primary appointment)  
Assistant Professor of Biochemistry and Molecular Biophysics  
BS Delhi University 1970  
MS Delhi University 1972

**Jacques Ulrich Baenziger, MD**
Professor Emeritus of Biochemistry and Molecular Biophysics (primary appointment)  
Prof Emeritus of Biochem & Molecular Biophysic (primary appointment)  
MD Washington Univ in St. Louis 1975  
BA New College of Florida 1969

**Wayne Morris Barnes, PhD**
Associate Professor of Biochemistry and Molecular Biophysics (primary appointment)  
BA University of CA Riverside 1969  
PHD Univ of Wisconsin Madison 1974

**Gregory R. Bowman, PhD**
Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)  
BS Cornell University 2006  
PHD Stanford University 2010
Thomas J. Brett
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
Assistant Professor of Biochemistry and Molecular Biophysics
BS North Dakota State University 1992

Peter M Burgers, PHD, MS
Marvin A. Brennecke Professor of Biological Chemistry (primary appointment)
PHD Leiden University 1977
MS Leiden University 1972

Sudha Mahajan Cowsik, MS, PHD
Instructor in Biochemistry and Molecular Biophysics (primary appointment)
MS Panjab University 1970
PHD Institute of Medical Science 1976
BS Panjab University 1969

Allan Doctor
Professor of Pediatrics (primary appointment)
Associate Professor of Biochemistry and Molecular Biophysics

Thomas E Ellenberger, DVM, PHD
Professor of Biochemistry and Molecular Biophysics (primary appointment)
Chairman of the Executive Council of the Division of Biology and Biomedical Sciences
DVM Iowa State University 1983
PHD Harvard University 1989

Elliot L Elson, PHD
Emeritus Professor of Biochemistry and Molecular Biophysics (primary appointment)
Prof Emeritus of Biochem & Molec Biophysics (primary appointment)
PHD Stanford University 1966
BA Harvard University 1959

William A Frazier III
Professor of Biochemistry and Molecular Biophysics (primary appointment)
Professor of Cell Biology and Physiology
Professor of Biomedical Engineering
BA Johns Hopkins University 1969

Daved H Fremont, PHD
Professor of Pathology and Immunology (primary appointment)
Professor of Biochemistry and Molecular Biophysics
BS Univ of Wisconsin Madison 1986
PHD University of CA San Diego 1993

Carl Frieden, PHD
Professor of Biochemistry and Molecular Biophysics (primary appointment)
BA Carleton College 1951
PHD Univ of Wisconsin Madison 1955

Eric A Galburt, PHD
Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)
PHD University of Washington 2002

Roberto Galletto, MS, PHD
Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)
MS University of Genova 1996
PHD University of Texas Galveston 2002

Gregory I Goldberg, PHD
Professor of Medicine (Dermatology) (primary appointment)
Professor of Biochemistry and Molecular Biophysics
PHD Weizmann Institute of Science 1977
Michael Jonathan Greenberg, Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)

Kathleen Hall, PHD, Professor of Biochemistry and Molecular Biophysics (primary appointment)
BS University of Minnesota 1974
PHD University of CA Berkeley 1985

Kathryn Ming Hart, Instructor in Biochemistry and Molecular Biophysics (primary appointment)

James J Havranek, PHD, Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)
PHD Stanford University 2008

Maxenia Garcia Ilagan, Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)

Assistant Professor of Developmental Biology

James W Janetka, Associate Professor of Biochemistry and Molecular Biophysics (primary appointment)
BS University of Illinois 1990

Evan David Kharasch, PHD, Russell and Mary Shelden Professor of Anesthesiology (primary appointment)

Professor of Biochemistry and Molecular Biophysics

Stuart A Kornfeld, David C and Betty Farrell Professor of Medicine (primary appointment)
Professor of Biochemistry and Molecular Biophysics
BA Dartmouth College 1958

Alexander Kozlov, MS, PHD, Instructor in Biochemistry and Molecular Biophysics (primary appointment)
MS Moscow State University 1983
PHD Moscow State University 1994

Andrzej Modest Krezel, PHD, MS, Associate Professor of Biochemistry and Molecular Biophysics (Pending Executive Faculty Approval) (primary appointment)
PHD Univ of Wisconsin Madison 1991
MS University of Warsaw 1986

Daisy W Leung, PHD, Assistant Professor of Pathology and Immunology (primary appointment)
Assistant Professor of Biochemistry and Molecular Biophysics
PHD University of Texas Southwest 2005
BS Amherst College 1997

Weikai Li, PHD, MS, Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)
PHD Yale University 2004
MS University of Tenn Chattanooga 1998
BS East China Univ of Sci & Tech 1993

Timothy M Lohman, Brennecke Professor of Biophysics in Biochemistry and Molecular Biophysics (primary appointment)
BA Cornell University 1973

Garland R Marshall, Professor of Biochemistry and Molecular Biophysics (primary appointment)
Professor of Biomedical Engineering
BS California Institute Technolo 1962

Stephen M Moerlein, MA, PHARMD, Associate Professor of Radiology (primary appointment)
Associate Professor of Biochemistry and Molecular Biophysics
MA Washington Univ in St. Louis 1979
Joseph B Monahan, Adjunct Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)

Michael D Onken, PHD, Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)

Linda J Pike, PHD, Alumni Endowed Professor of Biochemistry and Molecular Biophysics (primary appointment)

Katherine P Ponder, MD, Professor of Medicine (primary appointment)

J. Evan Sadler, MD, PHD, Professor of Medicine (primary appointment)

Andrea Soranno, Assistant Professor Biochemistry and Molecular Biophysics (Pending Executive Faculty Approval) (primary appointment)

Niraj Harish Tolia, PHD, Associate Professor of Molecular Microbiology (primary appointment)

Gabriel Waksman, MS, PHD, Adjunct Professor of Biochemistry and Molecular Biophysics (primary appointment)

Katherine Anne Henzler Wildman, PHD, Adjunct Associate Professor of Biochemistry and Molecular Biophysics (primary appointment)

No entries found

Department of Cell Biology and Physiology
Cell biology is one of the primary disciplines in medical research, influencing all areas of basic and clinical investigation. The future holds great opportunities in cell biology research due to inventories of the genes and proteins from which cells are built, new experimental techniques and various model organisms. Further discoveries about the cell biology of human genes will continue to translate into therapeutics. Also on the horizon is a better understanding of how proteins and sets of proteins (e.g., macromolecular complexes) are assembled and integrated to produce function.

The Department of Cell Biology and Physiology is ranked among the top 10 cell biology departments in the country, and the research carried out by its faculty covers a broad range of fields within cellular physiology and molecular cell biology. A unifying theme is the study of fundamental processes and their regulation. These cellular processes include genome maintenance, apoptosis, cell cycle control, dynamic cell motility, angiogenesis, signal transduction and membrane trafficking, presynaptic processes, prion protein misfolding, RNA metabolism, and the structure and function of ion channels. The department’s research activities provide a foundation for studies in cancer biology, immunobiology, developmental biology, neurobiology and vascular biology. Its faculty use model organisms as well as human stem cells and a variety of techniques such as deep-etch electron and confocal microscopy to carry out their research. Cellular imaging is a particular strength of the department.

The Department of Cell Biology and Physiology oversees the Cell and Organ Systems course, which is designed to provide first-year medical students with a foundation for their further study of clinical and applied physiology. The Molecular Cell Biology course for first-year graduate students conveys an understanding of fundamental cell biology research strategies and principles. In addition, advanced courses open to medical and graduate students provide for more detailed study of specific areas of cell biology, physiology and cellular biophysics.

For more information

Please visit the Department of Cell Biology and Physiology website for more information.
MD Courses — Cell Biology and Physiology

First year

M75 503 CELL AND ORGAN SYSTEMS BIOLOGY
Instructor: Robert W. Mercer, PhD, 362-6924
This course integrates and extends the basic principles of cell biology and physiology to the functions of the major organ systems of the body: muscle, cardiovascular, renal, respiratory, gastrointestinal and endocrine. Limited space is available for nonmedical students with instructor’s permission. This course is cross-listed in the Department of Neuroscience.

Selectives

M04 537 SIMULATIONS IN CARDIOVASCULAR PHYSIOLOGY
Instructors: David Murray, MD, 747-2136; Robert Moore, MD, 747-2136
The purpose of this selective is to demonstrate and explore cardiovascular physiology and cardiovascular control mechanisms using high fidelity, full-size electromechanical mannequins. By simulating events such as arrhythmias, hemorrhage, myocardial infarction and heart failure, students will explore how altering chronotropism, preload, afterload and contractility lead to changes in blood pressure, heart rate, central venous pressures and cardiac output. The course includes five interactive simulation laboratory sessions. During these sessions at the Howard and Joyce Wood Simulation Center, simulations will be used to demonstrate how ECG, arterial, venous, ventricular and pulmonary capillary wedge pressures, cardiac output, stroke volume, heart rate,
systemic and pulmonary vascular resistance are measured and monitored in clinical practice. In these small-group sessions, students will explore how alterations in chronotropism, preload, inotropism and afterload lead to a variety of cardiovascular events. The sessions will also be used to demonstrate a variety of the cardiovascular control mechanisms such as the Frank-Starling response and baroreceptor-mediated reflex responses.

**M04 596 ION CHANNELS AND DISEASE**

Instructor: Colin G. Nichols, PhD, 362-6630

Ion channels are present in all cells and direct intracellular events by controlling the membrane electrical activity. Many widely used clinical drugs act by altering the behavior of ion channels, including epilepsy, diabetes, cardiac arrhythmias and cystic fibrosis. We will consider the basis of ion channel diseases and ion channel modulation therapies. Students will research a topic of choice in the library over two to three weeks and then present their findings to the whole class. After the initial course meeting, we will not meet formally for three weeks, and will then meet once per week for presentations.

**Fourth year**

**Electives**

Descriptions of the following courses may be found under Division of Biology and Biomedical Sciences.

L41 (Bio) 5062 CENTRAL QUESTIONS IN CELL BIOLOGY
L41 (Bio) 5068 FUNDAMENTALS OF MOLECULAR CELL BIOLOGY
L41 (Bio) 5122 CELL-MATRIX INTERACTIONS
L41 (Bio) 5132 CELL MOTILITY AND CYTOSKELETON JOURNAL CLUB

Note — The number preceding the course title indicates that the course carries credit in the Graduate School of Arts & Sciences. See course descriptions in the Graduate Programs section of this catalog.
Research — Cell Biology and Physiology

(M75 900)
Cross-listed with L41 (Bio) 590

Kendall J. Blumer, PhD
506 McDonnell Science Building
314-362-1668
Signaling mechanisms in cardiovascular and neurological disorders.

Sergej Djuranovic, PhD
514 McDonnell Science Building
314-362-9706
Molecular mechanisms of translational control. Research examines the cellular processes that are regulated by changes in RNA metabolism.

Phyllis I. Hanson, MD, PhD
4625 Cancer Research Building
314-747-4233
Study of protein-protein and protein-membrane interactions involved in neuronal and synaptic membrane trafficking using biochemical, biophysical, and cell biological techniques.

James E. Huettner, PhD
6600 Cancer Research Building
314-362-6628
Excitatory amino acid receptors and synaptic transmission in the central nervous
system; neural differentiation of embryonic stem cells.

Vitaly Klyachko, PhD
9405 BJC Institute of Health
314-362-5517
The mechanisms and regulation of neurotransmitter release at individual synapses; the functional roles of presynaptic processes in synaptic plasticity and information processing.

Robert P. Mecham, PhD
4606 Cancer Research Building
314-362-2254
Understanding the complex process of extracellular matrix assembly and organization, including studying the intracellular pathways used to transport matrix components to the cell surface and identifying helper or accessory proteins that facilitate trafficking and matrix assembly. Cell-matrix interactions in development and cellular mechanisms associated with connective tissue remodeling in vascular disease and heritable diseases of connective tissues.

Michael M. Mueckler, PhD
416 McDonnell Science Building
314-362-4160

Colin G. Nichols, PhD
9405 BJC Institute of Health
314-362-6630
Ion channel biology. Multiple levels of analysis from the molecular basis of channel function to in vivo physiology and disease
The intracellular and intercellular dynamics of cells within the islet of Langerhans play a key role in the regulation of blood glucose levels. The islet is made up of different cell types, but very little is known about the interplay between the different cell types and how this affects their secretion of various hormones. The islet ß-cells secrete insulin in response to increased blood sugar, and also in response to neurotransmitters and hormones. Glucagon also plays a key role in blood glucose homeostasis, and it is secreted by the islet a-cells. High glucose levels inhibit glucagon secretion from a-cells within the islet, but not from dispersed a-cells, but the mechanism underlying this phenomenon has not been defined. We use quantitative live cell microscopy to measure single cell parameters within intact islets held within microfluidic devices in order to expose them to spatially heterogeneous levels of various stimuli. The resulting data are fit using mathematical models of islet functional dynamics, which we are continually modifying to better fit the observed islet physiology.

Molecular mechanism of Bcl-2 family protein function, intracellular channels, biophysics of lipids, proteins and their interaction in cells and nanotechnology.

Delineation of the molecular mechanisms by which aged stromal cells contribute to tumorigenesis and the molecular mechanisms that ensure high fidelity telomere replication and genomic stability.
Biological consequences of yeast prions—in both their capacity to function as a novel epigenetic elements, and in their utility to serve as a tractable model for the analysis of protein misfolding and aggregation that occurs in several neurodegenerative disorders.

Zhongsheng You, PhD
514 McDonnell Science Building
314-362-9893

Studies of the cellular responses to DNA damage and their cancer relevance, focusing on the functional interplays between the DNA damage checkpoint, DNA repair and chromatin structure.

Peng Yuan, PhD
9608 BJC Institute of Health
314-747-3793

Structure and function of ion channels and transporters. Ion channels and transporters play essential roles in human physiology and disease. How do channels and transporters recognize their specific substrate ions? How do they respond to various stimuli including chemical ligand, temperature, membrane voltage, and mechanical force? How do they interact with the lipid membrane where they reside? To answer these fundamental questions, we use multidisciplinary approaches including X-ray crystallography, biochemistry, biophysics, and electrophysiology. Dysfunction of these membrane proteins could lead to a variety of diseases such as asthma, hypertension, cancer, heart failure, diabetes, chronic pain, and many more. The long-term goal is to provide detailed mechanistic understanding of ion channels and transporters, which will offer novel strategies for drug development and better treatment of diseases.
Faculty — Cell Biology and Physiology

David William Piston, PHD, MS
Professor of Cell Biology and Physiology (primary appointment)
Head of the Department of Cell Biology and Physiology
PHD University of Illinois 1989
BS Grinnell College 1984
MS University of Illinois 1985

Dana Ray Abendschein, PHD
Associate Professor of Medicine (primary appointment)
Associate Professor of Cell Biology and Physiology
PHD Purdue University 1978
BS State University of New York 1974

Yousef Abu-Amer, MS
Professor of Orthopaedic Surgery (primary appointment)
Professor of Cell Biology and Physiology
BS Hebrew University 1985
MS Hebrew University 1987

Nada A Abumrad, PHD
Robert C Atkins Professor of Obesity Research in Medicine (primary appointment)
Professor of Cell Biology and Physiology
BS American University of Beirut 1972
PHD State University of New York 1978

Jeffrey Michael Arbeit, MD
Professor of Surgery (Urologic Surgery) (primary appointment)
Professor of Cell Biology and Physiology
BS Boston University 1972
MD Rush University 1976

Steven Bassnett, PHD
Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Cell Biology and Physiology
BS University of Wales 1982
PHD University of East Anglia 1987

Carlos Bernal-Mizrachi, MD
Associate Professor of Medicine (primary appointment)
Associate Professor of Cell Biology and Physiology
MD Universidad del Valle Med Sch 1990

Kendall Jay Blumer, PHD
Professor of Cell Biology and Physiology (primary appointment)
BA Rice University 1977
PHD Duke University 1986

Ron Bose, PHD
Associate Professor of Medicine (primary appointment)
Associate Professor of Cell Biology and Physiology
PHD Cornell University 1998
PHD1 Cornell University 1998

Thomas J. Brett
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
Assistant Professor of Biochemistry and Molecular Biophysics
BS North Dakota State University 1992

Thomas J Broekelmann, MS
Instructor in Cell Biology and Physiology (primary appointment)
MS University of MO St Louis 1982
George John Broze Jr, MD, Professor of Medicine (primary appointment)
Professor of Cell Biology and Physiology
Professor of Pathology and Immunology
MD University of Washington 1972

Harold Burton, PHD, Professor of Neuroscience (primary appointment)
Professor of Radiology
Professor of Biomedical Engineering
Professor of Cell Biology and Physiology
PHD Univ of Wisconsin Madison 1968
BA University of Michigan 1964

Anil Govind Cashikar, MS, Assistant Professor of Cell Biology and Physiology (primary appointment)
MS Madurai Kamaraj University 1991
BS Bangalore University 1989

Feng Chen, PHD, Associate Professor of Medicine (primary appointment)
Associate Professor of Cell Biology and Physiology
BS Fudan University 1991
PHD University of Utah 1998

Roberto Civitelli, MD, Sydney M and Stella H Schoenberg Professor of Medicine (primary appointment)
Professor of Orthopaedic Surgery
Professor of Cell Biology and Physiology
BS University of Siena 1980
MD University of Siena 1980

F. Sessions Cole, MD, Park J White, M.D. Professor of Pediatrics (primary appointment)
Vice Chair of the Department of Pediatrics
Professor of Cell Biology and Physiology
Assistant Vice Chancellor for Children's Health, Washington University School of Medicine
MD Yale University 1973
BA Amherst College 1969

John A Cooper, PHD, Professor of Cell Biology and Physiology
Head of the Department of Biochemistry
Professor of Biochemistry and Molecular Biophysics
BS Brown University 1977
PHD Johns Hopkins University 1983
Clarissa S. Craft, Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology

Brian J. DeBosch, PHD, MD, Assistant Professor of Pediatrics (primary appointment)
Assistant Professor of Cell Biology and Physiology
PHD Washington Univ in St. Louis 2008
MD Washington Univ in St. Louis 2008
BS University of Michigan 2001

Panyue Deng, Assistant Professor of Cell Biology and Physiology (primary appointment)
Abhinav Diwan, Associate Professor of Medicine (primary appointment)

Sergej Djuranovic, PHD, Assistant Professor of Cell Biology and Physiology (primary appointment)
PHD University of Tubingen 2007
Susan K. Dutcher, PHD  
Professor of Genetics (primary appointment)  
Professor of Cell Biology and Physiology  
Interim Director of the McDonnell Genome Institute  
PHD University of Washington 1980  
BA Colorado College 1974

Sarah K. England, PHD  
Professor of Obstetrics and Gynecology (primary appointment)  
Professor of Cell Biology and Physiology  
Alan A and Edith L. Wolff Professor of Medicine  
PHD Medical College of Wisconsin 1993  
BA Carleton College 1988

Roberta Faccio, PHD  
Professor of Orthopaedic Surgery (primary appointment)  
Professor of Cell Biology and Physiology  
PHD University of Bari 2000

Thomas W. Ferkol, MD  
Professor of Pediatrics (primary appointment)  
Professor of Cell Biology and Physiology  
Alexis Hartmann MD Professor of Pediatrics  
MD Ohio State University 1985  
BA Case Western Reserve University 1981

James Alexander John Fitzpatrick, PHD  
Associate Professor of Neuroscience (primary appointment)  
Associate Professor of Cell Biology and Physiology  
PHD University of Bristol 2003

William A. Frazier III  
Professor of Biochemistry and Molecular Biophysics (primary appointment)  
Professor of Cell Biology and Physiology  
Professor of Biomedical Engineering  
BA Johns Hopkins University 1969

Subhadra C. Gunawardana, PHD  
Associate Professor of Cell Biology and Physiology (primary appointment)  
PHD Cornell University 2002

Dennis E. Hallahan, MD  
Professor of Radiation Oncology (primary appointment)  
Professor of Cell Biology and Physiology  
Professor of Pathology and Immunology  
Elizabeth H. and James S. McDonnell III Distinguished Professor of Medicine  
Head of the Department of Radiation Oncology  
Professor of Molecular Microbiology  
MD Rush University 1984  
BS University of Illinois 1980

Phyllis I. Hanson, PHD  
Professor of Cell Biology and Physiology (primary appointment)  
Gerty T. Cori Professor  
PHD Stanford University 1993  
BA Yale University 1985

Didier Hodzic, PHD  
Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)  
Assistant Professor of Cell Biology and Physiology  
BS University of Liege 1991  
PHD University of Liege 1998

Michael J. Holtzman  
Selma and Herman Seldin Professor of Medicine (primary appointment)  
Professor of Cell Biology and Physiology  
Keith A. Hruska, MD  
Professor of Pediatrics (primary appointment)
Professor of Cell Biology and Physiology  
Professor of Medicine  
BS Creighton University 1965  
MD Creighton University 1969  
**Paul W. Hruz, PHD, MD**  
Associate Professor of Pediatrics (primary appointment)  
Associate Professor of Cell Biology and Physiology  
PHD Medical College of Wisconsin 1993  
MD Medical College of Wisconsin 1994  
BS Marquette University 1987  
**James E Huettner, PHD**  
Professor of Cell Biology and Physiology (primary appointment)  
Professor of Biomedical Engineering  
PHD Harvard University 1987  
BS Indiana University 1980  
BA Indiana University 1981  
**Samuel Klein, MD, MS**  
Danforth Professor of Medicine (primary appointment)  
Professor of Cell Biology and Physiology  
BA Brandeis University 1974  
MD Temple University 1979  
MS Mass Inst of Technology (MIT) 1984  
**Vitaly A Klyachko, PHD, MS**  
Associate Professor of Cell Biology and Physiology (primary appointment)  
Associate Professor of Biomedical Engineering  
Associate Professor of Neuroscience  
PHD Univ of Wisconsin Madison 2002  
MS Moscow State University 1998  
BS Moscow State University 1997  
**Sandor J Kovacs, MD, MS, PHD**  
Professor of Medicine (primary appointment)  
Adjunct Professor of Physics  
Professor of Biomedical Engineering  
Professor of Cell Biology and Physiology  
MD University of Miami 1979  
MS California Institute Technolo 1972  
PHD California Institute Technolo 1977  
BS Cornell University 1969  
**Gregory D Longmore, MD, MS**  
Professor of Medicine (primary appointment)  
Professor of Cell Biology and Physiology  
MD McGill University 1983  
BS University of Western Ontario 1977  
MS University of Toronto 1979  
Mohamed Mahjoub  
Assistant Professor of Medicine (primary appointment)  
Assistant Professor of Cell Biology and Physiology  
**Elaine Michelle Majerus, MD**  
Associate Professor of Medicine (primary appointment)  
Associate Professor of Cell Biology and Physiology  
BA Washington Univ in St. Louis 1986  
MD Saint Louis University 1998  
BS Washington Univ in St. Louis 1986  
**Douglas L. Mann, MD**  
Tobias and Hortense Lewin Professor of Medicine (primary appointment)  
Professor of Cell Biology and Physiology
MD Temple University 1979
BA Lafayette College 1973

**Bess Adkins Marshall, MD**
Professor of Pediatrics (primary appointment)
Professor of Cell Biology and Physiology
BS Vanderbilt University 1982
MD Vanderbilt University 1986

**Audrey McAlinden, PhD**
Associate Professor of Orthopaedic Surgery (primary appointment)
Associate Professor of Cell Biology and Physiology
PHD University of London 1998

**Robert Paul Mecham, PhD**
Alumni Endowed Professor of Cell Biology and Physiology (primary appointment)
Professor of Medicine
Professor of Biomedical Engineering
BS Vanderbilt University 1982
MD Vanderbilt University 1986

**Robert W Mercer, PhD**
Professor of Cell Biology and Physiology (primary appointment)
BA San Jose State University 1974
PHD Syracuse University 1980

**Jeffrey H Miner, PhD**
Professor of Medicine (primary appointment)
Professor of Cell Biology and Physiology
PHD California Institute Technolo 1991

**Kelle Harbert Moley**
James Crane Professor of Obstetrics and Gynecology (primary appointment)
Associate Professor of Cell Biology and Physiology
Vice Chairman for Basic Research, Department of Obstetrics and Gynecology
BA Wellesley College 1984

**Mike Max Mueckler, PhD**
Professor of Cell Biology and Physiology (primary appointment)
Professor of Medicine
BA Univ of Wisconsin Madison 1976
PHD Univ of Wisconsin Madison 1982

**Colin G Nichols, PhD**
Professor of Cell Biology and Physiology (primary appointment)
Carl F Cori Professor
BS University of Leeds 1982
PHD University of Leeds 1985

**Daniel Scott Ory, MD**
Professor of Medicine (primary appointment)
Professor of Cell Biology and Physiology
Alan A and Edith L Wolff Professor of Cardiology
MD Harvard University 1986
BA Harvard University 1982

**Slavica Pavlovic Djuranovic, DIP, PhD**
Instructor in Cell Biology and Physiology (primary appointment)
DIP UNIVERSITY OF BELGRADE 2001
BS UNIVERSITY OF BELGRADE 1999
PHD University of Tubingen 2006

**Helen Piwnica-Worms, PhD**
Adjunct Professor of Cell Biology and Physiology (primary appointment)
BA St Olaf College 1979
PHD Duke University 1984
Jasmina Profirovic, PHD Adjunct Assistant Professor of Cell Biology and Physiology (primary appointment)
PHD University of Illinois Chicago 2005
BS University of Belgrade 1997

Maria Sara Remedi, PHD, MS Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
PHD University of Cordoba 1999
MS University of Cordoba 1989
BS University of Cordoba 1987

Robyn Roth Instructor in Cell Biology and Physiology (primary appointment)
BS MO State U (formerly SW MO St) 1979

Monica Sala-Rabanal Instructor in Cell Biology and Physiology (primary appointment)

Linda J Sandell, PHD, MS Mildred B Simon Research Professor of Orthopaedic Surgery (primary appointment)

Professor of Cell Biology and Physiology
PHD Northwestern University 1980
MS University of Denver 1971

Erica Lynn Scheller, DDENT Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
DDENT University of Michigan 2011
BS Michigan State University 2004

Paul Henry Schlesinger, MD, PHD Associate Professor of Cell Biology and Physiology (primary appointment)
MD University of Chicago 1970
PHD University of Chicago 1973
BS University of Illinois 1966

Julie K Schwarz, MD, PHD Associate Professor of Radiation Oncology (primary appointment)
Associate Professor of Cell Biology and Physiology
MD Washington Univ in St. Louis 2004
PHD Washington Univ in St. Louis 2004

Clay F Semenkovich, MD Irene E and Michael M Karl Professor of Endocrinology and Metabolism in Medicine (primary appointment)
Professor of Cell Biology and Physiology
BA University of Virginia 1977
MD Washington Univ in St. Louis 1981

Sheila Stewart-Wigglesworth, PHD Professor of Cell Biology and Physiology (primary appointment)
Professor of Medicine
BS University of Minnesota 1990
PHD University of CA Los Angeles 1996

Steven M Strasberg, MD Pruett Professor of Surgery (General Surgery) (primary appointment)
Associate Professor of Cell Biology and Physiology
MD University of Toronto 1963

Xiong Su, PHD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
PHD Washington Univ in St. Louis 2004
BS Beijing University 1998

Robert W Thompson, MD Professor of Surgery (General Surgery) (primary appointment)
Professor of Cell Biology and Physiology
Department of Developmental Biology

The principal research activities of the Department of Developmental Biology are focused on attaining a mechanistic understanding of animal development, encompassing the earliest cell fate specification and movement processes that shape the early embryo, organogenesis, stem cell biology and engineering, tissue homeostasis and repair, and aging. Students and postdoctoral fellows work closely
with faculty and staff on research projects and participate in weekly journal clubs and seminars at which recent literature and ongoing research are discussed.

The Developmental Biology Faculty employ a variety of model organisms and cell-based systems to answer key outstanding questions about the fundamental mechanisms of development and to apply this knowledge to pathogenic mechanisms leading to human birth defects and disease, and improve future therapies. We take a broad view of developmental biology, with our research groups studying diverse developmental processes including early embryogenesis, organogenesis, and aging, and applying multidisciplinary approaches that include forward and reverse genetics, epigenetics, molecular and chemical, and computational methods. Embryogenesis is a fascinating process during which a fertilized egg undergoes divisions to form a mass of pluripotent cells that signal to one another to establish embryonic polarity, diverse cell types, and organs, and that also undergo massive cell migrations and rearrangements to sculpt the embryonic body. Research is also carried out on the processes involved in tissue degeneration, repair and regeneration, the biology of embryonic and adult stem cells, and cellular reprogramming. It is a particularly opportune time for developmental biology research, as recent technological breakthroughs in both animal model systems and genomics afford insights into developmental processes at the epigenetic, genetic and molecular levels, and enable the monitoring of cell behaviors in vivo. We are discovering genes that are responsible for birth defects and defining connections between many adult human diseases and their origins during embryogenesis. The studies of stems cells, cellular reprogramming, and regeneration are bringing us closer to curing human diseases, repairing damaged organs, and extending the boundaries of aging.

Research in the Department occurs in a highly collegial atmosphere and involves interdisciplinary collaborations between the members of the department, as well as investigators from different departments and centers throughout the School of Medicine, as well as the College of Arts and Science, and the School of Engineering. Developmental Biology Faculty have leading roles in several research centers, including the Center of Regenerative Medicine, the Center for Membrane Excitability,
the Cardiovascular Research Center, and the Hope Center. The Department has a rich tradition of mentoring undergraduate, graduate and medical students, and postdoctoral fellows. We are committed to creating a research environment in which our trainees reach their maximal scientific potential and career goals, while addressing key outstanding questions and making important discoveries.

Please visit the Department of Developmental Biology website for more information.

**MD Courses — Developmental Biology**

**First year**

**Selective**

**M04 500C DEVELOPMENTAL BIOLOGY AND DISEASE**
Instructor: Kerry Kornfeld, MD, PhD, 747-1480
This course presents discoveries arising from research in the broad field of developmental biology and focuses on how these discoveries are contributing to understanding, diagnosis and the treatment of human disease.

**Research — Developmental Biology**

**Fourth year**
Cross-listed with L41 (Bio) 590

Irving Boime, PhD
3rd Floor McDonnell Sciences Building
362-2556
Secretion, targeting and structure-function of the human placental and pituitary glycoprotein hormones.

Douglas F. Covey, PhD
3rd Floor McDonnell Sciences Building
362-1726
Medicinal chemistry of steroids.

Aaron DiAntonio, MD, PhD
6301, 4515 McKinley Research Building
362-9925
Neurodevelopment, neurodegeneration, and axon regeneration in Drosophila and mouse.

Gregory A. Grant, PhD
3rd Floor North Building
362-3367
Mechanism of allosteric regulation in enzymes.

Shin-Ichiro Imai, MD, PhD
Room 362A McDonnell Medical Sciences Building
362-7228
Molecular mechanisms of aging and longevity in mammals, particularly focusing on the tissue-specific functions of the mammalian NAD-dependent deacetylase Sirt1 and the physiological significance of systemic NAD biosynthesis mediated by Nampt (nicotinamide phosphoribosyltransferase) in an intimate connection between metabolism and aging.
Kerry Kornfeld, MD, PhD
3rd Floor Cancer Research Building
747-1480

Kristen Kroll, PhD
Room 320, McDonnell Sciences Building
362-7045
Transcriptional networks that regulate the formation of neurons in early embryos and embryonic stem cells. Role of chromatin regulatory complexes in controlling pluripotency and differentiation.

Craig Micchelli, PhD
Room 328, McDonnell Sciences Building
362-7036
Our lab studies the regulation of stem cell biology in development, homeostasis, and disease.

Kelly Monk, PhD
360 McDonnell Sciences Building
362-3825
Mechanisms of myelin formation, demyelination, and remyelination in zebrafish and mouse.

Samantha Morris, PhD
3316, 4515 McKinley Research Building
747-8618
Stem Cell and Developmental Biology. Our research focuses on dissecting the gene regulatory networks that define cell identity, using the developing embryo and tissue regeneration as a guide to engineer fate in vitro.

Jeanne M. Nerbonne, PhD
9900 CSRB
Structure, function and regulation of voltage-dependent ion channels in the cardiovascular and nervous systems. Regulation of membrane excitability in health and disease.

David M. Ornitz, MD, PhD
3rd Floor South Building
362-3908
Regulation of cardiovascular, lung, skeletal, and inner ear development, injury response, and regeneration by Fibroblast Growth Factors.

John H. Russell, PhD
3rd Floor McDonnell Sciences Building
362-2558
Mechanisms of lymphocyte-mediated inflammation and pathogenesis in the central nervous system.

Lila Solnica-Krezel, PhD
3911A South Building
362-8768
Genetic Regulation of Vertebrate Embryogenesis. Genetic mechanisms that regulate cell fates and movements during early vertebrate development using forward and reverse genetics in the zebrafish model and human embryonic stem cells.

Andrew Yoo, PhD
361E, McDonnell Sciences Building
362-1811

Zachary Pincus, PhD
5304, 4515 McKinley Research Building
747-5520
Inter-individual variability in aging and lifespan. Developmental origins of longevity and adult health. Quantitative microscope and image analysis of C. elegans.

Faculty — Developmental Biology

Lilianna Solnica-Krezel, MS Professor of Developmental Biology (primary appointment)
Head of the Department of Developmental Biology
Alan A and Edith L Wolff Professor of Developmental Biology
MS Medical University of Warsaw 1985

Rajendra Apte, PHD, MD Paul A. Cibis Distinguished Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Developmental Biology
Professor of Medicine
PHD University of Texas Southwest 1997
MD University of Bombay 1993

Thomas J Baranski, PHD, MD Associate Professor of Medicine (primary appointment)
Associate Professor of Developmental Biology
BS Univ of Wisconsin Madison 1985
PHD Washington Univ in St. Louis 1992
MD Washington Univ in St. Louis 1992

Luis Francisco Zirnberger Batista, PHD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Developmental Biology
BS University of SAO Paulo 2003
PHD University of SAO Paulo 2008

Irving Boime, PHD, MS Professor of Developmental Biology (primary appointment)
Professor of Reproductive Biology in Obstetrics and Gynecology
PHD Washington Univ in St. Louis 1970
MS Purdue University 1966
BS St Louis College of Pharmacy 1964

Angela N Bowman, PHD Assistant Professor of Developmental Biology (primary appointment)
BA University of Pennsylvania 2006
PHD Stanford University 2012

Walter A Boyle III, MD Professor of Anesthesiology (primary appointment)
Assistant Professor of Developmental Biology
Professor of Surgery (General Surgery)
MD University of CA San Francisco 1977
Shiming Chen, PHDProfessor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Developmental Biology
BS Beijing University 1981
PHD State University of New York 1992
Zhoufeng ChenProfessor of Anesthesiology (primary appointment)
Professor of Psychiatry
Professor of Developmental Biology
Richard A Chole, MD, PHDProfessor of Otolaryngology (primary appointment)
Professor of Developmental Biology
Professor of Audiology and Communication Sciences
MD University of Southern Calif 1969
PHD University of Minnesota 1977
Douglas Floyd Covey, MAProfessor of Pharmacology in Developmental Biology (primary appointment)
Professor of Anesthesiology
Professor of Psychiatry
BS Loyola College 1967
MA Johns Hopkins University 1969
Nicholas O Davidson, MBBSProfessor of Medicine (primary appointment)
Professor of Developmental Biology
MBBS King's College London 1974
Aaron DiAntonio, M PHILProfessor of Developmental Biology (primary appointment)
Alan A and Edith L Wolff Professor of Developmental Biology
M PHIL Cambridge University 1989
BA Harvard University 1988
Todd Druley, MD, PHDAssistant Professor of Pediatrics (primary appointment)
Assistant Professor of Genetics
Assistant Professor of Developmental Biology
MD University of Illinois Chicago 2002
BS University of Illinois 1994
PHD University of Illinois Chicago 2002
Alex S EversHenry E Mallinckrodt Professor of Anesthesiology (primary appointment)
Head of the Department of Anesthesiology
Professor of Developmental Biology
Professor of Medicine
BS Yale University 1974
George W Gokel, PHDAdjunct Professor of Molecular Biology and Pharmacology (primary appointment)
PHD University of Southern Calif 1971
Jeffrey I Gordon, MDProfessor of Pathology and Immunology (primary appointment)
Dr Robert J Glaser Distinguished University Professor
Director of the Center for Genome Sciences
Professor of Medicine
Professor of Developmental Biology
BA Oberlin College 1969
MD University of Chicago 1973
Gregory Alan Grant, PHD Professor of Biochemistry in Medicine (Dermatology) (primary appointment)
Professor of Developmental Biology
PHD Univ of Wisconsin Madison 1975
BS Iowa State University 1971
Richard Warren Gross, PHD, AB, MD Professor of Medicine (primary appointment)
Professor of Developmental Biology
Professor of Chemistry
PHD Washington Univ in St. Louis 1982
AB Columbia University 1972
MD New York University 1976
Farshid Guilak, MS, MPH Professor of Orthopaedic Surgery (primary appointment)
Professor of Developmental Biology
Professor of Biomedical Engineering
MS Rensselaer Poly Institute 1987
MPH Columbia University 1990
BS Rensselaer Poly Institute 1985
Charles A. Harris Assistant Professor of Medicine (primary appointment)
Assistant Professor of Developmental Biology
David Michael Holtzman, MD Andrew B. and Gretchen P. Jones Professor of Neurology (primary appointment)
Head of the Department of Neurology
Professor of Developmental Biology
MD Northwestern University 1985
BS Northwestern University 1983
Richard S Hotchkiss Professor of Anesthesiology (primary appointment)
Professor of Surgery (General Surgery)
Professor of Developmental Biology
Professor of Medicine
Maxenia Garcia Ilagan Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)
Assistant Professor of Developmental Biology
Shin-Ichiro Imai Professor of Developmental Biology (primary appointment)
Professor of Medicine
Charles Kaufman, PHD, MD Assistant Professor of Medicine (Pending Executive Faculty Approval) (primary appointment)
Assistant Professor of Developmental Biology
PHD University of Chicago 2003
MD University of Chicago 2005
BA Washington Univ in St. Louis 1997
Albert H Kim, MA, PHD, MD Assistant Professor of Neurological Surgery (primary appointment)
Assistant Professor of Neurology
Assistant Professor of Developmental Biology
BA Harvard University 1994
MA Washington Univ in St. Louis 1999
PHD New York U. School of Medicine 2002
MD New York U. School of Medicine 2003
Raphael Kopan, MS, PHD Adjunct Professor of Developmental Biology (primary appointment)
MS Tel Aviv University 1984
PHD University of Chicago 1989

Stephen K Kornfeld, PHD, MD Professor of Developmental Biology (primary appointment)
PHD Stanford University 1991
MD Stanford University 1991

Paul Thomas Kotzbauer Associate Professor of Neurology (primary appointment)
Associate Professor of Developmental Biology

Kristen Louise Kroll, PHD Associate Professor of Developmental Biology (primary appointment)
PHD University of CA Berkeley 1994
BA Northwestern University 1988

Kory J. Lavine, PHD, MD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Developement Biology
PHD Washington Univ in St. Louis 2008
BS University of Rochester 2001
MD Washington Univ in St. Louis 2008

Yangjian Liu Instructor in Developmental Biology (primary appointment)

Fanxin Long, PHD Professor of Orthopaedic Surgery (primary appointment)
Professor of Developmental Biology
Professor of Medicine
PHD Tufts University 1997

Liang Ma, PHD Associate Professor of Medicine (Dermatology) (primary appointment)
Associate Professor of Developmental Biology
PHD University of CA Los Angeles 1995
BA University of CA Berkeley 1989

Craig Anthony Micchelli, PHD Associate Professor of Developmental Biology (primary appointment)
PHD Univ of Wisconsin Madison 1999
BS Univ of Wisconsin Madison 1993

Jason C Mills, MD, AB, PHD Professor of Medicine (primary appointment)
Professor of Developmental Biology
Professor of Pathology and Immunology
MD University of Pennsylvania 1997
BA Washington Univ in St. Louis 1989
AB Washington Univ in St. Louis 1989
PHD University of Pennsylvania 1997
MD1 University of Pennsylvania 1997

Kelly Renee Monk, PHD Associate Professor of Developmental Biology (primary appointment)
PHD University of Cincinnati 2006

Samantha A Morris, PHD Assistant Professor of Developmental Biology (primary appointment)
Assistant Professor of Genetics
BS1 University of London 2002
PHD Cambridge University 2007

Aubrey R Morrison, MBBS Professor of Medicine (primary appointment)
Professor of Developmental Biology
MBBS University of London 1970

Philip Needleman, PHD Adjunct Professor of Molecular Biology and Pharmacology (primary appointment)
Jeanne M Nerbonne, PHD Professor of Medicine (primary appointment)
Alumni Endowed Professor of Molecular Biology and Pharmacology in Developmental Biology
BS Framingham State College 1974
PHD Georgetown University 1978
David M Ornitz, PHD, MD Alumni Endowed Professor of Developmental Biology (primary appointment)
PHD University of Washington 1987
BS University of CA Davis 1981
MD University of Washington 1988
Zachary Scott Pincus Assistant Professor of Genetics (primary appointment)
Assistant Professor of Developmental Biology
Stacey L. Rentschler, MS, PHD, MD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Developmental Biology
MS Mount Sinai School of Medicine 2000
PHD Mount Sinai School of Medicine 2002
MD Mount Sinai School of Medicine 2004
Deborah C Rubin, MD Professor of Medicine (primary appointment)
Professor of Developmental Biology
MD Albert Einstein College of Med 1981
BS Mass Inst of Technology (MIT) 1977
David Rudnick, MD Associate Professor of Pediatrics (primary appointment)
Associate Professor of Developmental Biology
BS University of Illinois 1987
MD Washington Univ in St. Louis 1994
John Hall Russell Professor of Developmental Biology (primary appointment)
Associate Dean for Graduate Education for the Division of Biology and Biomedical Sciences
BS Juniata College 1968
Scott Saunders, PHD, MD Associate Professor of Pediatrics (primary appointment)
Associate Professor of Developmental Biology
PHD Stanford University 1990
MD Stanford University 1990
BS University of Minnesota 1983
Jean E. Schaffer Virginia Minnich Distinguished Professor of Medicine (primary appointment)
Professor of Developmental Biology
BA Harvard Radcliffe 1982
Laura Graves Schuettpelz, PHD Assistant Professor of Pediatrics (primary appointment)
Assistant Professor of Developmental Biology
PHD Northwestern University 2000
Alan L Schwartz, PHD, MD Alumni Endowed Professor of Pediatrics (primary appointment)
Professor of Developmental Biology
PHD Case Western Reserve Univ 1974
MD Case Western Reserve Univ 1976
Diane S Sepich, PHD Assistant Professor of Developmental Biology (primary appointment)
PHD University of Oregon 1994
BS University of San Diego 1981
Jimann Shin Instructor in Developmental Biology (primary appointment)
BS Kyung Pook National University 2002
The Department of Genetics is at the forefront of the rapidly developing field known as genomic (or personalized) medicine, in which genetic and epigenetic analysis coupled with clinical information enables treatments to be tailored specifically to the individual patient. The rapid evolution of sequencing technologies, genome engineering, automated cellular imaging and mass spectrometry methods to rapidly perform proteomic and metabolomics studies, coupled with powerful computational tools, is revolutionizing the biological sciences. Investigators in the department are developing
new methods of genomic analysis including technology and software, epigenomics and copy number variation as well as studies of disease pathways using model organisms, to identify and study genes responsible for human disease and treatment responses. The department supports a broad program of preclinical and graduate instruction in genetics, with research opportunities ranging from studies of transcriptional networks, population genetics, protein evolution, neurological disorders, developmental genetics, models of human disease, genome architecture, statistical genetics and computational biology, genome technologies, and infertility.

A significant portion of the first-year course in basic medical sciences is devoted to human and clinical genetics, with emphasis on how genomic information will transform the practice of medicine. This includes specialized selective courses in addition to the core genetic curriculum. Advanced training in clinical genetics and in genetic research is available from the faculty in the Department of Genetics and from geneticists with principal appointments in many other departments within the School of Medicine.

Advanced courses and seminars are offered that focus on the genetics of complex disease, gene expression, genome engineering, induced pluripotent stem cells, single cell genomics, molecular genetics, genetic epidemiology, computational biology, developmental genetics, microbial genetics, cancer genetics and population and evolutionary genetics. Extraordinary opportunities for research training and experience are available in all of these areas and at all levels. The programs are tailored to meet the needs of medical students, graduate students and both MD and PhD postdoctoral fellows pursuing advanced training in biomedical research.

For more information

Please visit the Department of Genetics website for more information.
Medical genetics is both a science and a clinical area or specialty of medicine, and the boundary between research and clinical application is increasingly blurred. The pace in which genomic and epigenomic tools are being developed is unprecedented. And these tools result in continual conceptual advancements, which inevitably affect how we approach the study of disease risk, diagnosis and management in all areas of medicine, not just medical genetics. We are moving into a time when the interpretable data from the examination of individual genomes will be incorporated to all other clinical data to assess individual risks and guide clinical management and decision-making. This course is intended as the first step towards life-long training in medical genetics and genomics.

The course begins with a number of sessions devoted to basic principles of genetics. Drawing on this foundation we move on to discuss genomic and epigenomic tools and learn from leaders in their fields about the big questions in genetics and genomics (i.e. microbiome research, cancer genomics, current clinical uses of exome sequencing, etc.) and how the tools are being used to answer these questions. Students are exposed to the use of genetic and genomic databases and information resources; which will allow them to keep up with new information and critically appraise validity and clinical utility. We begin to discuss the implication of this shift to the “genomic era”, particularly regarding ethical aspects, regulatory aspects, equal access, healthcare costs and patient education. Clinical geneticists actively participate in the course and use a series of genetic disorders to help students apply their knowledge; focusing mainly on genetic etiology, pattern of inheritance, inheritance risk and molecular diagnostic testing. Frequent patient interviews further enhance the exposure to clinical genetics. Overall the course aims to enhance genetic and genomic literacy, which is an
essential first step in preparing students to participate in the multidisciplinary teams that effectively make cutting edge genetic and genomic research results accessible to patients.

This course is cross listed with L41 (Bio 550).

Fourth year

Electives

L41 (Bio) 5285 FUNDAMENTALS OF MAMMALIAN GENETICS
L41 (Bio) 5488 GENOMICS
L41 (Bio) 5491 ADVANCED GENETICS
L41 (Bio) 5495 COMPUTATIONAL MOLECULAR BIOLOGY
L41 (Bio) 5483 HUMAN LINKAGE AND ASSOCIATION ANALYSIS

Special topics courses/journal clubs

For complete descriptions, see Division of Biology and Biomedical Sciences.
L41 (Bio) 5235 GENETICS JOURNAL CLUB
L41 (Bio) 5484 GENOMICS AND DEVELOPMENT OF C. ELEGANS JOURNAL CLUB
L41 (Bio) 5487 GENETICS AND GENOMICS OF MEDICINE
L41 (Bio) 5489 HUMAN GENETICS JOURNAL CLUB
L41 (Bio) 5496 SEMINAR IN COMPUTATIONAL MOLECULAR BIOLOGY

Note — The number preceding the course title indicates that the course carries credit in the Graduate School of Arts & Sciences.
Research — Genetics

(M20 900)
Cross-listed with L41 (Bio 590)

Barak Cohen, PhD
SMRB – Scott McKinley Research Building, room 4308
314-362-3674

Don Conrad, PhD
SMRB – Scott McKinley Research Building, room 6213
314-362-4379
Our group has a long-standing interest in developing new methods for characterizing the origin and functional impact of human genetic variation. Recently completed projects have covered the following topics: mapping of copy number variants, measurement of sex-specific mutation rate and variation in mutation rate among decomposing the relative impact of different types of mutation (SNPs, indels, CNVs, etc.) on gene expression variation and disease susceptibility. Currently, we have a number of active projects that address fundamental unsolved problems related to human reproduction. First (1) we are trying to unravel the genetic basis for a common form of male infertility, non-obstructive azoospermia, using oligonucleotide arrays and exome sequencing. The short-term goal of this project is to define causal mutations in the >400 cases in which we have access. Our ultimate goal is to provide an unbiased view of the genetic architecture of the disease and establish a definitive reference panel of causal mutations that clinicians can use to facilitate diagnosis of spermatogenic failure. Second (2) we are using sperm DNA from a longitudinal cohort of semen donors to study the processes of mutation and selection within the population of germ cells of individuals. There are a number of other potential projects
ranging from topics of medical relevance such as the biology of the placenta and maternal-fetal compatibility to more basic questions regarding genome biology and evolution. Training in this elective will be primarily computational, and can cover skills such as population genetic analysis, rare-variant association study methodology and other aspects of statistical genetics. However, parties interested in using other approaches to address the topics discussed here are welcome.

Joseph Dougherty, PhD
SMRB – Scott McKinley Research Building, room 6316
314-286-0752
Our laboratory utilizes a variety of techniques spanning from human molecular genetics and informatics to mouse behavioral neuroscience and neuroanatomy. We develop and employ mouse models of psychiatric disorder, particularly those that mimic genetic variations we’ve identified from human patient populations, with the goal of trying to understand the cellular and molecular underpinnings of these disorders.

Susan K. Dutcher, PhD
SMRB – Scott McKinley Research Building, room 5301
314-362-2765
Studies on the role of centrioles and basal bodies in ciliary signaling, assembly, and motility using molecular genetics, computational, and biochemical approaches.

Justin Fay, PhD
SMRB – Scott McKinley Research Building, room 4305
314-747-1808
Population and evolutionary genetics, evolution of gene regulation in yeast, human evolution.

Stephen L. Johnson, PhD
711 McDonnell Science Building
314-362-0362
Growth control and morphogenesis in vertebrate development. Focus on genes and
mechanisms affecting proportionate fin growth, fin regeneration and pigment stripe patterning in zebrafish.

Heather Lawson, PhD
SMRB – Scott McKinley Research Building, room 6312
This research focuses on molecular mechanisms underlying parent-of-origin effects on metabolic traits. Parent-of-origin effects are epigenetic phenomena that appear as phenotypic differences between reciprocal heterozygotes depending on the allelic parent of origin. Genomic imprinting is a parent-of-origin effect that results in two alleles at a locus being functionally non-equivalent. Imprinted genes can be important contributors to phenotypic variation and imprinting patterns can be complex. We integrate whole-genome sequence data with transcriptome data and correlate this with variation in multiple metabolic traits under different dietary conditions. This discovery research uses a mouse model and our two main goals are to 1) identify molecular patterns that may have predictive power and 2) translate these patterns to human data.

Elaine Mardis, PhD
Room 4122, 4444 Forest Park Building
314-286-1805
Technology development for second-generation DNA sequencing with an emphasis on methods and applications development. Non-human primate genomics.

Jeffrey Milbrandt, MD, PhD
SMRB – Scott McKinley Research Building, room 6306
314-362-4651
Studies of metabolic control of glial/axonal interactions necessary for proper nerve function. The use of high throughput genetic and pharmacologic screens using primary neurons and induced pluripotent stem cells to identify molecular mechanisms of axonal degeneration in neuropathy and neurodegenerative disease.

Rob Mitra, PhD
SMRB – Scott McKinley Research Building, room 4301
314-362-2751
Systems Biology and Technology Development. We are developing tools to make quantitative biological measurements and applying these tools to build mathematical models of biological processes.

Samantha Morris, PhD
SMRB – Scott McKinley Research Building, room 3316
314-747-8618, s.morris@wustl.edu
Engineering cell fate to generate clinically valuable cell populations: Stem Cell and Developmental Biology. Our research focuses on dissecting the gene regulatory networks that define cell identity, using the developing embryo and tissue regeneration as a guide to engineer fate in vitro. We apply insight from these analyses to generate clinically relevant populations by differentiating cells from a pluripotent state, or by directly converting cells between mature fates. We employ a combination of computational, single cell transcriptomics, cell and developmental biology approaches.

Zachary Pincus, PhD
SMRB – Scott McKinley Research Building, room 5304
314-747-5520
Inter-individual variability in aging and lifespan. Developmental origins of longevity and adult health. Quantitative microscope and image analysis of C. elegans.

Michael A. Province, PhD
Suite 6318, 4444 Forest Park Building
314-362-3616
Development and evaluation of novel statistical genetics methodology, especially as applied to genomic identification and validation of variants for human complex quantitative traits, such as heart disease, cancer, pulmonary function, diabetes, and human longevity.

Nancy L. Saccone, PhD
308 Biotechnology Building
314-747-3263
Statistical genetics and psychiatric genetics. Development and application of analysis methods for studying the genetics of human disease and complex traits.

Tim Schedl, PhD
SMRB – Scott McKinley Research Building, room 5305
314-362-6162
Germ cell development in the model organism Caenorhabditis elegans. The major focuses are: control of the decision to proliferate or enter the meiotic pathway, control and coordination of meiotic prophase progression and gametogenesis, and control of meiotic maturation and ovulation.

James Skeath, PhD
SMRB – Scott McKinley Research Building, room 6315
314-362-0535
Identification of the genes and the elucidation of the molecular mechanisms that regulate the early events of Drosophila central neurogenesis; illumination of the mechanisms that form, pattern and specify the individual identities of the progenitor cells of the Drosophila embryonic CNS.

Gary D. Stormo, PhD
SMRB – Scott McKinley Research Building, room 4208
314-747-5534

Ting Wang, PhD
SMRB – Scott McKinley Research Building, room 5211
314-286-0865
We work in the general field of computational genomics and epigenomics. We study the evolution of human regulatory networks, with a focus on mobile elements (or transposable elements) and their impact on gene regulation, their genetic and epigenetic control, and their roles in human biology and diseases.
Richard K. Wilson, PhD
Room 4122, 4444 Forest Park Building
314-286-1804

Genome research. Large-scale DNA sequence analysis of genomes and expressed genes (cDNAs) from humans, non-human primates, mammals, invertebrates, plants and various bacterial species. Targeted genomic analysis of genes and regulatory elements in human cancers and other hereditary diseases. Development of novel technology for large-scale DNA sequence analysis and genetic analysis.

Faculty — Genetics

Jeffrey D Milbrandt, PHD, MD
James S McDonnell Professor of Genetics (primary appointment)
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Professor of Neurology
Professor of Pathology and Immunology
Head of the Department of Genetics
PHD University of Virginia 1983
MD Washington Univ in St. Louis 1978
BS Univ of Nebraska at Kearney 1974

Haley J Abell
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Ping An
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MS Southern Ill Univ Edwardsville 1992
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Ruteja A. Barve, MS, PHD
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MS Washington Univ in St. Louis 2008
PHD Washington Univ in St. Louis 2014
BS University of Pune 1995

John Rutledge Bermingham Jr, PHD
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PHD University of Colorado Boulder 2016

Ingrid B Borecki, PHD, MS
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Paul F Cliften, MS, PHD, Associate Professor of Genetics (primary appointment)

C. Robert Cloninger, MD, Wallace Renard Professor of Psychiatry (primary appointment)

Barak Alon Cohen, Professor of Genetics (primary appointment)

Alvin Goldfarb, Distinguished Professor of Computational Biology

Donald Franklin Conrad, Assistant Professor of Genetics (primary appointment)

Joseph C. Corbo, MD, PHD, AB, Associate Professor of Pathology and Immunology (primary appointment)

Catherine E Cottrell, PHD, Assistant Professor of Pathology and Immunology (primary appointment)

James P Crane, MD, Associate Vice Chancellor for Clinical Affairs (primary appointment)

Sharon Cresci, MD, Assistant Professor of Medicine (primary appointment)

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PHD University of Chicago 2001

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Instructor in Genetics

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Professor of Genetics
MS School Not Listed 1979
BS School Not Listed 1977
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MS University of Toronto 1990

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PHD University of British Columbia 2010
BS University of Winnipeg 2002
BS1 University of Winnipeg 2002

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Professor of Neurological Surgery
Professor of Pediatrics

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Professor of Genetics

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Associate Professor of Genetics

Stephen L Johnson
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Sungsu Kim

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MA Pennsylvania State University 2004

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Professor of Genetics

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Huawen Lin

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Assistant Professor of Genetics

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Xianrong Mao, MS

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Elaine Rene Mardis, PHD

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Robi D. Mitra, PHD

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Associate Professor of Genetics

Zachary Scott Pincus Assistant Professor of Genetics (primary appointment)
Assistant Professor of Developmental Biology

Michael A Province, MA Professor of Genetics (primary appointment)
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BA University of Dallas 1973
MA Washington Univ in St. Louis 1979

Dabeeru C Rao, PHD, MS Professor of Biostatistics (primary appointment)
Professor of Biostatistics in Genetics
Director of the Division of Biostatistics
Tenure Held At-Large in the Medical School
Professor of Biostatistics in Psychiatry
Professor of Mathematics
BS Indian Statistical Institute 1967
PHD Indian Statistical Institute 1971
MS Indian Statistical Institute 1968

John P Rice, MA, PHD Professor of Mathematics in Psychiatry (primary appointment)
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Professor of Genetics
BA Cornell University 1969
MA Washington Univ in St. Louis 1972
PHD Washington Univ in St. Louis 1975

Elisha D.O. Roberson, PHD Assistant Professor of Medicine (primary appointment)
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Nancy L. Saccone, PHD, MS Associate Professor of Genetics (primary appointment)
Associate Professor of Biostatistics
PHD Brown University 1993
MS Brown University 1990

Lawrence B Salkoff, PHD Professor of Neuroscience (primary appointment)
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Mark Steven Sands, PHD Professor of Medicine (primary appointment)
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Yo Sasaki, PHD, MS  Assistant Professor of Genetics (primary appointment)
BS Tokyo U of Agric & Technology 1991
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MS Tokyo U of Agric & Technology 1994
Tim B Schedl, PHD  Professor of Genetics (primary appointment)
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Professor of Genetics
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Cherilynn Maria Reynolds Shadding Academic Rank held in Genetics (primary appointment)
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Alan Shielis, PHD  Professor of Ophthalmology and Visual Sciences (primary appointment)
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Joseph Erlanger Professor
Professor of Computer Science
Professor of Biomedical Engineering
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MA University of Colorado Boulder 1975
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Associate Professor of Biostatistics
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MS Washington Univ in St. Louis 2001
Wesley Charles Warren, MS, PHD  Academic Rank held in Genetics (primary appointment)
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BS Oklahoma St University 1984
PHD University of Missouri 1990
Michael C Wendl Academic Rank held in Genetics (primary appointment)
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Assistant Professor of Genetics
Assistant Professor of Mechanical Engineering & Materials Science
Assistant Professor of Mathematics
Assistant Professor of Genetics

**Michael Aaron White, PHD, MS**  
Assistant Professor of Genetics  
(secondary appointment)  
BA Brigham Young University 2000  
PHD University of Rochester 2006  
MS University of Rochester 2004

**Michael Peter Whyte, MD**  
Professor of Medicine  
(primary appointment)  
Professor of Pediatrics  
Professor of Genetics  
MD State University of New York 1972  
BA New York University 1968

**Richard K Wilson, PHD**  
Adjunct Professor of Genetics  
(secondary appointment)  
BA Miami University 1981  
PHD University of Oklahoma 1986

Mary Kaye Wojczynski  
**Assistant Professor of Genetics**  
(secondary appointment)

**Hiroko Yano, PHD, MS**  
Assistant Professor of Neurological Surgery  
(secondary appointment)  
Assistant Professor of Genetics  
Assistant Professor of Neurology  
PHD University of Tokyo 1996  
MS University of Tokyo 1993  
BS Science University of Tokyo 1991

**Jinsheng Yu**  
Instructor in Genetics  
(secondary appointment)  
BS Tongji University 1984  
No entries found

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**John Milliken Department of Medicine**

The Department of Medicine’s general medicine teaching services at Barnes-Jewish Hospital and the Veterans Administration Medical Center (St. Louis) are under the following directors:

**Barnes-Jewish Hospital**
Victoria J. Fraser, MD, Chairman, Department of Medicine

**Veterans Administration Medical Center**
Daniel P. Goodenberger, MD, Chief
In addition, for the purposes of clinical care, teaching and research, the Department of Medicine is divided into specialty divisions and sections at Barnes-Jewish Hospital under the following chiefs:

**Allergy and Immunology**
H. James Wedner, MD, Chief

**Bioorganic Chemistry and Molecular Pharmacology**
Richard W. Gross, MD, PhD, Chief

**Bone and Mineral Diseases**
Robert Civitelli, MD, Chief

**Cardiology/Cardiovascular Diseases**
Douglas L. Mann, MD, Chief

**Dermatology**
Lynn A. Cornelius, MD, Chief

**Endocrinology/Metabolism/Lipid Research**
Clay F. Semenkovich, MD, Chief

**Gastroenterology**
Nicholas O. Davidson, MD, Chief

**General Medical Sciences**
Bradley A. Evanoff, MD, MPH, Chief

**Geriatrics and Nutritional Science**
Samuel Klein, MD, Chief

**Hematology**
J. Evan Sadler, MD, PhD, Chief
Instruction in Medicine is provided during all four years of the medical curriculum, beginning with The Practice of Medicine I in the first year. Teaching in the second year has two main objectives: the correlation of the basic sciences with clinical aspects of disease and training in the technical methods of physical examination and laboratory diagnosis. By the beginning of the third year, the student is ready for supervised clinical study of individual patients.

A clinical clerkship of 12 weeks, divided into three four-week periods, is served by third-year students on the medical services of the department. In the final year,
students may elect a subinternship in general medicine and a series of elective courses in the medical specialties.

Instruction in Medicine is provided during all four years of the medical curriculum, beginning with The Practice of Medicine I in the first year. Teaching in the second year has two main objectives: the correlation of the basic sciences with clinical aspects of disease and training in the technical methods of physical examination and laboratory diagnosis. By the beginning of the third year, the student is ready for supervised clinical study of individual patients.

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For more information

Please visit the Department of Medicine website for more information.

MD Courses — Medicine

First year

M25 507 THE PRACTICE OF MEDICINE I

Instructor: Tim Yau, MD

POM I is a large course which spans all 3 blocks of the first year. It is composed of three content areas:

- Clinical Skills
Patient, Physician, and Society

Scientific Basis of Clinical Medicine

Each of these three content areas has two or more sections, each run by a faculty section leader.

POM I employs a variety of teaching techniques, instructors and venues. This includes lecture, small group discussions, panel sessions, one-on-one hospital interviews, standardized patient sessions, a patient home visit, and visits to both a primary care office and a city clinic.

What are the educational goals of POM I?

Students will learn to:

1. Perform a complete history and physical examination with thoroughness, accuracy, sensitivity and compassion.
2. Communicate effectively, efficiently and compassionately with patients, families and other health professionals.
3. Describe and analyze the statistical methodology of clinical studies and apply the results to individuals and groups of patients.
4. Identify and investigate ethical, cultural, socioeconomic and political factors relevant to medical interactions.
5. Examine and analyze personal and professional competencies, limitations and behaviors.

How do we accomplish these goals?

1. Learning skills and techniques requires a cycle of steps: preparation, background reading, attempts at skill performance, analysis and reflection on performance, discussion of potential improvements, and successive performance of the skill with advancement to a new level of expertise.
2. The focus is on learning skills. You practice each skill, such as interviewing, in a
variety of venues and situations of varying complexity. This course is for learning about how to do things that you will use for taking care of patients and families.

3. You work in multiple learning environments.
   a. Academic environments: Small group sessions for discussion, small group practice sessions, peer learning, small group presentations, individual and group writing assignments, and reflections on experiences are the preferred learning locations.
   b. Clinical environments: Inpatient units with faculty and WUMS IV mentors, standardized patient experiences with videotape review, physicians' offices, patient's homes with and without home care professionals, and a city clinic.

Selectives

M04 5009 MEDICAL SPANISH
Instructor: Marcos Rothstein, MD, 286-0801
This course is designed to provide educational opportunities for people speaking at all levels of Spanish fluency. The classes will consist of basic grammar and the movie/book club/charlas (chats)/roundtables with physicians interspersed throughout the course. Students will learn medically relevant vocabulary, cultural sensitivity and fluency with the goal to improve treatment of the growing U.S. Latino population.

M04 520H ART AND MEDICINE
M04 528H TERMINAL ILLNESS AND DEATH
Instructor: Ellen F. Binder, MD, 314-286-2707, ebinder@wustl.edu
In this seminar we will examine such topics as: 1) psychological, social, and professional responses to terminal illness and death; 2) communicating bad news to patients; 3) grief and bereavement; 4) palliative care and physician-assisted suicide. Teaching sessions will include discussion of readings, interviews with practitioners and/or patients, and will rely heavily on student participation. Students are also required to spend a half-day making rounds with a BJC Hospice nurse.

M04 528H TERMINAL ILLNESS AND DEATH
Instructor: Ellen F. Binder, MD, 314-286-2707, ebinder@wustl.edu
In this seminar we will examine such topics as: 1) psychological, social, and professional responses to terminal illness and death; 2) communicating bad news to patients; 3) grief and bereavement; 4) palliative care and physician-assisted suicide. Teaching sessions will include discussion of readings, interviews with practitioners and/or patients, and will rely heavily on student participation. Students are also required to spend a half-day making rounds with a BJC Hospice nurse.

**M04 5302 FRONTIERS IN LEUKEMIA**
Instructor: John Welch, jwelch@dom.wustl.edu

Hematopoietic research is rapidly and in some cases dramatically changing the clinical management of patients with leukemia. Most notably, the development of imatinib, a drug specifically designed to inhibit the bcr-abl oncogene, has fundamentally altered the way we treat patients with chronic myelogenous leukemia (CML). The objective of this course is to introduce students to scientific investigation in hematopoiesis with an emphasis on leukemogenesis. We will focus on how research is advancing our understanding of the pathogenesis and treatment of this group of diseases. Specific topics will include CML and the development of imatinib and newer inhibitors, acute myelogenous leukemia, and the preleukemic syndromes severe congenital neutropenia and myelodysplasia. The faculty is all physician-scientists actively engaged in these areas of research. Students will be able to demonstrate the impact of molecular biology on the understanding of the pathogenesis of leukemia and its clinical management.

**M04 538H DOCTORS ON FILM**
Instructor: Thomas M. De Fer, MD, 747-4366

This course will explore the relevant social themes of films in which physicians and/or the medical profession are the main focus. There are countless portrayals of physicians in the cinema. There are also many films that deal extensively with various features of health care delivery. For good or for bad, viewers of these films outside our profession are strongly influenced by these portrayals. Common stereotypes are perpetuated. If it's in the movies, there must be some truth to it. Depictions of physicians and major medical themes have evolved with time and under the influence
of social and scientific developments. The course will investigate these depictions and themes using a selection of films (from the classic era to more modern films) to provoke thought and discussion. Some discussion of film craft is also included. Emphasis is given to older movies, 1940s to 1970s. Those not interested in film craft or classic films should consider these latter points very carefully. The essence of this selective is the collective group experience of watching the movies and the discussion that follows. Most of the films are not readily available for rental or purchase, and lending of the VHS tapes or DVDs is not practical. For these reasons, attendance at five of the six sessions is required (all students must attend the introductory session). Each session will run from 3:15 p.m. to 4:55 p.m. (1 hour and 40 minutes). Students will be able to:
1. Discuss the common themes in doctor movies
2. Discuss the evolution of these themes over time in the context of social and scientific developments
3. Discuss the various portrayals of physicians frequently seen in doctor movies
4. Discuss the effects of these themes and portrayals on patient expectations
5. Appreciate how an understanding of these portrayals and themes can be used to improve medical care

M04 582H PHILOSOPHY OF MEDICINE
Instructor: Stephen S. Lefrak, MD, 454-7116

Medicine is a complex enterprise that has a major impact on our society. As such it draws increasing attention from those within the health care professions as well as those outside medicine whose expertise may lie in law, social science, philosophy, policy, etc. Physicians, in addition to their clinical and research responsibilities, must become increasingly adept at interdisciplinary activities. It is never too early in a career to begin to examine “medical” concepts that are frequently employed without being clarified, thus hindering communication rather than solving problems. It is this clarification process that philosophy addresses. The very issues that philosophy has dwelled on throughout the centuries are the very ones that are critical for medicine; think of “death” or “personhood”, for example. Also, whether medical concepts are “real” or “constructed” is important for both the disciplines of medicine and
philosophy. And dare we even mention such issues as the relationship between mind and body, notions of causality, how and what we mean when we “know something” and “free will”? This selective is looking for students who would be interested in beginning such a study with the goals of developing their own understanding as well as introducing it into the medical school curriculum in a formal way. The classical subdivisions of philosophy such as ontology (science of being, existence), epistemology (science of knowing), ethics (moral philosophy) and social philosophy may all serve to clarify important issues in medicine. For example, physicians focus on disease in many ways, yet are diseases descriptive realities or normative (value) concepts? The impact of which answer is accepted is felt throughout society? as what will be reimbursed as health care, what is enacted into policy and law (Americans with Disability Act), and to what the range of medicine is and where are its boundaries. The epistemology of medicine may also be somewhat unique. What physicians take as evidence and what we mean by causality may be very different than what is meant in other scientific disciplines. The terms used by physicians such as evidence, causality, explanation, hypothesis, theory, etc. should be critically analyzed by physicians. The impact of our understanding of this has great effect on our patients both in clinical care and what research is pursued and accepted. Of course, ethics plays an important role in medicine, but this course is focused on a philosophical analysis of the medical concepts and the constructs of medicine with emphasis on ontology and epistemology. Students will be able to:

1. Expound the “arguments” whether “philosophy of medicine” exists or is needed.
2. Thoughtfully discuss what “medicine” is and some of the legitimate “goals of medicine”.
3. Discuss some of the major domains of philosophy.
4. Become familiar with some of the major philosophical problems and methods.
5. Describe what metaphysics are.
6. Discuss the “concept of disease”.
7. Discuss what kind of activities clinical medicine and reasoning are.
8. Become familiar with the analysis of “scientific method” and how that model compares, fits with clinical medicine.
9. Discuss the method of medicine and compare it to other fields.
10. Think critically about what is required of a mechanistic explanation.
11. Think carefully about the nature of causal relevance.
12. Discuss the virtues and limits of reductive explanations and methods in neuroscience and physiology.
13. Understand the principles of evidence-based medicine.
14. Understand some individuals believe evidence-based medicine is not scientifically sound.
15. Understand the care of individual patients is complex, and rigid adherence to one model may not be sufficient.
16. Discuss the relationship between the metaphysics of medicine, the epistemology of clinical medicine and clinical ethics.
17. Attempt to adopt a unified outlook toward the commonly employed concepts of clinical medicine and their relationship to the patient, physicians and their interaction.
18. Proceed throughout their medical education and careers more aware of the impact of the views that are taken of “disease”, clinical judgment and ethical decision making.

**M04 524H MAJOR RELIGIOUS TRADITIONS AND HEALTH CARE**

Instructor: Chaplain William V. Trogdon, BCC, Director Spiritual Care Services, 314-609-8238

This course will introduce the students to the tenets of mainline world religions and how their beliefs and practices can best be considered in understanding the whole patient/family for treatment, planning and decision-making. Primary attention will be given to the five major world religions: Christian, Buddhist, Hindu, Jewish and Muslim faith traditions as well as others with particular considerations for health care. Special attention will be paid to end-of-life issues, decision-making and interpersonal dynamics. The students also will be introduced to a clinical model of understanding faith and spirituality within the context of health care. Students will be able to:

1. Be more comfortable considering patient/family religious/faith dynamics.
2. Understand the role of patient/family faith commitments in their healing, well-being and development.
3. Increase basic knowledge of tenets of mainline religions found in the United States
and how their beliefs/practices can best be considered in understanding the whole 
patient/family for treatment planning and decision-making.

M04 588H MUSIC AND MEDICINE
Instructor: Steven Cheng, MD, 362-7211 and David Windus, MD, 362-7211
Music and medicine reflect one another in several fascinating ways. During this 
selective, students will participate in six highly-interactive sessions that will include 
lively discussions, guest speakers and demonstrations. Students will discuss how 
music evokes certain characteristics of disease, suffering and illness; discuss how 
ilnesses in musicians/composers and rock stars influences their work; understand the 
role of music in the healing process; and recognize medical problems that arise in 
performing artists. Students will also see first-hand how music can impact the elderly 
and ill during a performance at a local nursing home.

M04 5875 OLIN GRAND ROUNDS: THE BUSINESS AND PRACTICE OF MEDICINE
Instructors: Cynthia Wichelman, MD, FACEP, Associate Professor of Emergency 
Medicine, wichelm@wustl.edu, and Bart Hamilton, PhD, Robert Brookings 
Distinguished Professor of Entrepreneurship
Grand Rounds at medical schools are forums for presenting new and challenging 
clinical problems and cases. The goal of Olin Grand Rounds is to focus on the 
challenges facing the business of medicine and consider possible solutions. The 
course provides a broad introduction to the current issues facing the health care 
sector, while integrating management tools and clinical knowledge. This fall semester 
course was first offered in 2006 and has become a popular course for premed and 
business undergraduates, as well as students in the MBA program. More medical 
students should take this class! The information is invaluable for any one pursuing a 
career in medicine or in the health care sector of business. In addition to several 
outstanding guest speakers, a number of business case study discussions are 
complemented with clinical patient presentations. Topics covered include clinical 
practice compensation distribution, concierge medicine, health care reform, ACA, 
health care systems comparison, hospital management, analysis of walk-in clinics (i.e., 
Walgreens. CVS), organ transplantation, research and development and marketing of
pharmaceuticals, sickle cell anemia and management of Medicaid and care to the underserved, the business of cosmetic surgery, and biotech startup methods used by local physician-entrepreneurs, to name a few. The course also includes a tour of Express Scripts.

M04 5013 INTRODUCTION TO EMERGENCY MEDICINE I
Instructor: Cynthia Wichelman, MD, FACEP, Associate Professor of Emergency Medicine, wichelmc@wustl.edu
Over six sessions, we will review the physiology and clinical management of common emergencies: cardiovascular emergencies; trauma resuscitation and shock; environmental emergencies, such as high-altitude cerebral edema and snake bites; pediatric emergencies; gynecological and urological emergencies; and toxicological emergencies. Each session will include a lecture followed by case studies that highlight critical aspects of a patient’s history, physical examination, laboratory and radiological studies, as well as procedural intervention and pharmacological treatment. Group participation is encouraged. This selective is intended to give students an exposure to emergency medicine. Students will become familiar with the methods used to evaluate and treat patients with medical emergencies in preparation for their clinical training.
October 25 – Nov. 29th, 2016. Tuesdays, 3:15 PM – 5PM.

M04 5016 INTRODUCTION TO EMERGENCY MEDICINE II
Instructor: Cynthia Wichelman, MD, FACEP, Associate Professor of Emergency Medicine, wichelmc@wustl.edu
This class is a second session on emergency medicine (in response to student requests!) exploring topics not covered in the fall session. Although it would be beneficial to take the Introduction to Emergency Medicine I course offered in the fall, it is not a prerequisite for this class. Six sessions will review the physiology and clinical management of abdominal emergencies, obstetric emergencies, ophthalmic emergencies, endocrine emergencies, environmental emergencies such as lightning and hypothermia, plus a few neurologic emergencies, renal emergencies, orthopedic
emergencies and oncologic emergencies. Each session will include a lecture followed by case studies that highlight critical aspects of a patient’s history, physical examination, laboratory and radiological studies, as well as procedural intervention and pharmacological treatment. Group participation is encouraged. This selective is intended to give students further exposure to emergency medicine. Students will become familiar with the methods used to evaluate and treat patients with medical and surgical emergencies in preparation for their clinical training and board preparation.

April 4 – May 9, 2016. Tuesdays, 3:15 PM – 5PM.

M04 587L INTERNATIONAL HEALTH
Instructor: Cynthia Wichelman, MD, FACEP, Associate Professor of Emergency Medicine, wichelmc@wustl.edu
This course is an excellent opportunity to prepare for a summer abroad through FIHTM or for a fourth year away rotation. Speakers include WUSM faculty who have incorporated international healthcare in their practices — from surgery (e.g., ophthalmology, neurosurgery, ENT, ob/gyn), and anesthesiology, to emergency medicine and pediatrics, as well as give students an opportunity to hear from the Global Health faculty heroes at WUSM. Each lecture is followed by an interview with the speaker. The course will help you explore different avenues for adding an international component to your career and to learn which specialties may more readily lend themselves to this. Other topics include how to protect your health while abroad and the ethics of research in a global setting, and organizations such as Doctors Without Borders and ORBIS. WUSM II and IV students will also share their experiences administering health care and doing research abroad. This course, which consists of six sessions, was first introduced in 2004 and grew quickly. On the last day, students present for 10-15 mins. on a topic of their choice.
January 24 – February 28, 2016. Tuesdays, 3:15 PM – 5PM.

M04 537 SIMULATIONS IN CARDIOVASCULAR PHYSIOLOGY
Instructor: David Murray, MD, 747-2136
The purpose of this selective is to demonstrate cardiovascular physiologic principles
including control mechanisms using interactive patient simulators (computerized mannequins) to replicate common cardiovascular disease conditions and potential treatment modalities. Several clinical scenarios with case histories will be presented to small groups for interpretation and subsequent treatment, thereby providing the opportunity to explore alterations in preload, afterload, isotropism and chronotropism. During the selective clinical conditions associated with changes in these cardiovascular determinants as well as various cardiovascular control mechanisms will be explored through scenarios. Scenarios include shock, arrhythmias, congestive heart failure, myocardial infarction and some “unknowns”. Variables monitored in the patient simulator include ECG, arterial, venous, ventricular and capillary wedge pressures, cardiac output, stroke volume, heart rate, systemic and pulmonary vascular resistance and ventilation. A class-wide discussion and systematic review will follow the individual small group workshops to allow synthesis of all the material.

M04 586H HEALTH AND HUMAN RIGHTS
Instructor: Kim Carmichael, MD, 454-7116
There is a strong belief among many physicians that our responsibilities extend beyond our individual patients to our communities, countries and even to our entire world. This humanities selective is an excellent forum for interested students to actively learn and discuss the impact of human rights violations on health. Topics include reproductive and pediatric health rights, communication issues and interactions with interpreters. Each meeting will consist of a brief presentation and a discussion on the topic. There will be a different presenter for each topic. Readings will be provided. Students will be able to:
1. Explore human rights issues that are relevant to the health professions from both local and worldwide perspectives.
2. Describe the boundaries and challenges involved in solving human rights issues.
3. Describe strategies for the implementation of programs that address human rights issues.
4. Develop successful initiatives and interventions pertaining to health and human rights.
M04 587A PHYSICIAN AS HEALTH PROTECTOR AND PATIENT ADVOCATE
Instructor: Steven I. Plax, MD, 994-0109
Investigation into clinical topics again will be offered. Last year’s students did an educational program teaching our population how to read the nutrition information on products they were purchasing. For further information, students may call Dr. Plax at (314) 994-0109. The Office of Medical Student Education has copies of our medical handbooks and their supplements. This course is a component of the Health Protection and Education Service, which meets on the third Saturday of each month except December and July. Sessions are held in the University City Library, 6701 Delmar from 9 a.m. to 11:30 a.m. Students share the goals of the HPES.
1. To do multiple screening testing ranging from height, weight, body mass index, blood pressure, eye and vision evaluation, hearing tests by audiologist, skin and dental exam, blood sugar, hemoglobin, and cholesterol measurement, and EKGs.
2. Educate people in protecting their health — a trained historian records each individual’s medical history — at conclusion of person’s tests and recording of history, a one-on-one conference is held with a member of MD staff. Medical students participate in screenings and in history-taking and final conferences in telephone follow-up.
This is an opportunity for Washington University medical students to correlate the basic information gathered from first-year courses with their experience with our patients — and in-the-trenches participation in preventive medicine. Students actively participate in the screening and in history-taking (with trained historian) and in individual conferences between patients and physicians. Students may take part in statistical analysis of data and join in the production of another supplement as in preceding years.

M04 580H THE HEALER’S ART
Instructor: Anna Lijowska, MD, 454-6148
The Healer’s Art combines seed talks and experiential exercises in a large group setting along with small group experiential exercises. The course engages students in a discovery model of community of inquiry focusing on the meaning of physicianhood
and the practice of medicine. Faculty participate in the discovery model process on an equal footing with students as well as facilitating the process of the small groups. The course is designed to encourage medical students to trust the power of listening and presence to heal; formulate a personal, comfortable and compassionate response to loss; experience the healing power of grief; recognize that who they are is as important to the healing relationship as what they know; recognize awe and mystery in the daily practice of medicine; explore the concept of calling; write a personal mission statement; and explore the personal meaning of physicianhood. The Healer’s Art facilitates students in clarifying, strengthening and making a personal commitment to medicine as their life’s work. Students also have the opportunity to explore their personal values and commit to developing and preserving their personal values, such as service, harmlessness, compassion, altruism, self-care, equality, justice, respect and nurturing wholeness. There will be additional instructors for this course.

Students will be able to:
1. Make an active commitment to strengthening and preserving their humanity
2. Experience the effects of listening and being listened to generously and compassionately
3. Experience healing relationships with other students
4. Experience tools of self-remembering
5. Identify effective and ineffective behavioral responses to loss and grief
6. Identify when they first became aware of wanting to serve others
7. Articulate and strengthen a personal commitment to medicine as their life’s work
8. Experience practicing physicians sharing their experiences of loss, grief, mystery, and awe in practicing medicine
9. Witness the unity of commitment to service that lies beneath the diversity of expertise and experience

Second year

Teaching by the Department of Medicine is designed to: 1) prepare students for the transition from the preclinical sciences to the study of the sick patient at the bedside, 2) help them analyze the clinical manifestations of disease in terms of the responsible mechanisms and 3) introduce them to the techniques of examination that are used
regularly on all clinical services. This instruction is undertaken jointly with members of other clinical departments and is coordinated with subject matter presented by the Department of Pathology and Immunology.

The major areas of clinical medicine are presented in detail to illustrate the application of biochemical, physiological and anatomical information to the understanding of pathological states. Cardiovascular, renal, neurological, gastrointestinal, pulmonary, hematological, metabolic, nutritional and developmental diseases are discussed. Emphasis is placed on the use of fundamental information in approaching clinical problems as a way of thinking that prepares the student for a lifetime of medicine, during which new information will constantly be acquired.

**M25 607 THE PRACTICE OF MEDICINE II**  
Course Master: Megan E. Wren, MD, 286-3480  
The goal of The Practice of Medicine (POM) course is to provide students with the knowledge, skills and attitudes essential to patient care regardless of specialty. POM II is a continuation of POM I and will continue to address various interfaces between patients, physicians and society and will also introduce the advanced physical exam and approaches to clinical thinking and decision-making. The sections of POM II include Clinical Skills, Case Development, Communication Skills, Ophthalmology, Radiology, Community and Public Health, Ethics and Health Policy Humanities, and Scientific Methods. The learning objectives for each section of POM II emphasize topics and skills used in all fields of medicine, and the majority of the course work will be taught in small groups or through clinical experiences. 89 clock hours.

**M25 605A INFECTIOUS DISEASES AND MEDICAL MICROBIOLOGY**  
Instructors: Nigar Kirmani, MD, 454-8276 and Steven Lawrence, MD  
The infectious disease pathophysiology course emphasizes both organism-specific and organ-specific approaches to diseases caused by microbes. The course expands on material presented briefly in the first year concerning bacteria, viruses, fungi and parasites and their involvement in human disease. Mechanisms of disease production, clinical manifestations and therapy are discussed, along with public health
implications. In addition to lectures, small group case discussions enable students to apply the information they learn to clinical situations.

**M25 606A RHEUMATOLOGY**
Instructor: Richard D. Brasington, Jr., MD, 454-7255
The rheumatology pathophysiology course begins with an overview of the approach to the patient with arthritis and related disorders. Diagnoses covered include rheumatoid arthritis, systemic lupus erythematosus, vasculitis syndromes, infectious arthritis, and crystalline arthritis. Clinical features and treatment will be emphasized. In small group sessions, students interview and examine patients to gain a fuller understanding of the typical history and physical findings of these disorders. Students are strongly encouraged to attend the small group sessions with patients, who make a major contribution to teaching students about these conditions

**M25 611B CARDIOVASCULAR DISEASE**
Instructors: Dana R. Abendschein, PhD, 362-8901 and Justin Sadhu, MD
The purpose of this course is to consider the mechanisms and manifestations of acquired cardiovascular disorders as well as their pharmacologic treatment. Lectures and small group discussions that emphasize the major areas of cardiac and vascular pathophysiology and pharmacology are provided.

**M25 612B PULMONARY DISEASE**
Instructor: Adrian Shifren, MD, 314-454-8764
The objectives of the pulmonary pathophysiology course are to classify, compare and contrast the major categories of human lung disease. This will be achieved through description of pathophysiologic mechanisms underlying lung disease in humans including alterations in pulmonary mechanics, gas exchange and lung ventilation.

**M25 613B RENAL AND GENITOURINARY DISEASES**
Instructors: Steven Cheng, MD, 362-7211
This course uses basic principles of renal physiology and ion homeostasis to
understand commonly encountered fluid and electrolyte disorders (especially hyper- /hypo- natremias, acidoses/alkaloses) and the action of diuretic drugs. The pathophysiology of diabetic kidney disease, glomerular and tubulointerstitial diseases, hereditary kidney diseases, and the relationship between hypertension and the kidney are discussed. It also applies basic principles of urinary system anatomy and physiology to the understanding of kidney stones, disorders of the bladder and prostate, and of micturition. The course also introduces basic principles of dialysis and kidney transplant. Lectures, small group problem-solving and team-based learning sessions focus special attention on: 1) how a working knowledge of fundamentals, diagnostic testing and arithmetic manipulation can have important predictive value; and 2) how the courses of acute and chronic renal failure are both adaptive and maladaptive for the organism.

**M25 614 DERMATOLOGY**  
Instructor: David M. Sheinbein, MD, 996-8005  
The dermatology second-year course is designed to teach medical students how to describe skin lesions and the pathophysiologic basis and clinical characteristics of major dermatologic diseases. Major categories of clinical skin diseases and their most prominent constituents will be discussed, including papulosquamous diseases, blistering diseases, infectious diseases, and benign and malignant neoplasms.

**M25 615A ENDOCRINOLOGY AND METABOLISM**  
Instructor: William E. Clutter, MD, 362-8094  
This course aims to develop understanding of the pathophysiology, clinical manifestations and diagnosis of common endocrine disorders. History, physical examination and interpretation of diagnostic laboratory tests are emphasized. Principles of treatment of endocrine disorders and pharmacology of relevant drugs also are discussed. Students are expected to apply their knowledge in clinical case discussions.

**M25 620A GASTROINTESTINAL AND LIVER DISEASES/NUTRITION**  
Instructor: Deborah C. Rubin, MD, 362-8935
This course discusses the pathophysiologic mechanisms related to the diseases of the gastrointestinal tract including esophagus, stomach, small and large intestines, liver, gallbladder and pancreas. The emphasis is on changes that occur in normal physiology, biochemistry, anatomy, immunology and cell biology that result in human gastroenterologic diseases. Included also are lectures on the pharmacology of gastrointestinal drugs and basics of human nutrition in clinical practice. Lectures are supplemented by group seminars that focus on clinical case presentations.

M25 625A HEMATOLOGY AND ONCOLOGY
The hematology and oncology pathophysiology course exposes students to common hematologic disorders and hematologic malignancies. The course uses lectures, clinical case discussions and practical sessions involving microscopy.

Third year

M25 710 MEDICINE CLERKSHIP
Instructor: Thomas M. De Fer, MD, 362-8050
The medicine clerkship provides supervised study of patients in both inpatient and ambulatory settings. The 12-week clerkship is divided into three four-week rotations: two inpatient and one outpatient. For the inpatient rotations, students are assigned as clinical clerks to patients admitted to the cardiology and general medical teaching services of Barnes-Jewish Hospital and the St. Louis VA Medical Center — John Cochran Division. For the outpatient rotations, students are placed with community-based internal medicine or family practice physicians and will almost always require a car for transportation. Teaching is provided by the chief of service, attending physicians, house staff, consultants, chief residents, community-based preceptors and regularly scheduled conferences. Formal instruction is given regarding core internal medicine topics during the clerkship. Teaching activities include Chief Resident Rounds, Core Lecture Series, Physical Diagnosis Rounds, Radiology Rounds, Professor’s Rounds and other departmentally based conferences.

Clinical Pathological Conference
The clinical course, laboratory and radiologic studies, and pathological findings of a patient are discussed using a problem-solving format at a weekly conference by members of the Departments of Medicine, Pathology and Immunology, and Radiology; Melvin Blanchard, MD, internal medicine; chief residents and medical staff; Louis P. Dehner, MD; and pathology staff.

M25 707 PRACTICE OF MEDICINE III
Course Master: Tim Yau, MD
Clerkship Coordinator: Melody Cox, 362-3480

Objectives:
1. To review challenges and dilemmas relevant to the practice of clinical medicine.
2. To examine clinical experiences from a variety of perspectives.

In this course, themes and topics relevant students in their clinical stage of training are discussed. Session formats include lecture, panel discussion and/or small group. As students exchange problematic scenarios and questions, the group develops potential solutions and management schemes.

*Topics in the past have included:
Session 1: Complimentary and Alternative Medicine
Session 2: Safe and Quality Care at BJH
Session 3: Communicating Serious Adverse Events to Patients and Families
Session 4: Intimate Partner Violence
Session 5: Medical Malpractice/Tort Reform
Session 6: Healthcare Financing
Session 7: Update on the Patient Protection and Affordable Care Act (PPACA)
Session 8: Clinical Practice Management
Session 9: Recognizing Personal Biases
Session 10: Evaluation and Treatment of Patients with Disabilities

Attendance at 8 out of 10 POM III sessions is required to pass this course. Student may use 2 absences for any reason and are recommended to save them for their ACES
rotation, Labor & Deliver rotation, or an emergency. Sessions will be from 12:00 pm – 2:00 pm on the 3rd Tuesday of every month except for November and December. (Please note that the 1st session is held on the 4th Tuesday of June).

The dates for 2016-17 are:
6/21/16, 7/19/16, 8/16/16, 9/20/16, 10/18/16, 1/24/17, 2/21/17, 3/21/17, 4/18/17, 5/16/17

Students are excused from clinical activities to attend.
Location: Connor Auditorium, Farrell Learning and Teaching Center
* Topics subject to change

M25 714 EMERGENCY MEDICINE
Instructors: Mark Levine, MD, 362-6743
The WUMS III Emergency Medicine Rotation takes place in the main emergency department of Barnes-Jewish Hospital. Up to six students at a time are assigned to this four-week rotation. Students will spend their first day in an orientation session that will include an ED introduction, a suture lab, an airway lab, a central line lab, and an ultrasound lab. A digital course “text” will be provided. The student may request a written copy as well. Students will be evaluating and treating patients throughout the Emergency Department. Although the majority of the time will be spent in the areas of the ED that see “bread and butter” EM cases, the students will have assigned shifts in the trauma/critical care area and report directly to an attending or senior resident. There are five hours of mandatory lecture per week. Students can expect to gain a wide range of skills in evaluating a variety of complicated and non-complicated patients. At the end of the rotation, students will be familiar with the approach to complex medical conditions like chest pain, undifferentiated abdominal pain and complications of pregnancy as well as treatments of lacerations, abscesses, simple respiratory tract infections and minor trauma. Opportunities will be provided to the student to perform the necessary procedures on their patients as required. The student will also spend a day in an interdisciplinary approach with other EM support services (respiratory, social work, nursing, physical therapy).
WUMS III will be graded on their clinical skills, their ability to make a formal patient presentations during a shift, professionalism, and their conference attendance. There will be a written test on the last Friday of the rotation based entirely on the material provided to the students at the start of the rotation.

**M25 740 DERMATOLOGY CLERKSHIP**

Instructor: Lynn Cornelius, MD, 454-8622

The goal of the dermatology clerkship is to provide a guide for the student to appreciate dermatology within the broader perspectives of medicine and biology. The student will develop familiarity with dermatologic vocabulary, learn to recognize and initiate therapy of common dermatologic disorders and become cognizant of uncommon or complicated dermatologic problems that require specialty care. Emphasis will be placed on careful history taking and physical examination. Students will always work under the direction of the resident physician and the attending physicians in the clinic setting.

The student will participate in outpatient care at the following hospitals and affiliated clinics: Barnes-Jewish Hospital, St. Louis Children’s Hospital, Barnes-Jewish West County Hospital, and the Veterans Administration Medical Center. These hospital settings will provide the student with ample exposure to a diverse patient population. Students will attend all clinical teaching rounds and conferences in addition to the basic science and cutaneous histopathology conferences. Normal workday hours are 8 a.m. to 5 p.m. with no night or weekend on-call responsibilities. Each student is provided with copies of the two recommended textbooks, *The Washington Manual of Dermatology Diagnostics* by M. Laurin Council, et al. and *The Color Atlas and Synopsis of Clinical Dermatology* by T.B. Fitzpatrick for use during the clerkship; the textbooks are returned to the clerkship coordinator at the end of the clerkship for use by other students rotating in the dermatology division.

The rotation attending physician and the resident physician will submit an evaluation based on the student’s clinical skills, presentation, attitudes, overall performance and the end-of-rotation written exam score. Students are not eligible to take the fourth-
year rotation if they complete this clerkship.

**M25 750 GERIATRIC MEDICINE CLERKSHIP**  
Instructor: Ellen F. Binder, MD, 286-2707

Program Coordinator: Stephanie Paule, 286-2909

The primary goal of the four-week clerkship in Geriatric Medicine is for students to gain proficiency in the principles of geriatric evaluation and interdisciplinary team management, including medical, psychological, social, and functional assessments of older adults. Students are expected to participate in the evaluation of at least three to five patients per week, in a variety of settings including the outpatient Geriatric Assessment Clinic, in-patient Geriatric consults, nursing home visits at Parc Provence, home visits with the VA Home-Based Primary Care Program, and at the Rehabilitation Institute of St. Louis (TRISL). Students will also have the opportunity to participate in hospice and home care visits, and observe an assessment at the WU Alzheimer’s Disease Research Center. Students are expected to attend weekly conferences and didactic sessions while on the rotation, and give an oral presentation on a topic of their choice.

The day usually begins at 8:30 a.m. and ends by 5:30 p.m. There is no night or weekend call. Time is provided to read the syllabus/bibliography and complete web-based learning modules.

Location: Wohl Clinic Building, Third floor, Room 338

Other Information: Meet at the Department of Geriatrics office, Wohl Clinic Building, Third floor, Room 338, 9:00 a.m. first day of elective.

Pre-requisite: Students must have completed the Internal Medicine clerkship before taking this elective; completion of the Neurology clerkship is encouraged but not required.

**M25 730 PHYSICAL MEDICINE AND REHABILITATION**

Coursemaster: Neringa Juknis, MD, 454-7757

Clerkship in PM&R for third-year medical students provides an opportunity to gain basic knowledge and clinical skills in evaluation and management of a wide range of
neurological and musculoskeletal diseases and conditions that require specialized rehabilitative medical and therapeutic care. Students spend two weeks on the Spinal Cord Injury Unit (SCI) and two weeks on the Brain Injury (BI) and Stroke Unit at The Rehabilitation Institute of St. Louis. Students are expected to be a part of the rehabilitation team, follow three to five patients, participate in daily morning rounds, participate in performing consults and attend team meetings and family conferences.

Students are required to attend several outpatient clinics such as SCI, BI, Amputee and Stroke. During the entire rotation, students work with PM&R residents and fellows, and under direct guidance of the NeuroRehabilitation faculty. The usual duty hours are 7:30 a.m. to 5 p.m. weekdays and 8 a.m. to noon on Saturdays. There is no night call.

Students are required to attend all PM&R curriculum lectures and conferences. On the first day of rotation, students meet with the PM&R program director to go over goals, objectives and schedules. Upon completion of the rotation, students are required to fill out the evaluation form to provide feedback regarding rotation experience.

**M25 810  GERIATRIC MEDICINE**

Instructor(s): Ellen Binder, MD, 286-2700, press option 1
Enrollment limit per period: 1
Valid start weeks for 4-week blocks are: Weeks 5, 13, 17, 21, 25, 29, 33, 37, and 41.

The primary goal of the four-week clerkship in Geriatric Medicine is for students to gain proficiency in the principles of geriatric evaluation and interdisciplinary team management, including medical, psychological, social, and functional assessments of older adults. Students are expected to participate in the evaluation of at least three to five patients per week, in a variety of settings including the outpatient Geriatric Assessment Clinic, in-patient Geriatric consults, nursing home visits at Parc Provence, home visits with the VA Home-Based Primary Care Program, and at the Rehabilitation Institute of St. Louis (TRISL). Students will also have the opportunity to participate in hospice and home care visits, and observe an assessment at the WU Alzheimer’s Disease Research Center. Students are expected to attend weekly conferences and didactic sessions while on the rotation, and give an oral presentation on a topic of
their choice.

The day usually begins at 8:30 a.m. and ends by 5:30 p.m. There is no night or weekend call. Time is provided to read the syllabus/bibliography and complete web-based learning modules.
Pre-requisite: Students must have completed the Internal Medicine clerkship before taking this elective; completion of the Neurology clerkship is encouraged but not required.

Fourth year

Electives

M25 – INTERNAL MEDICINE

M25 801 / HONORS MEDICINE – GENERAL MEDICINE
Instructor(s): Thomas De Fer, MD, 314-362-8050
Location: Barnes-Jewish Hospital
Elective Contact: Amber Specter, 314-362-8050
Other Information: Students will receive e-mail communication regarding where to report on the first day prior to the beginning of the period.
Enrollment limit per period: Limit 8/period for Weeks 1, 5, 9; 4/period for Weeks 13, 17, 21, 25, 29, 33, 37, and 41.

The purpose of the “Honors Medicine” elective (sub-internship) is the development of expertise in the care of hospitalized patients in a well-supervised teaching environment. Sub-interns act as their patients’ interns under the supervision of residents and attending physicians. Sub-interns have the same on-call and admitting schedules as the interns on their teams and are assigned up to two new patients on each admitting day. Sub-interns are not required to spend call nights in the hospital. Except in emergencies, sub-interns are the first individuals to evaluate patients admitted to medical service teams. A diagnostic and therapeutic approach to the patient is planned in consultation with the resident. Sub-interns assume primary
responsibility for the daily care of their patients, under the supervision of resident and attending physicians. This includes evaluation on daily rounds, scheduling and obtaining results of diagnostic studies, planning therapy, making arrangements for care after discharge and communicating with patients and their families. Sub-interns attend the same conferences as the house staff.

Student time distribution: Inpatient 90%; Conferences/Lectures 10%; Primary Care 50%; Subspecialty Care 50%
Major teaching responsibility: Attending, chief resident, and resident
Patients seen/weekly: 8-12
On call/weekend responsibility: Yes

M25 805 / RHEUMATOLOGY

Instructor(s): Richard Brasington, MD; Prabha Ranganathan, MD; John Atkinson, MD; Deborah Parks, MD; 314-454-7279
Location: Barnes-Jewish Hospital, 5C Center for Advanced Medicine
Elective Contact: Department secretary, 314-454-7279
Other Information: Students should contact the Rheumatology office, 314-454-7279 prior to first day for assignment.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Students will be involved in the diagnostic work-up and management of patients with rheumatic illnesses including systemic lupus erythematosus, rheumatoid arthritis, vasculitis (polyarteritis, Wegener’s, temporal arteritis), spondyloarthropathies (ankylosing spondylitis, reactive arthritis), osteoarthritis, gout and regional musculoskeletal problems. By working closely with a faculty member, fellows and medical residents, students become integral and active members of the rheumatology service for inpatient consultations and outpatient clinics at Barnes-Jewish Hospital. An emphasis is placed on the physical examination of joints and the musculoskeletal system, synovial fluid analysis, and interpretation of diagnostic tests and radiographs.
Students attend two rheumatology conferences held weekly. A rotation limited to outpatient rheumatology is possible by prior arrangement with Dr. Brasington.

Student time distribution: Inpatient 40%; Outpatient 50%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attendings
Patients seen/weekly: ~25 per student
On call/weekend responsibility: None

M25 807 / HONORS MEDICINE – VA MEDICAL CENTER
Instructor(s): Amy Joseph, MD, 314-289-7030
Location: St. Louis Veterans Affairs Medical Center
Elective Contact: 314-289-6308
Other Information: Students will receive e-mail communication regarding where to report on the first day prior to the beginning of the period.
Enrollment limit per period: Limit 3/period for Weeks 1, 5, 9; 1/period for Weeks 13, 17, 21, 25, 29, 33, 37, and 41.

The purpose of the “Honors Medicine” elective (sub-internship) at the VA Medical Center is to develop practical experience and expertise in the care of hospitalized patients on an internal medicine ward. With appropriate supervision by the attending and resident physicians, sub-interns will have similar responsibilities as interns. They have the same on-call/admitting schedules as the interns and participate in the same teaching conferences, but they do not take overnight call. Sub-interns should admit at least two patients per call day, and they should be the first to evaluate the patients admitted to the medical service, except in emergencies. A diagnostic and therapeutic approach to evaluating each patient is planned in consultation with the resident. While being supervised as listed above, sub-interns assume primary responsibility for the daily care of their patients, including evaluation on daily rounds, scheduling and obtaining results of diagnostic studies, calling consults, planning therapy, making arrangements for care after discharge, and communicating with patients and their families.
Student time distribution: Inpatient 80%; Conferences/Lectures 20%; Subspecialty Care 100%

Major teaching responsibility: Attending, Chief Resident and Resident

Patients seen/weekly: 6-8 on average

On call/weekend responsibility: On-call every fourth day

M25 810 / GERIATRIC MEDICINE

Instructor(s): Ellen Binder, MD, 314-286-2700, press option 1

Location: Wohl Clinic Building, 3rd Floor conference room

Elective Contact: Stephanie Paule, Program Coordinator: 314-286-2909

Other Information: Meet at the Department of Geriatrics office, Wohl Clinic Building, 3rd Floor conference room, 8:30 a.m. first day of elective.

Enrollment limit per period: 1

Valid start weeks for four-week blocks are: Weeks 5, 13, 17, 21, 25, 29, 33, 37, and 41.

The primary goal of this rotation is for students to gain proficiency in the principles of geriatric evaluation and management, including the medical, psychological, social, and functional assessments of older adults. Students are expected to participate in the evaluation of three to five patients per week, in a variety of settings including the outpatient Geriatric Assessment Clinic, in-patient Geriatric Consult service, Parc Provence nursing home, and the Rehabilitation Institute of St. Louis (TRISL). Students will also have the opportunity to participate in hospice and home care visits, interdisciplinary team meetings, and observe an assessment at the WU Alzheimer's Disease Research Center. Students are expected to attend weekly conferences while on the rotation.

The day normally begins at 8:30 a.m. and is usually finished by 5:30 p.m. There is no night or weekend call. Time is provided to read the detailed syllabus/bibliography. Students will be expected to give an oral presentation on a topic of their choice once during the rotation.

Student time distribution: Inpatient 20%; Outpatient 80%; Primary Care 20%; Subspecialty Care 80%
M25 811 / CLINICAL INTERNAL MEDICINE – HOSPITALIST
Instructor(s): Caroline Kahle, MD, 314-362-1700
Location: Barnes Jewish Hospital, West Pavilion Corridor main level
Elective Contact: Mary Russell, 314-362-1707, mrussell@wustl.edu
Other Information: Students should contact Mary Russell one to two weeks prior to first day of elective for information on where to meet.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This course allows the student to work one-on-one with hospitalist physicians on a patient care team. The student acts as the intern under the direct supervision of the attending physician. Daily responsibilities include admission history and physicals, daily notes and discharge summaries on assigned patients. S/he also will have the opportunity to perform indicated procedures on patients on this service. Students are encouraged to participate in Department of Medicine conferences.

Student time distribution: Inpatient 95%; Conferences/Lectures 5%; Primary Care 100%

M25 814 / CLINICAL EMERGENCY MEDICINE, BARNES-JEWISH HOSPITAL
Instructor(s): Mark Levine, MD, 314-362-6743
Location: Barnard and/or Wohl Hospital
Elective Contact: Mary Hummert, 314-747-4156
Other Information: Contact Emergency Medicine Division office at 314-747-4156, for scheduling one week prior to the rotation. If a student is needing any time off,
approval will be needed by the Course Coordinator before the start of the rotation. 
Students are required to work at least 12 to 14 shifts.
Enrollment limit per period: 6
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This rotation offers practical experience in the evaluation and management of acutely sick and injured patients. Students will function as sub-interns, initially evaluating their assigned patients and developing a plan for further diagnostic studies and therapy. They will report to a senior level resident or an attending physician.

The student can expect to get an opportunity to perform a wide variety of procedural skills such as suturing, splinting, peripheral and central venous access, and cardiopulmonary resuscitation. Shifts will be eight hours and students will rotate between day, evening and night shifts, including weekend shifts, in order to gain maximum exposure to all types of emergencies. A core content of lectures will be provided.

Students will gain an understanding of prehospital care by doing a ridealong shift with the St. Louis Fire Department EMS. Students will also have a shift with the toxicology attendings and residents and will gain knowledge of the basics of ultrasound during their time in the department. Students interested in EM will be doing 1:1 shifts with a single attending during their last two weeks of the rotation.

Students desiring a letter of recommendation from Dr. Michael Mullins, Director of Research, or any other EM attending should take this WUMS IV Emergency Medicine rotation. Students will be scheduled for required weekend and overnight shifts and changes will not be allowed to the schedule unless approved prior to the start of the rotation by the course coordinator.

Please be advised that there is a limit of days off while on this rotation during interview season; otherwise, students should arrange to take the elective at a different time during the year. Days off during the rest of the year will conform to university
policy. Days off should be requested from Mary Hummert at least two weeks prior to the beginning of the rotation for scheduling purposes.

Student time distribution: Outpatient 80%; Conferences/Lectures 20%; Primary Care 40%; Subspecialty Care 60%

Major teaching responsibility: Attendings and senior residents (PGY 3 & 4)

Patients seen/weekly: ~5 per shift

On call/weekend responsibility: Evenings and weekends; no on call

M25 821 / INPATIENT CARDIOLOGY

Instructor(s): Anita Bhandiwad, MD 314-362-1291
Location: 13th Floor, Northwest Tower
Elective Contact: Anita Johnson, 314-747-3606
Other Information: Students meet on the 13th Floor, Northwest Tower, 9:00 a.m. first day of elective.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Students will participate as members of the Barnes-Jewish Cardiology at Washington University Consultative Team. They will be part of a team composed of faculty members, fellows, residents, and nurse specialists that sees a large population of cardiac patients and follows them through all aspects of their in-hospital care. Emphasis will be placed on physical examination and the interpretation of modern cardiac diagnostic tests including electrocardiograms, echocardiograms and coronary angiograms and their role in clinical decision making.

Student time distribution: Inpatient 90%; Outpatient 0%; Conferences/ Lectures 10%; Primary Care 0%; Subspecialty Care 100%

Major teaching responsibility: Attending and fellow

Patients seen/weekly: 10-15

On call/weekend responsibility: None
The structure and functioning of the “Honors Medicine-Cardiology” elective (sub-internship) is very similar to the general medicine sub-internship (M25 801). The basic purpose is to develop expertise in the care of hospitalized patients in a well-supervised teaching environment. The majority of patients admitted to the service will have a cardiology diagnosis as the main reason for admission. Some general medical problems will also be seen. All attendings on the service are cardiology subspecialists. Cardiology fellows act as the chief resident for the service on a monthly basis. Sub-interns act as their patients’ interns under the supervision of residents and attending physicians. Sub-interns have the same on-call and admitting schedules as the interns on their teams and are assigned up to two new patients on each admitting day. Sub-interns are not required to spend call nights in the hospital. Except in emergencies, sub-interns are the first individuals to evaluate patients admitted to medical service teams. A diagnostic and therapeutic approach to the patient is planned in consultation with the resident. Sub-interns assume primary responsibility for the daily care of their patients, under the supervision of resident and attending physicians. This includes evaluation on daily rounds, scheduling and obtaining results of diagnostic studies, planning therapy, making arrangements for care after discharge and communicating with patients and their families. Sub-interns attend the same conferences as the internal medicine house staff. There are also several conferences specific to the cardiology service.
25%; Subspecialty Care 75%
Major teaching responsibility: Attending, chief resident, and resident
Patients seen/weekly: 8-12
On call/weekend responsibility: Yes

M25 823 / CLINICAL CARDIOLOGY – VA HOSPITAL
Instructor(s): Wade Martin, MD, 314-289-6329
Location: John Cochran VA Hospital
Elective Contact: Wade Martin, MD, 314-289-6329
Other Information: Students should meet in Room B206, 2nd Floor, VA Hospital.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The major purpose of this elective in clinical cardiology at the John Cochran VA Hospital is to improve evaluation and management skills for diagnosis and treatment of important cardiovascular conditions such as coronary artery disease including acute myocardial infarction, congestive heart failure, hypertension, and valvular heart disease. The rotation is designed to be flexible enough to accommodate a wide variety of course objectives but includes the opportunity to participate in 1-3 outpatient clinics per week; 1-4 weeks of inpatient intensive care, telemetry, or cardiology consultation rounds; and ECG, stress testing, nuclear imaging, or echocardiographic reading sessions, cardiac catheterization and electrophysiologic procedures. The emphasis will be on improvement of the ability to diagnose and treat cardiovascular disease on the basis of information obtained from a thorough history and physical examination that is integrated with data from appropriate highly targeted laboratory studies in a manner that optimizes patient outcome and minimizes risk and costs.

Student time distribution: Inpatient 45%; Outpatient 55%; Conferences/ Lectures 5-10%; Primary Care 25%; Subspecialty Care 75%
Major teaching responsibility: Attendings and fellows
Patients seen/weekly: 20
On call/weekend responsibility: Varies
M25 825 / CARDIAC ARHYTHMIAS AND ELECTROPHYSIOLOGY

Instructor(s): Timothy Smith, MD, PhD, 314-454-7877
Location: Barnes-Jewish Hospital
Elective Contact: Timothy Smith, MD, PhD, or Gina Gentilini, 314-747-4166
Other Information: Students meet in the Cardiology Division, 13th Floor Northwest Tower, 8:00 a.m. first day of elective or page the EP Fellow at 314-424-4680.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This elective provides the student with exposure and teaching in the diagnosis and treatment of complex cardiac rhythm disturbances. Specifically, the student is expected to evaluate patients referred for evaluation and treatment of complex or life-threatening rhythm disturbances, unexplained syncope or sudden cardiac death. Rounds are made daily on hospitalized patients, and students are welcome to observe electrophysiology studies or implantation of pacemakers and defibrillators. This elective also provides an intensive opportunity to learn clinical electrocardiography and the systematic use of anti-arrhythmic drugs. Finally, since patients with chronic, complex rhythm disturbances frequently have organic heart disease, a broad-based exposure to general cardiology is also part of this elective.

Student time distribution: Inpatient 80%; Outpatient 10% (optional);
Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attending physician
Patients seen/weekly: 2 new consults/day
On call/weekend responsibility: None

M25 827 / HEART FAILURE/CARDIAC TRANSPLANTATION

Instructor(s): Gregory Ewald, MD, 314-454-7009
Location: Barnes-Jewish Hospital, North Campus, Suite 4455
Elective Contact: Gregory Ewald, MD, 314-454-7009
Other Information: Students should page the attending physician, 8:00 a.m. first day of elective.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This rotation is intended to provide trainees with a comprehensive experience managing patients with advanced heart failure. In addition to daily rounds, trainees are invited to attend both heart failure and transplant clinics. Further, the curriculum is supplemented by a comprehensive syllabus that contains the critical literature pertinent to this patient population. The trainees will also have experience with the evaluation of patients for operative heart failure therapies and will have the opportunity to observe these surgical procedures.

Student time distribution: Inpatient 70%; Outpatient 20%; Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attendings
Patients seen/weekly: 30
On call/weekend responsibility: None

M25 830 / DERMATOLOGY
Instructor(s): Dermatology Staff, 314-454-8622
Location: 7705 Wohl Hospital
Elective Contact: Rosemarie Brannan, 314-454-8622
Other Information: First Monday of rotation students will attend both the 7:30 a.m. lecture in the Dermatology Library, 7706 Wohl Hospital and the 9:00 a.m. orientation, Room 7714 Wohl Hospital.
Enrollment limit per period: 4
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 29, 33, 37, and 41.

THIS COURSE HAS A STRICT ATTENDANCE POLICY!

The aim of this elective is to provide a guide for the student so that s/he is able to appreciate dermatology within the broader perspectives of medicine and biology. Emphasis will be placed on the dermatologic variations encountered in a normal
physical examination of the skin, the identification of common skin diseases, dermatologic clues to systemic disease, as well as those dermatologic conditions that are life threatening. The student will participate in outpatient care in the Barnes-Jewish Hospital and affiliated clinics. Students will attend all clinical teaching rounds and conferences in addition to the basic science and cutaneous histopathology conferences.

M25 830 is essentially the same as the 3rd Year Dermatology Clerkship. Students are limited to taking either one or the other – NOT BOTH.

Student time distribution: Inpatient 25%; Outpatient 50%; Conferences/ Lectures 25%; Specialty Care 100%
Major teaching responsibility: Course Master for rotation and senior resident
Patients seen/weekly: 25-50
On call/weekend responsibility: None

**M25 831 / PEDIATRIC DERMATOLOGY**

Instructor(s): Carrie Coughlin, MD
Location: 7706 Wohl Hospital
Elective Contact: Rosemarie Brannan, 314-454-8622
Other Information: Call 314-454-8622 prior to first day of elective. Reporting time is 7:30 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for 4 fourweek blocks are: Weeks 1, 5, 9, 13, 17, 21, 29, 33, 37, 41.

This clinical rotation will be available to students interested in dermatology, pediatrics or both. Students will follow the dermatology rotation (M25 830) with an emphasis on pediatric dermatology by attending pediatric dermatology clinics, seeing consults, etc. Enthusiastic students will have an opportunity to write up a case report if they wish, but need to notify Dr. Bayliss before the course.

Students can take either this elective or M25 830/Dermatology — NOT BOTH.
Student time distribution: Inpatient 1%; Outpatient 74%; Conferences/ Lectures 25%; Subspecialty Care 100%
Major teaching responsibility: Two attendings
Patients seen/weekly: 50-100
On call/weekend responsibility: None

M25 834 / CLINICAL MENTORING
Instructor(s): Gregory Polites, MD, 314-747-5268
Location: Office of Medical Student Education (OMSE), 5th Floor Becker Medical Library
Elective Contact: Melody Cox, 314-286-2546
Other Information: To be determined
Enrollment limit per period: 62

This elective is designed to develop the teaching and mentoring skills of our 4th year medical students through structured hospital sessions with 1st year medical students and supervised sessions with clinical faculty. The primary format of the elective is observation of the 1st year students during hospital sessions where the first years perform the H&P and the 4th year mentors offer constructive feedback. Each H&P write-up is also thoroughly reviewed and critiqued by the mentor. Supervisory sessions also occur with clinical faculty who give feedback on both the performance of the 1st year students as well as the mentoring skills of the 4th year.

Student time distribution: TBD
Major teaching responsibility: TBD (assigned)
Patients seen/weekly:
On call/weekend responsibility: None

M25 836 / CLINICAL GASTROENTEROLOGY AND HEPATOLOGY
Instructor(s): Gregory S. Sayuk, MD, MPH, 314-454-8201
Location: Barnes-Jewish Hospital, East Pavilion
Elective Contact: Beth Buschard-Steiger, 314-454-8201
Other Information: Students meet in the Digestive Disease Clinical Center, street level East Pavilion, Barnes-Jewish Hospital, 8:00 a.m. first day of elective.
Enrollment limit per period: 4
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The GI Hepatology elective is integrated into a very active inpatient/outpatient and endoscopy service at Barnes-Jewish Hospital. Students will participate in the evaluation of inpatients and outpatients with a spectrum of gut and liver disorders, will make patient rounds with the faculty and fellows, and have responsibility for patients on whom consultations have been requested. In addition, they will observe biopsy, endoscopic, and intubation techniques and participate in outpatient clinic and GI conferences.

Student time distribution: Inpatient 65%; Outpatient 25%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attending and fellows
Patients seen/weekly: 12 new
On call/weekend responsibility: None

M25 838 / MEDICINE CONSULT SERVICE
Instructor(s): Caroline Kahle, MD, and Gina LaRossa, MD, 314-362-1700
Location: Barnes-Jewish Hospital, West Pavilion Corridor main level
Elective Contact: Mary Russell, 314-362-1707, mrussell@wustl.edu
Other Information: Students should contact Mary Russell, 314-362-1707, one to two weeks prior to first day of elective for information on where to meet.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41. Two week rotations are also available.

The focus of the Medicine Consult Service elective is the evaluation and management of medically complex patients admitted to the hospital on non-medicine services. The issues involved with perioperative management are particularly stressed. The student will function as a member of the consult service team. Duties will include performing initial consultations and follow-up care under the supervision of a Hospital Medicine
attending and a senior medical resident. Attendance at Department of Medicine and division conferences is encouraged.

Student time distribution: Inpatient 90%; Conferences/Lectures 10%; Primary Care 100%
Major teaching responsibility: Consult Service attending (from the Division of Hospital Medicine)
Patients seen/weekly: 10-15
On call/weekend responsibility: None

M25 842 / INTRODUCTION TO WILDERNESS MEDICINE
Instructor(s): Nicholas Musisca, MD; Bill Dribben, MD; Kurt Eifling, MD
Location: Emergency Medicine Teaching Classroom
Elective Contact: Nicholas Musisca, MD; Bill Dribben, MD; Kurt Eifling, MD, 314-362-7998
Other Information: Students report at 8:00 am first day of elective
Enrollment limit per period: 10
Valid start weeks for two-week blocks are: Weeks 15-16

The purpose of this course is to introduce medical students to common medical problems both emergent and nonemergent seen in various wilderness settings. After taking this course the student should have a basic understanding on the pathophysiology and management of these problems in an environment with limited access to medical aid. The course will involve four days of four-hour lectures each week along with one 1-2 day required overnight camping trip. Requirements to pass this course include completing a presentation on a topic of their choosing that is approved by the course master as well as a skills and written test.

Attendance is required at all lectures & events. Grading will be pass/fail

Student time distribution: Conferences/Lectures, 100%; Subspeciality Care, 100%
Major teaching responsibility: Bill Dribben, MD; Nicholas Musisca, MD
Patients seen/weekly: 0
This rotation offers practical experience in the evaluation and management of the acutely ill poisoned patient. Students will function as subinterns and either report to the senior resident, fellow, or directly to the toxicology attending.

Students will gain familiarity and experience evaluating and treating patients who have intentionally and unintentionally overdosed on medications or illicit drugs, been envenomated (such as by spiders, snakes, or other reptiles), or been exposed to toxic substances or chemicals. Students will also gain experience in administering antidotes and learning to properly decontaminate someone after an ingestion or exposure.

There are no overnight or weekend shifts. Daily activities start in the morning and are generally concluded by the early afternoon. A core content of lectures will be provided. The students will also be assigned small projects during their rotation that will enhance their experience particularly in environmental and occupational toxicology.

Opportunities to increase their experience with occupational toxicology also exist during this rotation; those with this interest can ask for further information during their rotation. Students will also have the opportunity to go to the Missouri Poison Center and evaluate patients in the outpatient toxicology clinic.

Students desiring a letter of recommendation from one of the toxicology attendings
(who are also Emergency Medicine and Internal Medicine attendings) or interested in Emergency Medicine or Medical Toxicology should take this elective. Also, students considering other specialties such as Pediatrics or Internal Medicine should consider this rotation as they will be responsible for evaluating these patients as part of their inpatient or outpatient practice.

Please be advised that there is a limit of days off while on this rotation during interview season; otherwise, students should arrange to take the elective at a different time during the year. Days off should be requested from Mary Hummert at least two weeks prior to the beginning of the rotation for scheduling purposes. Students should receive a course guide just prior to their rotation. However if they do not, they can page the toxicology pager at (314) 672-0284 to determine when and where to meet for rounds.

Student time distribution: Inpatient 70%; Outpatient 10%; Conferences/ Lectures 20%; Subspecialty Care 100%
Major teaching responsibility: Toxicology Faculty
Patients seen/weekly: 12
On call/weekend responsibility: None

M25 844 / HEMATOLOGY AND HEMOSTASIS
Instructor(s): Morey Blinder, MD, and Evan Sadler, MD, 314-362-8857
Location: 8801 Clinical Sciences Research Building
Elective Contact: Morey Blinder, MD, 314-362-8814
Other Information: Students will meet in Barnes-Jewish Hospital South. Contact Kim French at 314-454-8532 for time and location.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Activities planned include work-up of patients at Barnes-Jewish Hospital under the supervision of the hematology fellow and his staff consultant; attendance at clinical rounds three to five hours weekly; participation in out-patient clinics; experience in
various procedures, especially blood and bone marrow morphology and in interpretation of coagulation tests. Daily student rounds with a senior staff person.

Student time distribution: Inpatient 80%; Outpatient 10%; Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attending and fellow
Patients seen/weekly: 3-5
On call/weekend responsibility: None

M25 847 / BONE AND MINERAL DISEASES
Instructor(s): Michael Whyte, MD; Kathryn Diemer, MD; Roberto Civitelli, MD; and Carolyn Jachna, MD
Location: Barnes-Jewish Hospital; Barnes-Jewish Hospital West County; Shriners’ Hospital for Children
Elective Contact: Michael Whyte, MD, 314-872-8305
Other Information: Please contact Dr. Whyte a week before elective for instruction and meeting location.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 17, 21, 25, 29, 33, 37, and 41.

The course is designed to acquaint the student with the clinical, radiological and pathological manifestations and treatment of disorders of bone and mineral metabolism, including osteoporosis, Paget’s disease of bone, hyperparathyroidism, osteomalacia, and more rare disorders of bone development and homeostasis. The student will rotate through clinics of the Division of Bone and Mineral Diseases, and see patients at Barnes-Jewish Hospital, Barnes-Jewish West County Hospital and Shriners Hospital for Children.

Acquired and heritable bone diseases will be studied in the context of derangements of mineral homeostasis with emphasis on vitamin D and peptide hormone metabolism and skeletal formation and remodeling. The role of non-invasive methods for measuring bone mass in the diagnosis and management of skeletal diseases also will be stressed. Faculty and medical students will be present interesting cases for
discussion or the students can present a pertinent topic related to bone metabolism they have researched during their rotation.

Responsibilities: Shriners Hospital Wednesday a.m. (Dr. Whyte); CAM, 2nd and 3rd Monday (a.m.), and 4th Thursday (p.m.) of each month; Barnes-Jewish West County Prof. Building 2; Tuesdays or Wednesdays, p.m. Metabolic Bone Disease Case Conference, Fridays 8:00 a.m., BJC Institute of Health Building, 11th Floor, Conference Room AB; Avioli Musculoskeletal Research Seminars, Fridays 9:00 a.m., BJC Institute of Health Building, 11th Floor, Conference Room AB.

Student time distribution: Outpatient 85%; Conferences/ Lectures 15%; Subspecialty Care 100%
Major teaching responsibility: Attendings
Patients seen/weekly: ~20
On call/weekend responsibility: None

M25 853 / BONE AND JOINT INFECTION DISEASE CONSULT
Instructor(s): Hilary Babcock, MD, 314-454-8225, HBABCOCK@DOM.wustl.edu
Location: 15th Floor, Northwest Tower
Elective Contact: Dawn-Michele Cannon, 314-454-8225
Other Information: Students should page the Bone and Joint attending at 314-510-3805 at 8:00 a.m. on the first day of the elective.
Enrollment limit per period: 8
Valid start weeks for two-week blocks are: Weeks 3, 7, 11, 15, 19, 23, 27, 31, 35, 39, and 43. Must be done in conjunction with 2 weeks of General Infectious Disease

Study of infectious diseases of the bones and joints, including infections in both native and prosthetic joints. The elective is designed to teach students the fundamentals of evaluating clinical orthopedic infections and formulating plans for workup and therapy. Students see consultations in infectious diseases in every part of Barnes-Jewish Hospital under the supervision of a faculty member who rounds with them every day. They work closely with the infectious diseases attending and nurse practitioner, follow their own patients and play an important role in their
management. They are expected to read the literature about their patients and participate in clinical conferences. They attend teaching rounds and conferences and lectures in infectious diseases. They also learn appropriate use of antibiotics and antifungal agents. The role of surgical and medical management is discussed, and the students will interact with surgical staff in understanding the risks and outcomes of these common infections. Two weeks of General Infectious Disease are a prerequisite to this course.

Student time distribution: Inpatient 90%; Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Single Attendings
Patients seen/weekly: 20
On call/weekend responsibility: None

M25 854 / TRANSPLANT INFECTIOUS DISEASE
Instructor(s): Steve Lawrence, MD, 314-454-8214, slawrenc@dom.wustl.edu
Location: 15th Floor Northwest Tower
Elective Contact: Dawn-Michele Cannon, 314-454-8225
Other Information: Students should page the Transplant fellow at 314-536-5253 at 8:00 a.m. on the first day of the elective.
Enrollment limit per period: 2
Valid start weeks for two-week blocks are: Weeks 3, 7, 11, 15, 19, 23, 27, 31, 35, 39, and 43. Must be done in conjunction with 2 weeks of General Infectious Disease

Study of infectious diseases in patients who have had bone marrow or solid organ transplants, or who have a hematologic malignancy. The elective is designed to teach students the fundamentals of evaluating clinical infections in these complex and interesting patients and formulating plans for workup and therapy. Students see consultations in every part of Barnes-Jewish Hospital under the supervision of a faculty member who rounds with them every day. They work closely with infectious disease fellows, follow their own patients and play an important role in their management. They are expected to read the literature about their patients and participate in clinical conferences. They attend teaching rounds and conferences and lectures in infectious
They also learn appropriate use of antibiotics, antifungal and antiviral agents in this highly immune suppressed population. A wide distribution of infectious diseases is covered including management of neutropenic fever, invasive fungal infections in the transplant population, acute and chronic infections, infection prophylaxis and monitoring and interactions between immunosuppressive agents and antibiotics.

Student time distribution: Inpatient 90%; Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Single Attending and Fellow
Patients seen/weekly: 6
On call/weekend responsibility: None

M25 858 / AMBULATORY INFECTIOUS DISEASE
Instructor(s): Nigar Kirmani, MD, 314-747-1214
Location: 15th Floor Northwest Tower and Storz Building
Elective Contact: Lori Watkins, 314-747-1214
Other Information: Students should report to the ID Clinic in the Storz Building, 8:00 a.m. first day of elective.
Enrollment limit per period: 8
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The elective is designed to teach students the fundamentals of evaluating clinical infections in the outpatient setting. Students see patients under the supervision of a faculty member. Students will participate in the care of HIV infected or otherwise immunosuppressed patients as well as general infectious disease and travel patients. The clinic is the primary provider for HIV infected patients, and students will learn the pathogenesis of HIV, become familiar with most antiretroviral medications, and have the opportunity to learn about opportunistic infections and their prophylaxis. They will also have the opportunity to see patients with bone and joint infections, endovascular infections, endemic and opportunistic mycoses, sexually transmitted diseases and travel plans. Patients seen will have a wide range of acute and chronic infections with a
heavy emphasis on HIV/AIDS, including indigent and insured patients, of both sexes and a wide range of ages. The students will play an important role in the management of these patients. They are expected to read the literature about their patients and participate in clinical conferences.

Student time distribution: Outpatient 90%; Conferences/Lectures 10%; Primary Care 20%; Subspecialty Care 80%
Major teaching responsibility: Clinic Attendings
Patients seen/weekly: 15
On call/weekend responsibility: None

M25 859 / GENERAL INPATIENT INFECTIOUS DISEASE
Instructor(s): Nigar Kirnani, MD, 314-454-8214; Rachel Presti, MD, 314-454-8214, rpresti@dom.wustl.edu
Location: 15th Floor, Northwest Tower
Elective Contact: Dawn-Michele Cannon or Alicia Cicerelli, 314-454-8214
Other Information: Students should call Infectious Disease Fellows at either mobile number 314-536-5310 or 314-536-5311 on the first morning of the elective.
Enrollment limit per period: 8
Valid start weeks for two- or four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41. Two week blocks must be done in conjunction with Transplant Infectious Disease or Bone and Joint Infectious Disease.

Study of patients with infectious diseases, including inpatient care of HIV infected patients and general infectious disease consults. The elective is designed to teach students the fundamentals of evaluating clinical problems in infection and formulating plans for workup and therapy. Students see consultations in infectious diseases in every part of Barnes-Jewish Hospital under the supervision of a faculty member who rounds with them every day. They work closely with medical residents and infectious disease fellows, follow their own patients and play an important role in their management. They are expected to read the literature about their patients and participate in clinical conferences. They attend teaching rounds and conferences and lectures in infectious diseases. They also learn appropriate use of antibiotics,
antifungal and antiviral agents. A wide distribution of infectious diseases is covered including community acquired acute and chronic infections, opportunistic infections in HIV infected patients, hospital acquired infections, and basic infection control practices. This is a four-week rotation. Two-week rotations are allowed, but must be done in conjunction with two weeks of Transplant Infectious Disease or Bone and Joint Infectious Disease.

Student time distribution: Inpatient 90%; Conferences/Lectures 10%; Subspecialty Care 100%. Students must be present at 75% of the elective to receive a passing grade.

Major teaching responsibility: Single attending and fellow

Patients seen/weekly: 7 new consults, 15 total

On call/weekend responsibility: None

M25 861 / ONCOLOGY-INPATIENT

Instructor(s): Anna Roshal, MD, 314-454-8306
Location: Division 7900, 7th Floor CAM
Elective Contact: Janet Weier, 314-747-7509

Other Information: Students meet on the 7th Floor CAM, POD B, Medical Oncology Outpatient Area, 8:00 a.m. first day of elective.

Enrollment limit per period: 6 students per block, on average one per attending

Valid start weeks for four-weeks blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Medical Oncology is a complex subspecialty that is undergoing a rapid evolution as a result of new systemic treatment approaches that stem from biological insights into the nature of cancer. During the course of the elective medical students will be able to interact with attending physicians and patients for bedside teaching and attend tumor boards and lectures focused on the care of patients with solid tumors. At the end of the rotation the students will appreciate the principles of our approach to cancer patients and should have gained insights into the pharmacological basis for systemic cancer treatment. The ethical and medical challenges of caring for patients with advanced incurable malignancies will also be an important theme, as well as the conduct of clinical research in this patient population. Students will learn to care for
hospitalized patients suffering from complications from their cancer or from toxicities due to treatments. Oncologic emergencies will be covered. Issues such as palliative care treatment options and end-of-life decision making will be explored as well.

Student time distribution: Inpatient 90%; Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: All Medical Oncology Attendings
Patients seen/weekly: 50
On call/weekend responsibility: None

**M25 862 / INPATIENT INTERNAL MEDICINE/ONCOLOGY-FIRM**

Instructor(s): Anna Roshal, MD, 314-454-8306
Location: North Campus, 7900 Inpatient Floor
Elective Contact: Janet Weier, 314-747-7509
Other Information: Students meet in North Campus, 7900 Inpatient Floor, 7:30 a.m. first day of elective and find an on call resident.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Medical Oncology is a complex subspecialty that is undergoing a rapid evolution as a result of new systemic treatment approaches that stem from biological insights into the nature of cancer. During the course of the elective medical students will be able to interact with attending physicians and patients for bedside teaching and attend tumor boards and lectures focused on the care of patients with solid tumors and lymphoma. At the end of the rotation the students will appreciate the principles of our approach to cancer patients and should have gained insights into the pharmacological basis for systemic cancer treatment. The ethical and medical challenges of caring for patients with advanced incurable malignancies will also be an important theme, as well as the conduct of clinical research in this patient population. Students will learn to care for hospitalized patients suffering from complications from their cancer or from toxicities due to treatments. Oncologic emergencies will be covered. Issues such as palliative care treatment options and end-of-life decision making will be explored as well. Major
learning goals:

(1) Become familiar with frequent complications of cancer treatment such as neutropenic fever, nausea/vomiting, diarrhea, infectious complications and their management.

(2) Become familiar with oncologic emergencies (spinal cord compression, hypercalcemia, neutropenic sepsis) and their management.

(3) Become more comfortable interacting with patients and families requiring difficult psychosocial and end-of-life discussions.

Student time distribution: Inpatient 100%; Subspecialty Care 100%
Major teaching responsibility: All Oncology attendings
Patients seen/weekly: 50
On call/weekend responsibility: One-in-four call, with their assigned inpatient team.

M25 863 / EMERGENCY ULTRASOUND
Instructor(s): Deborah Kane, MD, and staff, 314-747-4156
Location: Barnes-Jewish Hospital, North Campus
Elective Contact: Mary Hummert, 314-747-4156
Other Information: Students meet at the Emergency Department at Barnes Jewish Hospital at 10:00 a.m. on the first day of the elective.
Enrollment limit per period: 1 unless otherwise approved by Course Master
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This rotation will focus on ultrasound and all of its many applications and uses in the Emergency Department. Students will participate in the performance of bedside ultrasound of patients in the Emergency Department. Common applications of Emergency Ultrasound include the FAST exam, pelvic ultrasound, Abdominal Aortic Aneurysm (AAA), vascular access, renal, gallbladder, and DVT. In general, the student will be in the Emergency Department during weekdays to perform these exams.
Students will not be involved in direct patient care during this rotation. Students will have access to a lecture bank of the common applications. In addition, the student will meet with the Ultrasound Director 1-2 times/wk to review images and have direct hands-on instruction. At the end of the rotation the student should have gained the knowledge of basic Emergency Ultrasound including its indications and applications; as well as becoming more adept at the performance of ultrasound.

Student time distribution: Outpatient 80%; Conferences/Lectures 20%; Primary Care 40%; Subspecialty Care 60%
Major teaching responsibility: Attendings
Patients seen/weekly: 25
On call/weekend responsibility: None

M25 865 / INTENSIVE CARE MEDICINE – BARNES-JEWISH 8300
Instructor(s): Warren Isakow, MD, and staff, 314-454-8762
Location: Barnes-Jewish Hospital, 8300 South Campus
Elective Contact: Lisa Wetzel, 314-454-8762
Other Information: Students meet at the MICU (8th Floor Barnes-Jewish Hospital, South Campus), 7:30 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This elective in intensive care is offered in the Intensive Care Unit at Barnes-Jewish Hospital, South Campus. This unit has 16 intensive care beds providing intensive nursing care and life-support technology. The patients represent a mixture of patients with primarily medical problems. Patient care responsibility includes night call. In addition to patient responsibility, there are regularly scheduled conferences and attending rounds.

Student time distribution: Inpatient 100%; Subspecialty Care 100%
Major teaching responsibility: Attendings and residents
Patients seen/weekly: 8
On call/weekend responsibility: Every third night

M25 867 / MEDICAL INTENSIVE CARE
Instructor(s): Warren Isakow, MD, 314-454-8762
Location: Barnes-Jewish Hospital, South Campus
Elective Contact: Lisa Wetzel, 314-454-8762
Other Information: Students report to the Medical Intensive Care Unit, 8400 Barnes-Jewish Hospital, South Campus, 7:30 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This elective is offered as an opportunity to gain additional experience in acute, primary care medicine. The elective is an advanced course in patient care involving complex medical problems. Responsibilities involve working up new patients with the MICU team, case presentations and attendance at conferences. Conferences consist of attending rounds Monday through Saturday, radiology rounds Monday through Saturday, pulmonary conference and medical grand rounds on Thursday, and critical care conference once each month. Call schedule is every third night.

Student time distribution: Inpatient 90%; Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attendings and residents
Patients seen/weekly: 3
On call/weekend responsibility: Yes

M25 869 / PALLIATIVE MEDICINE
Instructor(s): Maria Dans, MD, Course Master, 314-362-5800, mdans@dom.wustl.edu, BJH Palliative Care Service members
Location: 4105 Suite, Queeny Tower, Barnes-Jewish Hospital South Campus
Elective Contact: Nicole Williams, 314-747-5361, nsw2227@bjc.org
Other Information: Please email the Course Master and Elective Contact at least one week before start of elective. Reporting time is 8:45 a.m. first day of elective
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The Palliative Medicine elective will focus on the care of patients with life-threatening or debilitating illness throughout the course of their care. Skills in symptom management, communication, and interdisciplinary team-based care will be the focus. Students will spend the majority of their time on the BJH Palliative Care Service. Based on the individual student’s interest, there may also be opportunities to work with the BJC Hospice Team and the St. Louis Children’s Hospital Palliative Care Service.

While in the hospital, students will be responsible for seeing patients upon initial assessment as well as delivering follow-up care with the team. Patients will be seen for both end-of-life care as well as symptom management. Students will learn to assess and treat refractory symptoms and participate in complicated advanced care planning. Students will attend interdisciplinary team meetings, and may participate in conversations about goals of care and coping with bad news. They may also make home visits with hospice care providers, if desired. Emphasis will be placed on observing and understanding the psychosocial and spiritual needs of the patients, as well as the impact of the burden on caregivers. In addition, students will be expected to lead bi-weekly presentations/group discussions on selected aspects of Palliative Medicine with the BJH Palliative Care team.

Student time distribution: Inpatient 85%; Conferences/Lectures 15%; Subspeciality Care 100%

Major teaching responsibility: BJH Palliative Care Attendings (Maria Dans, MD; Mike Koller, MD; and Anna Roshal, MD; BJH Palliative Care Team Members; BJC Hospice Medical Director (Bernard Shore, MD); SLCH Palliative Care Service Medical Director (Joan Rosenbaum, MD)

Patients seen/weekly: 10
On call/weekend responsibility: None

M25 870 / ENDOCRINOLOGY, DIABETES AND METABOLISM
Instructor(s): Clay F. Semenkovich, MD, and staff, 314-362-7617
Location: 8th Floor Southwest Tower, Barnes-Jewish South Campus
Elective Contact: Karen Muehlhauser, 314-362-7617
Other Information: Students meet on 8th Floor Southwest Tower, Barnes-Jewish South Campus, 8:15 a.m. first day of elective.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

In general, the four-week rotation will be divided into 2 weeks of general endocrinology and 2 weeks of diabetes. Students taking this elective will perform consultations with fellows and faculty on the inpatient services at Barnes-Jewish Hospital and will also see patients with endocrine and metabolic diseases in the Outpatient Consultation. They will present these cases daily on teaching rounds. They will also participate in case conferences and seminars on a weekly basis. Extensive interaction with patients with diabetes and a diabetes education program are included, as is involvement with patients with thyroid, pituitary, adrenal, gonad, metabolic bone disease, and lipid disorders. Ample opportunities will be provided for discussions of patient problems with the members of the division. A variety of outpatient clinics are offered in the division and interested students should speak with the fellows and faculty members to customize the learning experience to match his or her career goals.

At the end of the rotation, it is expected that students will have the ability to initiate inpatient and outpatient management of diabetes including insulin dosing and glucose monitoring, as well as evaluate and treat of a variety of endocrine disorders including but not limited to thyroid, pituitary, and adrenal disease. Students will learn to perform effective inpatient and outpatient consultations.

Student time distribution: Inpatient 60%; Outpatient 30%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Faculty consultant for inpatients, individual faculty one-on-one for outpatients and division chief for both
Patients seen/weekly: 8-10
On call/weekend responsibility: Elective for students

**M25 871 / ONCOLOGY-OUTPATIENT**

Instructor(s): Maria Baggstrom, MD, 314-362-5817
Location: Siteman Cancer Center, CAM Building, Siteman West County, Siteman South County
Elective Contact: Krista Mercille, 314-747-7409, kmercill@dom.wustl.edu
Other Information: On the first day of the elective, students will meet in clinic at 8:00 a.m. Directions will be provided for each of the clinics.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Students will gain experience in the initial treatment of newly diagnosed malignancies and the outpatient management of oncology patients. Participation in multidisciplinary tumor conferences will stress a combined-modality approach to management, incorporating chemotherapy, radiotherapy and surgery. Students will see patients with a variety of malignancies, including lymphoma, myeloma, and tumors of the lung, breast, and colon. Management of hypercalcemia and other paraneoplastic syndromes, as well as cancer pain management will be covered. Students will have the opportunity to see how most oncologists spend 90% of their workday. They will observe different styles that oncologists have in presenting news about prognosis, treatment options and other information to patients while they also learn about the molecular basis for cancer, the mechanisms of action for our therapies (particularly the newer agents which target specific molecular abnormalities) and the key studies that justify the use of therapies (e.g. randomized studies showing that after surgery, chemotherapy will reduce the risk of recurrence from a particular cancer with a particular regimen). By spending time with clinicians, students will learn how to identify hereditary syndromes, use drugs for symptom relief and also learn how radiographic and laboratory tests allow oncologists to care for patients.

Student time distribution: Outpatient 85%; Conferences/Lectures 15%; Subspecialty
Care 100%
Major teaching responsibility: Oncology attendings and occasionally fellows
Patients seen/weekly: 30-50
On call/weekend responsibility: None

**M25 877 / INTENSIVE ECG INTERPRETATION**
Instructor(s): Robert E. Kleiger, MD; 314-454-8146
Location: 13th Floor Northwest Tower
Elective Contact: Marge Leaders, 314-454-8146; mleaders@dom.wustl.edu
Other Information: Contact Marge Leaders, 13th Floor Northwest Tower, on the first day of elective at 9:00 a.m.
Enrollment limit per period: 2
Valid start weeks for two-week blocks are: Weeks 1, 5, 11, 17, 19, 27, 29, 31, 33, 35, 37, 39, 41, and 43.

The student, during the two-week elective, will read 20-25 ECGs obtained from the Barnes-Jewish Heart Station and then over read by an experienced electrocardiographer. There will also be didactic sessions covering infarction, ventricular hypertrophy, heart block, arrhythmias, and aberrant conduction.

Student time distribution: Inpatient 0%; Outpatient 0%; Conferences/ Lectures 100%; Subspecialty Care 100%
Major teaching responsibility: Attending
Patients seen/weekly: N/A
On call/weekend responsibility: None

**M25 879 / PULMONARY CLINIC FOR THE UNDERSERVED**
Instructor(s): Barbara Ann Lutey, MD
Location: Wohl Hospital, 5th Floor
Elective Contact: Barbara Ann Lutey, MD, 314-747-8492, blutey@dom.wustl.edu
Other Information: Students should report to the Center of Outpatient Health, Suite 420, at 9:00 a.m. on the first day of the elective.
Enrollment limit per period: 2
Valid start weeks for two-week blocks are: Weeks 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, and 43.

Clinical setting: Outpatient Clinic dedicated to providing pulmonary specialty care to patients who are predominantly uninsured or who rely upon public assistance such as Medicaid.  
Student role: Students independently interview and examine patients and present findings to the attending, tests and imaging are reviewed, and provider and attending develop plan.  
Common problems/diseases: Asthma, COPD, sarcoidosis, lung cancer, and obstructive sleep apnea are commonly seen. Also, patients are referred for evaluation of abnormal x-rays and for symptoms such as dyspnea.  
Primary learning objectives:  
to understand and practice important history and exam skills in pulmonary medicine: symptoms, smoking history, work and environmental exposures, and important pulmonary physical exam findings.  
to understand the basics of pulmonary function tests, chest imaging, and methods for tissue sampling.  
to understand the basis of treatment of common pulmonary disorders.  
Conferences: There is no conference associated with this clinic, but students may attend the usual Thursday morning Medicine Grand Rounds at 8:00 a.m. and the Pulmonary Grand Rounds at 11:00 a.m. if the subject matter is appropriate.

Student time distribution: Outpatient 100%; Conferences/Lectures Vary; Subspecialty Care 100%

Major teaching responsibility: Barbara Ann Lutey, MD
Patients seen/weekly: 12-20
On call/weekend responsibility: None

M25 880 / PULMONARY MEDICINE – BARNES-JEWISH HOSPITAL
Instructor(s): Daniel Rosenbluth, MD, and staff, 314-454-8762
Location: 15th Floor, Northwest Tower
Elective Contact: Lisa Wetzel, 314-454-8762
Other Information: Students should page Pulmonary Consult Fellow, 7:30 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Students will acquire skills in the evaluation and management of patients with pulmonary diseases and in the interpretation of pulmonary function tests. They will gain experience in outpatient Lung Center and attend regular pulmonary and critical care medicine conferences.

Student time distribution: Inpatient 60%; Outpatient 20%; Conferences/ Lectures 20%; Subspecialty Care 100%
Major teaching responsibility: Multiple attendings, fellows and residents
Patients seen/weekly: 20
On call/weekend responsibility: None

M25 882 / PULMONARY MEDICINE – VA HOSPITAL
Instructor(s): Michael Lippmann, MD, 314-289-6306
Location: John Cochran VA Hospital
Elective Contact: Michael Lippmann, MD, 314-289-6306
Other Information: Students meet in 6C-MICU John Cochran VA Hospital, 7:30 a.m. first day of elective.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Students will participate in several ambulatory care activities of the Pulmonary Section, including outpatient consultations of common respiratory disorders such as COPD, obstructive sleep apnea, lung cancer and tuberculosis, and follow-up of primary care patients with pulmonary disease. In addition, students will round in medical intensive care units, interpret pulmonary function tests, participate in bronchoscopy and attend
scheduled teaching conferences of the Pulmonary Division.

Student time distribution: Inpatient 30%; Outpatient 50%; Conferences/ Lectures 20%; Subspecialty Care 100%
Major teaching responsibility: Several attendings
Patients seen/weekly: 6-10 (by student)
On call/weekend responsibility: None

M25 884 / BONE MARROW TRANSPLANTATION AND STEM CELL BIOLOGY
Instructor(s): John F. DiPersio, MD, PhD, 314-362-9339
Location: Bone Marrow Transplant Unit 13-100
Elective Contact: John F. DiPersio, MD, PhD, or Cathy Wiggins, 314-454-8491
Other Information: Students meet in the Bone Marrow Transplant Unit, 8:30 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Intense four-week clinical rotation exposing interested fourth-year medical students to the clinical world of bone marrow transplantation and to the basic science of hematopoiesis, leukemia, and stem cell biology. Students will be primarily responsible for the care of autologous and allogeneic BMT recipients and those patients being treated for a variety of hematologic malignancies such as AML, ALL, multiple myeloma and Non-Hodgkin's Lymphoma. In addition they will be exposed to methods of stem cell harvest, cryopreservation, and immunophenotyping. This rotation plans to provide motivated students with an ideal mix of clinical medicine and basic science.

Student time distribution: Inpatient 60%; Outpatient 20%; Conferences/ Lectures 20%; Subspecialty Care 100%
Major teaching responsibility: Attending on service as well as all BMT physicians
Patients seen/weekly: 10-20
On call/weekend responsibility: None
M25 885 / OCCUPATIONAL/ENVIRONMENTAL MEDICINE
Instructor(s): Bradley Evanooff, MD, MPH, 314-454-8638
Location: Taylor Avenue Building
Elective Contact: Debbie Howard, 314-454-8638
Other Information: Students should meet at GMS Suite, Taylor Avenue Bldg., 9:00 a.m. first day of elective.
Enrollment limit per period: 1 (2, by special arrangement)
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41. (Students may take this elective for up to 12 weeks.)

This elective is designed to introduce students to research and practice in the prevention of work-related injuries and illnesses, and prevention of health effects related to environmental exposures. Preventive activities will include work site visits and intervention projects, as well as involvement with work site health promotion and policy making. Research projects involve epidemiology and intervention projects in work-related injury and musculoskeletal disorders. Specific activities are flexible depending on the students’ interests.

Students may elect to participate in the Interdisciplinary Environmental Clinic at Washington University. Based in the law school, the clinic involves interdisciplinary teams of students (law, engineering, environmental science) taking principal responsibility, under faculty supervision, for cases and projects on behalf of environmental and community organizations. The medical student(s) assist clinic students by evaluating the human health impacts involved in one or more of the clinic’s cases, and presenting such information to the client organization(s) and others.

Among the cases on which medical students might participate are: (1) air pollution associated with factories in the St Louis metropolitan area; (2) lead poisoning of children and adults in St. Louis and surrounding towns; (3) air and water pollution caused by concentrated animal feeding operations (factory farms) in Missouri. Students choosing this option will work with the Environmental Clinic staff and with Dr. Evanoff to evaluate and present evaluations of human health impacts of environmental exposures.
Student time distribution: Conferences/Lectures 10%; Policy activities/Research 90%; Subspecialty Care 100%
Major teaching responsibility: Attending
Patients seen/weekly: 0
On call/weekend responsibility: None

M25 887 / CLINICAL CARDIOVASCULAR MEDICINE
Instructor(s): Thomas F. Martin, MD, FACC; and Timothy J. Martin, MD, FACC, CCDS, 573-308-1301
Location: Phelps County Regional Medical Center, Rolla, MO
Elective Contact: Annette Wells, 573-308-1301, wells@pcrmc.com
Other Information: Students should arrive at Washington University Heart Care Institute in Rolla, 1050 W. 10th Street, Suite 500 at 8:00 a.m. the first day of elective, and will be escorted to the unit where Dr. Martin is rounding.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 25, 29, 33, and 37.


Student time distribution: Inpatient 50%; Outpatient 50%; Subspecialty Care 100%
Major teaching responsibility: Attending
Patients seen/weekly: 100
On call/weekend responsibility: None

M25 890 / CLINICAL NEPHROLOGY
Instructor(s): Steven Cheng, MD, 314-362-3204
Location: Chromalloy American Kidney Center, Barnes-Jewish Hospital
Elective Contact: Kim Knolhoff, 314-362-7211
Other Information: Students meet in the Acute Dialysis Center, Division 14300, Barnes-Jewish Hospital, 8:00 a.m. first day of elective. Ask for the Renal Fellow on the Consult Service.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Students rotate through inpatient and outpatient experiences to gain exposure to all facets of nephrology. They will spend the majority of their time on an inpatient consult service, gaining exposure to acute and chronic renal failure, glomerulonephritis, and electrolyte disorders. During this time, they will serve as a fully integrated member of the consult team, evaluating underlying causes of kidney disease, performing diagnostic procedures, formulating management plans, and engaging in decision-making discussions with primary services and families. In addition, students will have the opportunity to experience ICU nephrology, the transplant service, the various CKD clinics, and all modalities of dialysis, including in-center, home, and peritoneal dialysis.

Student time distribution: Inpatient 70%; Outpatient 20%; Conferences/Lectures 10%; Primary Care 20%; Subspecialty Care 80%
Major teaching responsibility: Weekly pathophysiology/case conferences; Teaching rounds run by 3 attending physicians and 2 fellows.
Patients seen/weekly: Four consults per week
On call/weekend responsibility: Students are not required to take call or round on weekends.

M25 893 / ADULT ALLERGY AND CLINICAL IMMUNOLOGY
Instructor(s): H. James Wedner, MD, 314-454-7376
Location: 15th Floor, Northwest Tower
Elective Contact: Jill Munoz, 314-454-7376
Other Information: Students meet Jessica Champlin in the Allergy and Immunology division office, 15th Floor, Northwest Tower, 8:00 a.m. first day of elective.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.
Students will participate in the allergy consult service at Barnes-Jewish Hospital, North and South Campus. The student will serve as the primary allergy consult for inpatient and Emergency Room consultation and present each patient to the allergy fellows on call and the attending physician. Students will attend The Adult Allergy Clinic, Pediatric Allergy Clinic, and the outpatient clinics at The Asthma & Allergy Center at Barnes-Jewish West County Hospital. Conferences on selected topics in allergy and clinical immunology will be held with the attending staff two to three afternoons a week.

Student time distribution: Inpatient 10%; Outpatient 75%; Conferences/ Lectures 15%; Subspecialty Care 100%
Major teaching responsibility: Attending and staff
Patients seen/weekly: 12
On call/weekend responsibility: Optional

M80 809 / AMBULATORY CARE – JACQUELINE MARITZ LUNG CTR
Instructor(s): Daniel Rosenbluth, MD, 314-454-8762
Location: Barnes-Jewish Hospital, North Campus, Lung Center, 8th Floor CAM
Elective Contact: Lisa Wetzel, 314-454-8762
Other Information: Students meet in the Lung Center, 8th Floor CAM, Barnes-Jewish Hospital, North Campus, 8:00 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 17, 21, 25, 29, 33, 37, and 41.

The Jacqueline Maritz Lung Center houses the ambulatory care activities of the Divisions of Pulmonary Medicine, Thoracic Surgery, and Allergy/Immunology, as well as the pulmonary function laboratory. The student will rotate through (1) both general pulmonary and subspecialty clinics in Pulmonary Medicine (cystic fibrosis, transplantation, emphysema, etc.), (2) Thoracic Surgery clinic, (3) Allergy/ Immunology clinic, and (4) interpretation of pulmonary function tests. Chest imaging is also emphasized in the evaluation process. The rotation can be streamlined to meet areas of emphasis desired by individual students.

Student time distribution: Outpatient 100%; Conferences/Lectures 3-5 week; Primary
Research — Medicine

(M25 900)

Dana R. Abendschein, PhD
9924 Clinical Sciences Research Building
314-362-8925

Research in this translational physiology laboratory is focused on development of novel antithrombotic approaches for use during acute myocardial infarction, stroke, and surgery where vascular injury is an underlying mechanism. Current studies are designed to define the efficacy of targeting antithrombotics to the surface of injured vascular cells and activated platelets on thrombus progression. One approach uses nanoparticles covered with epitopes to bind exposed receptors on thrombus and containing inhibitors of coagulation or platelet activation. Students will be expected to participate in experiments using animal models and will develop skills in experiment design, vascular physiology, clinical antithrombotic therapy, coagulation, histopathology, and statistics.

John P. Atkinson, MD
10th Floor Clinical Sciences Research Building
A clinical research elective is offered in the evaluation of patients with complement deficiency or overactivity states and with undiagnosed rheumatic disease syndromes.

Roberto Civitelli, MD
BJCIH 11th Floor, Musculoskeletal Research Center
314-454-8408
The biology of cell-cell interactions and communication in bone via gap junctions and cell adhesion molecules. Function of connexins and cadherins in transcriptional control of osteoblast differentiation, osteoclastogenesis, and mechanotransduction. Modulation of mesenchymal lineage allocation and osteogenic differentiation by cadherins and beta-catenin signaling.

Nicholas O. Davidson, MD
910 CSRB North Tower
314-362-2027
Genetic pathways for nonalcoholic fatty liver disease (NAFLD) and colorectal cancer development. We have two major areas of research interest. Our laboratory is interested, first, in the molecular mechanisms of hepatic steatosis, and the pathogenesis of NAFLD. This is the most prevalent liver disease in the US, likely affecting a quarter of the population. We have generated genetically manipulated mouse strains that offer insights into the mechanisms of hepatic steatosis. The student would work as part of a team, designing and conducting experiments that will test hypotheses concerning the mechanisms and consequences of hepatic steatosis. These studies will primarily involve mouse genetics, examining the expression of candidate genes under a variety of nutritional and pharmacologic settings that modulate hepatic lipid metabolism. In addition we are using microarrays to study the spectrum of genetic changes that may predict the extent of hepatic lipid accumulation in patients with steatohepatitis. Our goal is to test hypotheses using mouse genetics and to extend these studies to examine the same pathways in humans with NAFLD. Our second area of interest concerns the genetic pathways involved in colorectal cancer, the second leading cause of cancer-related deaths. We have developed a novel
strain of mice in which the dominant effects of mutations in the APC tumor suppressor gene have been abrogated through deletion of an RNA binding protein, apobec-1. This deletion has a major effect on the expression of cox-2, abrogating the increase in expression seen in human colonic adenomas and wild type mouse intestinal adenomas. These findings suggest that apobec-1 is a genetic modifier of colon cancer development. We will study the importance of apobec-1 expression in human colon cancer specimens and continue our murine genetic studies of this novel pathway for modulating colon cancer development and progression.

Thomas M. DeFer, MD
6604 Wohl Hospital
314-362-8050, tdefer@dom.wustl.edu

Special Projects in Medical Education. Through special arrangement with and approval by the Course Master, 4th year students will participate in special projects in medical education. Typical projects will require approximately four weeks to complete. These four weeks can occur consecutively (preferred) or be spread out somewhat as needed. Medical education projects should be aimed at improving the curriculum, student experience, and/or administration of the Internal Medicine Clerkship or the Subinternship. Interested students should contact the Course Master via phone or e-mail to discuss the proposed project. Those who are interested but would like guidance in designing a project should also contact the Course Master. This is open only to Washington University School of Medicine students.

Matthew Ellis, MB, BChir, PhD
Room 724, Southwest Tower
314-747-3613

Genomics of Breast Cancer. The demonstration that the HER2 gene was amplified in breast cancer heralded the “genomic era” for this disease which ultimately led to major clinical advances for HER2-positive disease. The HER2 discovery was based on a search for cancer specific anomalies in the cellular homologs of the acutely transforming retroviral oncogenes described in birds and mammals. However HER2 gene amplification is now recognized to be only one of a large number of somatic
mutations that occur in breast cancer. In the last ten years, my clinical and laboratory efforts have focused on the development of a luminal (hormone receptor positive) breast cancer genome atlas to elucidate the complexity of the somatic changes in the breast cancer genome responsible for tumors resistant to current therapies. During these efforts we established a body of work on the practice of treating postmenopausal women with large palpable hormone receptor rich tumors with four months of an aromatase inhibitor. The ultimate scientific goal of these efforts is to create specimen banks and biomarker data from thousands of patients to create sufficient statistical power to robustly link genomic screens to clinical outcomes so we can eventually focus our basic science efforts on the most lethal genetic events.

Over the last year, we have undertaken a comprehensive analysis of the tumor samples accrued, including “whole genome” gene expression chips, high resolution array comparative hybridization analysis and candidate gene sequencing. The gene lists we are currently generating, particularly those from the marriage of expression profiling and array comparative hybridization, suggest a host of new therapeutic targets are ready to be exploited. Functional characterization of these genes has begun, and this effort is a major focus in the laboratory. Elective students will focus on projects that relate to individual oncogene candidates. The scope of the project will be commensurate with elective time commitment but participation may include interpretation of genomic data, confirmatory studies on gene over-expression in cell lines and tissues and functional studies using gene transfer, gene knock-down and pharmacological targeting to verify the identity of bone fide therapeutic targets for further investigation. Attendance at weekly lab meetings is expected.

Bradley Evanoff, MD, MPH
314-454-8638

Occupational medicine epidemiology and intervention research. My research involves the use of epidemiology methods to characterize associations between diseases and work-related exposures. I am also doing workplace intervention studies to prevent injuries and illnesses, and to improve healthy diet and physical activity among working populations. During an elective in occupational medicine epidemiology research,
students will learn how to use epidemiologic methods to investigate disease processes by working on a mutually agreed-on topic of interest related to occupational diseases. Other activities can include work site visits and intervention projects, as well as involvement with work site health promotion and policy making. Elective length is variable depending on individual circumstances. Please contact Dr. Evanoff to discuss this research.

Gregory I. Goldberg, PhD,
7740 Barnard
314-362-8172
Role of secreted extracellular matrix metalloproteases in tissue remodeling. Structure and function of the metalloproteases.

Richard W. Gross, MD, PhD
4525 Scott Avenue, East Building
314-362-2690
Lipid mediators of signal transduction in the cardiovascular system. Characterization of regulatory mechanisms responsible for the liberation of lipid second messengers during cellular activation. The roles of phospholipases in mediating the metabolic syndrome and end-organ tissue damage.

Marc R. Hammerman, MD
7704 Wohl Clinic
314-362-8233
Studies characterizing the transplantation of kidney and pancreatic anlage as a means to “grow new organs” in the settings of end-stage chronic renal failure and diabetes mellitus.

Stacey House, MD, PhD
houses@wustl.edu, 314-362-8070
or Lisa Hayes, hayesli@wusm.wustl.edu, 314-362-4362
Emergency Medicine Clinical Research. Emergency medicine clinical research involves the gamut of research designs ranging from retrospective cohort studies (The Use of B
Hydroxy Butyrate Point-of-Care Testing in Diabetic Ketoacidosis), to prospective clinical trials (Biomarkers in Traumatic Brain Injury), to the evaluation of healthcare systems and Emergency Department processes (Effects of a Triage Process Conversion on the Triage of High Risk Presentations.), to analyzing health policy issues (Rate of Follow-up to a Primary Care Clinic and Subsequent Emergency Department Utilization among an Urban ED Population). Students will learn the basic clinical research designs and will be able to articulate the benefits and drawbacks of each. They will be involved in hypothesis generation and study design for projects that are at that stage. For ongoing projects, they will learn about the informed consent process and be involved in screening for study subjects and subject selection and enrollment. They will be allowed to consent for studies judged to be minimal risk. Students will be taught important rules regarding data acquisition and entry, particularly as it relates to standards that have been set forth in the medical literature. They will learn about bias and inter-rater reliability. Students will participate in data entry, data analysis, and subsequent abstract/manuscript preparation based on their level of interest and ability for time commitment. Students will meet weekly with one of the course masters to discuss study progress and to identify any roadblocks to study completion. These meetings will also serve as a forum for one on one education of the student regarding study methodology, ethical issues in research, and various resources available to the clinical researcher at Washington University.

Keith A. Hruska, MD
5th Floor McDonnell Pediatric Research Building
314-286-2772

Our laboratory’s focus is on two aspects of kidney diseases: the progression of chronic kidney disease (CKD), and the syndrome of the CKD-mineral bone disorder (CKD-MBD). The latter is an important cause of mortality associated with CKD. We have discovered the pathogenesis of the CKD-MBD in early stage 2 CKD. We have ongoing studies of CKD stimulated vascular calcification in which we have discovered the mechanism of atherosclerotic plaque calcification stimulated by phosphorus. We are analyzing phosphorus as a cardiovascular risk factor, and new therapies for chronic kidney disease, the CKD-MBD, and vascular calcification.
Stuart A. Kornfeld, MD
8th Floor Clinical Sciences Research Building
314-362-8803
Synthesis, processing and sorting of glycoproteins, including lysosomal enzymes. Intracellular protein trafficking.

Sandor J. Kovacs, MD, PhD
9965 Clinical Sciences Research Building
314-362-8901
For students with math, physics and engineering background. Cardiovascular biophysics research elective concentrates on physiologic modeling and comparison of model predictions to in vivo human data. Minimum of eight weeks of elective time.

Jack Ladenson, PhD
314-454-8436
Development of monoclonal and single-chain antibodies for use in research and in diagnostic testing.

Marc S. Levin, MD, and Deborah C. Rubin, MD
922/924 Clinical Sciences Research Building
314-362-8933, 314-362-8935
Students will be members of a collaborative research team headed by Drs. Levin and Rubin (Department of Medicine) investigating the mechanisms underlying the intestinal adaptive response that occurs to compensate for loss of functional small intestine. A second project focuses on epithelial-mesenchymal interactions and their role in regulating gut epithelial proliferation carcinogenesis and the normal and cancer stem cell niche. Specific mechanisms under investigation include the function of an immediate early gene Tis7 on gut adaptation following resection or injury. The role of myofibroblast protein epimorphin in regulating cell proliferation and colon carcinogenesis is being explored. The student will have the opportunity to learn basic molecular biology and physiology as it relates to small intestinal growth, and function. Examples of techniques that are used in these studies include small animal surgery and colitis and cancer models (mice and rats), molecular biological techniques.
including PCR, Northern blotting, vector construction for production of transgenic and knockout mouse models, in situ hybridization and immunohistochemistry.

Philip W. Majerus, MD
8th Floor Clinical Sciences Research Building
314-362-8801
Biochemistry of platelets, regulation of lipid metabolism in tissue culture; mechanism of platelet thrombus formation.

Jeffrey D. Milbrandt, MD, PhD
101 Biotechnology Center
314-362-4650
We have several ongoing projects in our laboratory that focus on peripheral neuropathy and neurodegenerative diseases. (1) Using high throughput screening methods to dissect the molecular program responsible for dismantling injured and/or unhealthy axons with the goal of identifying drugs to treat neurological disorders. (2) Using genetics and metabolomics to understand how metabolic deficits in glia lead to neuropathy and axon breakdown. (3) Developing new genetic tools for in vivo and in vitro assays aimed at characterizing the role of non-myelinating Schwann cells in acquired peripheral neuropathies such as diabetic neuropathy. (4) Implementing novel, high-throughput genome engineering technologies in induced pluripotent stem cell-derived neurons to perform functional genomic screens for pathways involved in axon regeneration.

Jason C. Mills, MD, PhD
Room 1030 CSRB North Tower
314-362-4213
We investigate the differentiation of epithelial stem cells in the upper GI tract. We study how genes regulate differentiation in mouse models and in vitro in tissue culture, and we correlate our findings with human tissue specimens. Specific projects include: (1) understanding how inflammation leads to aberrant differentiation (metaplasia), which is a precursor for cancer; (2) elucidating how master regulatory transcription factors like Xbp1 and Mist1 coordinate the massive cytoskeletal and
organellar expansion of specialized secretory cells as they differentiate from stem cells; and (3) understanding mechanisms regulating how differentiated cells can be reprogrammed into stem cells in GI organs like stomach and pancreas.

Stanley Misler, MD, PhD
815 Yalem Building, Barnes-Jewish Hospital
314-454-7719
Stimulus-secretion coupling in endocrine cells (B-islet cells and adrenal chromaffin cells) examined using single-cell assays of secretion (capacitance measurements, amperometery).

Ginger E. Nicol, MD
4412 Renard Building
314-362-5939
Clinical research concerning substrate (glucose and lipid) metabolism and the regulation of weight and body composition in persons with mental illness, particularly concerning the effect of psychotropic medications. This elective offers the student a broad exposure to clinical research protocols, including protocols in adults and children. Students will have an opportunity to focus on a particular project of interest.

Amit Noheria, MBBS, SM
Northwest Tower 13th Floor
314-249-7352
Clinical Outcomes in Patients with Cardiac Implantable Electronic Devices: Clinical research to evaluate outcomes in patients with cardiac implantable electronic devices (CIEDs).

1. Risk of stroke in patients with patent foramen ovale and CIEDs.
2. Predictors of hemodynamically unstable ventricular arrhythmias in patients with left ventricular assist devices (LVADs).

Richard E. Ostlund, MD
8804 Wohl Hospital
Our laboratory focuses on the prevention and treatment of coronary heart disease by studying cholesterol absorption, detoxification and elimination from the body. Direct patient studies that use new stable isotopic cholesterol tracers and mass spectrometry techniques complement in vitro work on the biochemistry of cholesterol transport in cultured cells.

Russell Pachynski, MD
BJC Institute of Health, 7th Floor
314-286-2341

My lab focuses on several aspects of tumor immunology and translational immunotherapy. We utilize mouse tumor models, human tissues and samples, and advanced molecular and immunologic techniques to look study leukocyte trafficking in the setting of tumor development and progression. We also have projects focusing on developing novel immunotherapeutics aimed at augmenting the recruitment of beneficial leukocyte subsets into the tumor microenvironment in order to suppress tumor growth. We are utilizing several approaches such as nanoparticles, fusion proteins, and viruses.

Katherine Ponder, MD
8818 Cancer Science Research Building
314-362-5188, kponder@wustl.edu

Gene Therapy for Lysosomal Storage Diseases. Our laboratory is interested in using gene therapy to treat lysosomal storage diseases such as mucopolysaccharidosis (MPS). We have developed a retroviral vector that can be efficiently delivered to the liver of mice and dogs, and results in expression that is sufficient to reduce many of the clinical manifestations of these genetic diseases. Current studies focus upon assessing the therapeutic effect of gene therapy on sites that are affected in MPS such as the heart, aorta, bones, and joints, and developing vectors that might be translated into human patients. In addition, we are evaluating the pathogenesis of disease in MPS, which appears to involve the upregulation of destructive proteases in the aorta and possibly other sites. A better understanding of the pathogenesis of disease might
result in additional therapies for MPS.

Clay F. Semenkovich, MD
8th floor, Southwest Tower
314-362-4454
Fatty acid metabolism and its role in atherosclerosis, diabetes, hypertension, and obesity. The modulation of respiratory uncoupling for the treatment of aging, obesity, and vascular disease.

Phyllis K. Stein, PhD
Room 13116 Northwest Tower
314-286-1350, pstein@dom.wustl.edu
Clinical Significance of Heart Rate Variability and ECG-Derived Waveform Parameters Obtained from Continuous Ambulatory Monitoring. This elective affords the opportunity to perform research in heart rate variability or in other measurements, like QT variability or T-wave alternans that can be derived from continuous ECG monitoring from Holter recordings or polysomnography recordings in the sleep lab. One area of active research is the identification of heart rate patterns associated with obstructive and central sleep apneas and hypopneas and the relationship of previously unappreciated cycling heart rate patterns and outcomes. Data are also available from mice. Many possible projects are available using our many large existing datasets, using the thousands of stored studies in the sleep lab or involving de novo data collection in a clinical or animal population and in infants. Also, many possible directions for this research are available from applying traditional and non-linear HRV to different populations, developing methods to quantify ultradian heart rate variability patterns, to developing novel ECG analysis techniques, etc. Also, we are involved with the Cardiovascular Health Study (CHS), a large population-based longitudinal study of risk factors for heart disease and stroke among community-dwelling people >65 years old. There is a subset of this population who had Holter recordings (~1400 at baseline, ~800 of the same people 5 years later, and ~370 minority subjects recorded at the same time as the second CHS recording). These recordings have already been analyzed by us so there is a large amount of heart rate
variability and heart rate pattern data available. There is also a subsets of the CHS and of another study (EPHESUS) who are known to have died suddenly, and we have developed a matched control group in order to examine ECG-based differences in those who died suddenly. We also have electronic sleep studies at two time points for about 300 of the CHS Holter participants who also participated in the Sleep Heart Health Study. We have analyzed an additional ~1500 sleep studies from CHS participants who did not have Holter recordings. Thus, there is also an opportunity in the CHS dataset for studies on the relationship of heart rate variability and changes in heart rate variability over time and a huge number of clinical and demographic factors among the elderly. We also have data on the relationship of Holter-based HRV and sleep apnea patterns to the development of atrial fibrillation post-cardiac surgery and data from a study of treatment of depression in treatment-resistant depressed post-MI patients, a study of sickle cell patients and one of heart rate variability and echo parameters in elderly African Americans. Currently we are also analyzing HRV in both premature infants as they mature and also HRV as a predictor of response to treatment in babies in the NICU and PICU, using stored 24-hour bedside ECGs.

Heart Rate Variability and Clinical Outcomes: The student will be learning about HRV Methods and will investigate the relationship of HRV and outcomes in one of our datasets. Because we have clinical and demographic data on about 20,000 people in who continuous ECGs from Holter recordings, sleep studies and ICU studies and also some mouse data, the student will be able to choose a project leading to a publishable result in an area of interest to the student. The HRV Lab has enough computers and software to accommodate the needs of any interested students.

John Turk, MD, PhD
8th Floor South West Tower
314-362-8190

Phospholipid signaling mechanisms in pancreatic islets. Experience in mass spectrometric analysis of complex lipids is available.

H.J. Wedner, MD
1. Asthma Care in the Inner City: students will participate in ongoing studies of the delivery of asthma care to inner-city children and adults. The emphasis will be on direct contact between the asthmatic patients and the student, along with an asthma counselor.

2. Biology of Pollen and Fungal Allergens: our laboratory has been characterizing the important allergenic proteins from molds and pollen. The allergens are identified using skin test sensitive individuals, and the proteins are isolated and characterized by a combination of physiochemical and molecular biological techniques. These studies should lead to better forms of allergy immunotherapy. Students will participate in the isolation, characterization and modification of major allergens from a number of molds including Stachybotrys atrra, Epicoccum nigrum and several pollens including those from white oak and Parthenium hysterophoros, a newly recognized allergen.

Faculty — Medicine

Victoria J Fraser, MD
Adolphus Busch Professor of Medicine (primary appointment)
Head of the Department of Internal Medicine
BS William Woods College 1978
MD University of MO Columbia 1983

Elliot Efrem Abbey, MD
Professor of Clinical Medicine (primary appointment)
MD New York University 1975
BA Cornell University 1971

Camille N. Abboud, MD
Professor of Medicine (primary appointment)
MD American University of Beirut 1974
BS American University of Beirut 1970
Basem Abdeen
**Instructor in Clinical Medicine** (primary appointment)

Khaled M Abdel-Hamid
**Instructor in Clinical Medicine** (primary appointment)

**Dana Ray Abendschein, PHD**
Associate Professor of Medicine (primary appointment)

**Associate Professor of Cell Biology and Physiology**
PHD Purdue University 1978
BS State University of New York 1974

**Enyo Ama Ablordeppey, M PH, MD**
Assistant Professor of Anesthesiology (primary appointment)

**Assistant Professor of Emergency Medicine in Medicine**
M PH University of Pittsburgh 2007
MD University of Pittsburgh 2007

**Grazia Abou Ezzi, MS, PHD, MS**
Instructor in Medicine (primary appointment)

MS University of Paris 2009
BS Holy Spirit Univ of Kaslik 2006
PHD University of Nice 2013
MS University of Nice 2008

**Barry K Abramson, MD**
Instructor in Clinical Medicine (primary appointment)

BA Johns Hopkins University 1981
MD University of Miami 1985

**Nada A Abumrad, PHD**
Robert C Atkins Professor of Obesity Research in Medicine (primary appointment)

**Professor of Cell Biology and Physiology**
BS American University of Beirut 1972
PHD State University of New York 1978

**Susan R Adams, MD**
Instructor in Clinical Medicine (primary appointment)

BA Carleton College 1985
MD University of Missouri 1989

**Foluso O Ademuyiwa, M PH, MBBS**
Assistant Professor of Medicine (primary appointment)

M PH Johns Hopkins University 2001
MBBS University of Ibadan 1999

**Douglas R Adkins**
Professor of Medicine (primary appointment)

BS Wright State University 1982

**Homaa Ahmad, MD**
Assistant Professor of Medicine (primary appointment)

MD Johns Hopkins University Medec 2003
BA Johns Hopkins University 1999

**Abdulla Akfaly, MD**
Instructor in Clinical Medicine (primary appointment)

MD Aleppo University 1991

**Ghadah Abdulaziz Al Ismail**
Instructor in Medicine (primary appointment)

Ziyad Al-Aly
Assistant Professor of Medicine (primary appointment)

Bassam Albarcha
Instructor in Clinical Medicine (primary appointment)

**Jorge M Alegre, MD**
Instructor in Clinical Medicine (primary appointment)

MD School Not Listed 1965

Jennifer Marie Alexander-Brett, MD, PHD
Assistant Professor of Medicine (primary appointment)

**Assistant Professor of Pathology and Immunology**
MD Washington Univ in St. Louis 2007
PHD Washington Univ in St. Louis 2007
BS University of Nebraska 1999

**Tarek Alhamad, MD, MS**
Assistant Professor of Medicine (primary appointment)

MD Damascus U. Medical School 2006
MS Pennsylvania State University 2013
Alaa Ali Instructor in Medicine (primary appointment)
Muhammad A Ali, MD Instructor in Clinical Medicine (primary appointment)
MD School Not Listed 1985
Florence Michelle Almiron-Torralba Instructor in Clinical Medicine (primary appointment)
David Hershel Alpers, MD William B Kountz Professor of Gerontology in Medicine (primary appointment)
MD Harvard University 1960
BA Harvard University 1956
Jamaluddin Faisal Amanullah Instructor in Clinical Medicine (primary appointment)
Amit P. Amin, MD Assistant Professor of Medicine (primary appointment)
MD Government Medical College 1998
Manik A Amin, MD Assistant Professor of Medicine (primary appointment)
MD Government Medical College 1997
Milan J. Anadkat, MD Associate Professor of Medicine (Dermatology) (primary appointment)
MD Ohio University 2001
BA University of Akron 1997
Dhanalakshmi Subramanian Anbukumar, PHD Instructor in Medicine (primary appointment)
PHD Saint Louis University 2010
BA Saint Louis University 2003
Adam Lee Anderson, MD Assistant Professor of Medicine (primary appointment)
BS University of Illinois Chicago 2006
MD University of Illinois Chicago 2010
Scott J Anderson, MD, PHD Instructor in Clinical Medicine (primary appointment)
BA University of California 1975
MD Duke University 1982
PHD Duke University 1981
Muhammad Jaffer Ansari Assistant Professor of Clinical Medicine (primary appointment)
George Ansstas, MD Assistant Professor of Medicine (primary appointment)
MD Tishreen Univ College of Med 2001
Alison Lynne Antes Schuelke, PHD, MS Assistant Professor of Medicine (primary appointment)
PHD University of Oklahoma 2010
BS Indiana State University 2005
MS University of Oklahoma 2007
Rajendra Apte, PHD, MD Paul A. Cibis Distinguished Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Developmental Biology
Professor of Medicine
PHD University of Texas Southwest 1997
MD University of Bombay 1993
Suzanne V Arnold, MD, MHA Adjunct Assistant Professor of Medicine (primary appointment)
MD Ohio State University 2004
MHA Ohio State University 2004
Vivek Kumar Arora, PHD, MD Assistant Professor of Medicine (primary appointment)
PHD University of Texas Southwest 2004
MD University of Texas Southwest 2004
BS Northwestern University 1996
Saira M Asadullah, MD Instructor in Clinical Medicine (primary appointment)
MD Aga Khan University 1992
**Phillip V. Asaro, MD** Assistant Professor of Emergency Medicine in Medicine (primary appointment)
MD Saint Louis University 1981
**Jeffrey Jay Atkinson** Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pediatrics
BS1 Loyola College 1990
MD1 Hahnemann University 1994
BS Loyola College 1990
**John Patterson Atkinson, MD** Samuel Grant Professor of Medicine (primary appointment)
Professor of Molecular Microbiology
BA University of Kansas 1965
MD University of Kansas 1969
**Crystal Lynn Atwood, MD** Instructor in Medicine (primary appointment)
MD University of Illinois Chicago 2009
Chandra Aubin Associate Professor of Emergency Medicine in Medicine (primary appointment)
**James G Avery, MD** Associate Professor of Clinical Medicine (primary appointment)
MD University of Tennessee 1990
**Riad Azar, MD** Associate Professor of Medicine (primary appointment)
MD Saint Josephs University 1994
**Hilary M Babcock, MPH, MD** Associate Professor of Medicine (primary appointment)
BA Brown University 1989
MPH Saint Louis University 2006
MD University of Texas Southwest 1994
**Richard G. Bach, MD, MS** Professor of Medicine (primary appointment)
MD New York University 1984
MS New York University 1980
BS Georgetown University 1977
**Leonard B Bacharier, MD** Professor of Pediatrics (primary appointment)
Professor of Medicine
MD Washington Univ in St. Louis 1992
BA Johns Hopkins University 1988
**Maria Quintos Baggstrom, MD** Associate Professor of Medicine (primary appointment)
BA Williams College 1991
MD University of Texas Houston 1996
Om Parkash Bahl Assistant Professor of Clinical Medicine (primary appointment)
Donald M Bailey Adjunct Instructor in Medicine (primary appointment)
**Thomas C Bailey, MD** Professor of Medicine (primary appointment)
BA William Jewell College 1980
MD Washington Univ in St. Louis 1984
**Gregory Eden Baker, MD** Instructor in Clinical Medicine (primary appointment)
MD Mayo Clinic 2001
**Megan Tierney Baldridge, MD, PhD** Assistant Professor of Medicine (primary appointment)
Assistant Professor of Molecular Microbiology
MD Baylor College of Medicine 2011
PHD Baylor College of Medicine 2009
**Fred J Balis, MS, MD** Assistant Professor of Clinical Medicine (primary appointment)
MS Cornell University 1985
Clarence William Balke, MD
Professor of Medicine (primary appointment)

David Ban, MD
Associate Professor of Clinical Medicine (primary appointment)

James William Banks, MD
Instructor in Clinical Medicine (primary appointment)

Dhruv Bansal, MD
Instructor in Medicine (primary appointment)

Abraham Barake
Associate Professor of Clinical Medicine (primary appointment)

Thomas J Baranski, PHD, MD
Associate Professor of Medicine (primary appointment)

Peggy Barco, MED
Assistant Professor of Occupational Therapy (primary appointment)

Rachel Hannah Bardowell
Assistant Professor of Medicine (primary appointment)

Philip M Barger, MD
Associate Professor of Medicine (primary appointment)

Joaquin Barnoya, MS, MD
Associate Professor of Surgery (General Surgery) (primary appointment)

Ernie-Paul Barrette, MA
Associate Professor of Medicine (primary appointment)

Thomas Joseph Bartholet, MD
Instructor in Clinical Medicine (primary appointment)

Robert W Barton
Assistant Professor of Clinical Medicine (primary appointment)

Luis Francisco Zirnberger Batista, PHD
Assistant Professor of Medicine (primary appointment)

Nancy Lee Bartlett, MS, MD
Koman Professor of Medical Oncology in Medicine (primary appointment)

Natalie Christine Battle, MD
Instructor in Medicine (primary appointment)
Frederick D Bauschard, MD
Assistant Professor of Clinical Medicine (Dermatology) (primary appointment)

Michael D Bavlsik
Assistant Professor of Clinical Medicine (primary appointment)

Susan Joy Bayliss, MD
Professor of Medicine (Dermatology) (primary appointment)
Professor of Pediatrics

Michael D Bavlsik
Assistant Professor of Clinical Medicine (primary appointment)

Susan Joy Bayliss, MD
Professor of Medicine (Dermatology) (primary appointment)
Professor of Pediatrics

Bahaa Ahmad Bedair, MD
Instructor in Medicine (primary appointment)

Saba Beg, MD
Instructor in Medicine (primary appointment)

Richard C Bell
Instructor in Clinical Medicine (Dermatology) (primary appointment)

C. Elliott Bell Jr
Instructor in Clinical Medicine (primary appointment)

William Waite Benedict
Instructor in Clinical Medicine (primary appointment)

Bruno Antonio Benitez Vilorio
Instructor in Medicine (primary appointment)

Susan Berdy, MD
Assistant Professor of Clinical Medicine (primary appointment)

Richard C Bell
Instructor in Clinical Medicine (Dermatology) (primary appointment)

C. Elliott Bell Jr
Instructor in Clinical Medicine (primary appointment)

William Waite Benedict
Instructor in Clinical Medicine (primary appointment)

Bruno Antonio Benitez Vilorio
Instructor in Medicine (primary appointment)

Susan Berdy, MD
Assistant Professor of Clinical Medicine (primary appointment)

BA Brown University 1980

MD Saint Louis University 1984

Daniel Ralph Berg, MD
Assistant Professor of Clinical Medicine (primary appointment)

MD Washington Univ in St. Louis 2000

Michael A Berk, MD
Professor of Clinical Medicine (primary appointment)

BA Northwestern University 1974

MD Indiana University Bloomington 1979

Carlos Bernal-Mizrachi, MD
Associate Professor of Medicine (primary appointment)

Associate Professor of Cell Biology and Physiology

MD Universidad del Valle Med Sch 1990

Aaron M Bernstein, MD
Assistant Professor of Clinical Medicine (primary appointment)

MD University of Chicago 1952

BA Washington Univ in St. Louis 1948

Keith A Bernstein, MD
Instructor in Clinical Medicine (primary appointment)

MD University of Missouri 1987

BA University of MO Kansas City 1987

Marc Jordan Bernstein, MD
Associate Professor of Clinical Medicine (primary appointment)

BA Haverford College 1988

MD Washington Univ in St. Louis 1992

Douglas R Berson, MD
Instructor in Clinical Medicine (primary appointment)

BA Lehigh University 1981

MD University of Pennsylvania 1983

Pavan Kumar Bhamidipati, MD
Instructor in Clinical Medicine (primary appointment)

MD Guntur Medical College 2007

Anita R. Bhandiwad, MD
Assistant Professor of Medicine (primary appointment)

MD Northwestern University 1998

Mythili C. Bharadwaj
Instructor in Clinical Medicine (primary appointment)

UNKNOWN University of Madras 1988

Rakhee Kapadia Bhayani, MD
Associate Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1999  
Stanley I Biel, **MDInstructor in Clinical Medicine** (primary appointment)  
BA Rockford College 1974  
MD University of Illinois 1978  

Joseph John Billadello, **MDAssociate Professor of Medicine** (primary appointment)  
MD Georgetown University 1978  

Ellen F Binder, **MDProfessor of Medicine** (primary appointment)  
Professor of Occupational Therapy  
MD Washington Univ in St. Louis 1981  
BA Davenport University 1977  

Aaron Birenbaum, **MDAssistant Professor of Clinical Medicine** (primary appointment)  
MD Washington Univ in St. Louis 1948  

William D Birenbaum, **MDInstructor in Clinical Medicine** (primary appointment)  
MD University of Missouri 1983  
BA Washington Univ in St. Louis 1978  

Clifford Allen Birge, **MDAssistant Professor of Clinical Medicine** (primary appointment)  
BA Amherst College 1956  
MD Washington Univ in St. Louis 1961  

Stanley J Birge, **MDAssociate Professor of Medicine** (primary appointment)  
BA Amherst College 1959  
MD Washington Univ in St. Louis 1963  

Thomas M Birkenmeier, **MDAssistant Professor of Medicine** (primary appointment)  
BA Washington Univ in St. Louis 1978  
MD Washington Univ in St. Louis 1982  

Kumar Sanjeev Bishnupuri, **MSInstructor in Medicine** (primary appointment)  
BS Tilka Manjhi Bhagalpur Univ 1988  
MS Banaras Hindu University 1992  

Valerie Blanc, **PHDInstructor in Medicine** (primary appointment)  
PHD University of Bordeaux 2 1996  

Melvin S Blanchard, **BBA, MDProfessor of Medicine** (primary appointment)  
Director of Residency Program, Department of Internal Medicine  
BBA Trevecca Nazarene College 1987  
MD University of Tennessee 1994  

Merilda O Blanco-Guzman, **MDInstructor in Medicine** (primary appointment)  
MD PUCMM FACULTAT DE CIENCIAS DEL 2004  

Elizabeth Joy Blaney, **MDAssistant Professor of Medicine** (primary appointment)  
MD Ohio State University 2007  
BA Eastern Michigan University 2003  

Morey A Blinder, **MDProfessor of Medicine** (primary appointment)  
Professor of Pathology and Immunology  
MD Saint Louis University 1981  
BS University of Notre Dame 1977  

Donald Allen Blum**Assistant Professor of Clinical Medicine** (primary appointment)  
Imre Bodo**Adjunct Instructor in Medicine** (primary appointment)  

Indra Bole**Instructor in Medicine** (primary appointment)  
BS University of Maryland 2008  

Michael Bolger**Instructor in Clinical Medicine** (primary appointment)  

Matthew James Bonzelet, **MDInstructor in Clinical Medicine** (primary appointment)
Adrianus C Boon, PHD, Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
Assistant Professor of Molecular Microbiology
PHD Erasmus University Rotterdam 2003
MS University of Amsterdam 1997
Benjamin A Borowsky, Professor of Clinical Medicine (primary appointment)
Jonathan D Bortz, Instructor in Clinical Medicine (primary appointment)
**Ron Bose, PHD**, Associate Professor of Medicine (primary appointment)
Associate Professor of Cell Biology and Physiology
PHD Cornell University 1998
PHD1 Cornell University 1998
**Matthew S Bosner, MD**, Assistant Professor of Clinical Medicine (primary appointment)
BS Muhlenberg College 1979
MD University of Texas Austin 1983
**William G Bowen, MD**, Associate Professor of Clinical Medicine (primary appointment)
BS Davidson College 1970
MD University of North Carolina 1974
**Lyndsey Jean Bowman, PHD**, Adjunct Instructor in Medicine (primary appointment)
PHD St Louis College of Pharmacy 2005
Sabina A Braithwaite, Associate Professor of Emergency Medicine In Medicine (Pending Executive Faculty Approval) (primary appointment)
**Richard D. Brasington Jr, MD**, Professor of Medicine (primary appointment)
BA Harvard University 1974
MD Duke University 1980
**Alan C Braverman, MD**, Alumni Endowed Professor of Cardiovascular Disease in Medicine (primary appointment)
MD University of Missouri 1985
**Andrea Lynn Bredemeyer, PHD**, Instructor in Medicine (primary appointment)
PHD Washington Univ in St. Louis 2006
BA Colby College 1999
**Daniel C Brennan, MD**, Professor of Medicine (primary appointment)
Alan A and Edith L Wolff Distinguished Professor
MD University of Iowa 1985
BS Cornell College 1981
**Audrey Brenot, PHD**, Instructor in Medicine (primary appointment)
PHD University of Paris 2001
BS University of Paris 1996
**Thomas J. Brett**, Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
Assistant Professor of Biochemistry and Molecular Biophysics
BS North Dakota State University 1992
**Matthew Brinkmeier, MD**, Instructor in Medicine (primary appointment)
MD Washington Univ in St. Louis 2007
**Steven L Brody, MD**, Dorothy R and Hubert C Moog Professor of Pulmonary Diseases in Medicine (primary appointment)
Professor of Radiology
MD University of Michigan 1980
Rita Thomas Brookheart, Instructor in Medicine (primary appointment)
Instructor in Pediatrics
BA Sweet Briar College 2003
Christopher B. Brooks, Associate Professor of Emergency Medicine in Medicine (primary appointment)

Angela L Brown, MD, Associate Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1992

David L. Brown, MD, Professor of Medicine (primary appointment)
BA University of Texas Austin 1977
MD Baylor University 1982

Lawrence R Brown, MD, Assistant Professor of Emergency Medicine in Medicine (primary appointment)
BS Univ of Wisconsin Madison 1982
MD Washington Univ in St. Louis 1990

George John Broze Jr, MD, Professor of Medicine (primary appointment)
Professor of Cell Biology and Physiology
Professor of Pathology and Immunology
MD University of Washington 1972

Robert M Bruce, MD, Professor of Clinical Medicine (primary appointment)
MD University of Minnesota 1968
BS University of Minnesota 1968
BA Washington Univ in St. Louis 1964

Kathleen S Brunts, MD, Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1981
BS Western Michigan University 1977

Stanley Buck, MD, Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1977
BS Princeton University 1973
Philip J Budge, Assistant Professor of Medicine (primary appointment)

Allen Cole Burks, MD, Instructor in Medicine (primary appointment)
MD Saint Louis University 2007
BS University of Central Arkansas 2002

Tamara Lavon Burls, Associate Professor of Physical Therapy (primary appointment)
Associate Director for Clinical Education in Physical Therapy
Assistant Director of Professional Curriculum in Physical Therapy
Associate Professor of Medicine
BA Wartburg College 1988
BS Washington Univ in St. Louis 1988

Scott H Burner, MD, Associate Professor of Emergency Medicine in Medicine (primary appointment)
MD Medical University of Sth Car 1978

Donald F Busiek, MD, Instructor in Clinical Medicine (primary appointment)
BA Saint Louis University 1974
MD University of Missouri 1983

Melvin J Butler, Instructor in Clinical Medicine (primary appointment)

Derek E Byers, MD, Associate Professor of Medicine (primary appointment)
BS University of Oklahoma 1993
MD University of Texas Southwest 2001
Jonathan Nicholas Byrd, MD Instructor in Clinical Medicine (primary appointment)
BS1 Tulane University 2007
MD Washington Univ in St. Louis 2011

Minji Byun, PHD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
PHD Washington Univ in St. Louis 2009
BS Pohang Univ of Science & Tech 2002

Galileu Cabral Associate Professor of Clinical Medicine (primary appointment)

William Todd Cade, PHD, MS Professor of Physical Therapy (primary appointment)
Professor of Medicine
Associate Director of Postdoctoral Fellowships in Physical Therapy
PHD University of Maryland 2002
MS University of Miami 1994

John William Campbell, MD Professor of Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1973
MD Washington Univ in St. Louis 1977

Jian Li Campian, PHD, MS, MD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Neurological Surgery
PHD University of Louisville 2003
MS Peking Union Medical College 2000
MD Tianjin Medical University 1997

Maria J Canizares Instructor in Clinical Medicine (Dermatology) (primary appointment)
BA Saint Louis University 1996

Rosemary L Cannistraro, MD Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1992

Rebecca Goodwin Carey Adjunct Instructor in Medicine (primary appointment)

Abigail L Carlson, MD Instructor in Medicine (primary appointment)
MD Johns Hopkins University 2010

Kim Alan Carmichael, MD Associate Professor of Medicine (primary appointment)
MD Virginia College 1978

Christopher Robert Carpenter, MD Associate Professor of Emergency Medicine in Medicine (primary appointment)
MD Wayne State University 1994

David B Carr, MD Professor of Medicine (primary appointment)
Professor of Neurology

Alan A and Edith L Wolff Distinguished Professor of Geriatric Medicine
BA University of MO Columbia 1981
MD University of MO Columbia 1985

Scott Carrizales, MD Assistant Professor of Medicine (Dermatology) (primary appointment)
MD UniformedServUofHealthSciences 1996
Kenneth R Carson Assistant Professor of Medicine (primary appointment)
Assistant Professor of Surgery (Public Health Sciences)

Amanda Fishback Cashen, MD Associate Professor of Medicine (primary appointment)
BS1 Yale University 1995
BS Yale University 1995
MD Washington Univ in St. Louis 1999

Mario Castro, MD, MPH Professor of Medicine (primary appointment)
Professor of Radiology
Professor of Pediatrics
Alan A and Edith L Wolff Distinguished Professor
MD University of Missouri 1988
BA University of MO Kansas City 1988
M PH Saint Louis University 1998
Lilibeth Maria Cayabyab-Loe Assistant Professor of Clinical Medicine (primary appointment)
Murali M Chakinala, MD Associate Professor of Medicine (primary appointment)
BS Duke University 1990
MD Vanderbilt University 1994
Grant A Challen, PHD Assistant Professor of Medicine (primary appointment)
PHD University of Queensland 2006
Kari Terece Chambers Instructor in Medicine (primary appointment)
BS Truman State University 2000
Kae Pyng Chang, MD Instructor in Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1991
MD University of Missouri 1995
Monica Chang-Panesso, MD Instructor in Medicine (primary appointment)
MD Texas Tech University 2009
Douglas Char Professor of Emergency Medicine in Medicine (primary appointment)
BS Boston College 1983
Siroth Charnond Instructor in Clinical Medicine (primary appointment)
Lewis Robert Chase, MD Professor of Medicine (primary appointment)
BA Princeton University 1960
MD Harvard University 1964
Alexander Chi Chen, MD Associate Professor of Medicine (primary appointment)
Associate Professor of Surgery (Cardiothoracic Surgery)
MD University of MO Kansas City 2001
Chien-Huan Chen, PHD, MD Associate Professor of Medicine (primary appointment)
PHD Johns Hopkins University Medic 1999
MD National Taiwan University 1993
David Yuan-Sou Chen, MD, PHD Instructor in Medicine (primary appointment)
BS University of Michigan 2003
MD Washington Univ in St. Louis 2012
PHD Washington Univ in St. Louis 2012
Delphine L. Chen, AB Associate Professor of Radiology (primary appointment)
Associate Professor of Medicine
MD1 Washington Univ in St. Louis 1999
BA Harvard Radcliffe 1995
AB Harvard Radcliffe 1995
Edward C. Chen, MD Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 2005
Feng Chen, PHD Associate Professor of Medicine (primary appointment)
Associate Professor of Cell Biology and Physiology
BS Fudan University 1991
PHD University of Utah 1998
Ling Chen, MPH, PHD Assistant Professor of Biostatistics (primary appointment)
Assistant Professor of Medicine
BS Beijing Medical University 1996
Phyllis Chen, MD  Instructor in Clinical Medicine (primary appointment)
MD Northwestern University Med 1992
Qing Chen, MD, MS  Instructor in Clinical Medicine (primary appointment)
MD Nanjing Medical University 1983
UNKNOWN School Not Listed 1983
MS Nanjing Medical University 1988
Ying Chen, PHD, MD  Assistant Professor of Medicine (primary appointment)
PHD Vanderbilt University 2004
MD Shanghai Medical University 1996
Steven Chih Nung Cheng  Associate Professor of Medicine (primary appointment)
Praveen R Chenna, MBBS  Assistant Professor of Medicine (primary appointment)
BS Washington Univ in St. Louis 1998
MBBS Sri Ramachandra Medical Colleg 2005
Mathew Amprayil Cherian, MBBS  Instructor in Medicine (primary appointment)
MBBS Christian Medical College 2000
Milan G Chheda, MD  Assistant Professor of Medicine (primary appointment)
Assistant Professor of Neurology
MD Albert Einstein College of Med 2002
Rebecca Joy Chibnall, AA, MD  Assistant Professor of Medicine (Dermatology) (primary appointment)
AA Washington Univ in St. Louis 2007
MD University of California 2012
Phillip Ruben Chisholm  Instructor in Clinical Medicine (primary appointment)
Jaebok Choi, MS, PHD, BE  Assistant Professor of Medicine (primary appointment)
MS Univ of Nebraska at Omaha 2001
PHD Baylor University 2006
BE Kyung Pook National University 1996
Hyemi Chong, MD  Instructor in Medicine (primary appointment)
BA Yale University 2003
MD University of Texas Southwest 2011
Courtney Darcey Chrisler, MD  Instructor in Medicine (primary appointment)
BS Northwestern University 2003
MD Washington Univ in St. Louis 2007
Matthew Christopher, MD, PHD  Instructor in Medicine (primary appointment)
MD Washington Univ in St. Louis 2010
PHD Washington Univ in St. Louis 2010
BA Saint Louis University 1993
Philip Chu Pak-Yu  Instructor in Clinical Medicine (primary appointment)
Duck Sung Chun, MD  Instructor in Clinical Medicine (primary appointment)
MD Seoul National University
Jeffrey Peter Ciaramita  Instructor in Clinical Medicine (primary appointment)
Thomas Michael Ciesielski, MD  Instructor in Medicine (primary appointment)
MD Oregon Health Science Univers 2010
Vincenza Cifarelli, PHD, MS  Instructor in Medicine (primary appointment)
PHD University of Pittsburgh 2011
MS Universita de Modena e Reggio 2005
Matthew Aaron Ciorba, MD  Assistant Professor of Medicine (primary appointment)
MD University of Iowa 2001

Geoffrey Cislo, MD  Assistant Professor of Medicine (primary appointment)
MD University of Michigan 1996

Roberto Civitelli, MD  Sydney M and Stella H Schoenberg Professor of Medicine (primary appointment)
Professor of Orthopaedic Surgery
Professor of Cell Biology and Physiology
BS University of Siena 1980
MD University of Siena 1980

David B Clifford  Melba and Forest Seay Professor of Clinical Neuropharmacology in Neurology
(primary appointment)
Professor of Medicine

Dorothy Jean Cline, MD  Instructor in Clinical Medicine (Dermatology) (primary appointment)
BA University of Missouri 1973
MD Saint Louis University 1977

James Close, MD  Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1984

William Edward Clutter, MD  Associate Professor of Medicine (primary appointment)
Associate Director of the House Staff Training Program, Department of Internal Medicine
BS Ohio State University 1972
MD Ohio State University 1975

Shari J Cohen  Assistant Professor of Clinical Medicine (primary appointment)

Brian G Cohn, MD  Assistant Professor of Emergency Medicine in Medicine (primary appointment)
MD University of Alabama 2003

Susan R Colbert-Threats, MD  Assistant Professor of Clinical Medicine (primary appointment)
BS Northwestern University 1986
MD University of Illinois 1991

Graham A Colditz, MBBS, DRPH  Niess-Gain Professor of Surgery (General Surgery) (primary appointment)
Professor of Medicine
Deputy Director for the Institute of Public Health
BS University of Queensland 1977
MBBS University of Queensland 1979
DRPH Harvard University 1986

Danita L Cole  Instructor in Clinical Medicine (primary appointment)

Patricia L Cole, MA, MD  Associate Professor of Clinical Medicine (primary appointment)
BA Mount Holyoke College 1972
MA Brown University 1975
MD Harvard University 1981

Roger Barto Cole, MS, MD, PhD  Instructor in Clinical Medicine (primary appointment)
MS Yale University 2001
MD Washington Univ in St. Louis 2008
PHD Yale University 2004
BS Rice University 1997

Sarah F Cole  Instructor in Clinical Medicine (primary appointment)

Lloyd W Coleman, MS, PhD  Instructor in Medicine (primary appointment)
MS Iowa State University 1976
Laura Ann Colletti-Mann  
Associate Professor of Medicine (primary appointment)

Marco Colonna  
Robert Rock Belliveau MD Professor of Pathology (primary appointment) 
Professor of Medicine

Kim David Colter, MS, MD  
Instructor in Clinical Medicine (primary appointment)

MS University of CA Berkeley 1974

MD Washington Univ in St. Louis 1978

BS MO S&T (formerly UofMO Rolla) 1973

Arthur Hamilton Combs, MD  
Associate Professor of Clinical Medicine (primary appointment)

MD New York Medical College 1975

Daniel Horatio Cooper, MD  
Assistant Professor of Medicine (primary appointment)

MD Loyola University Chicago 2003

BS Washington Univ in St. Louis 1999

Matthew Cooper, PhD  
Instructor in Medicine (primary appointment)

PHD University of Surrey 2008

BS University of Surrey 2004

Nathan Richard Copeland, MD  
Instructor in Medicine (primary appointment)

MD University of Arizona 2012

BS University of Arizona 2006

Lynn Anne Cornelius, MD, BN  
Winfred A and Emma R Showman Professor of Dermatology in Medicine (primary appointment)

MD University of Missouri 1984

BN University of Delaware 1977

John Bernard Costello, MD  
Instructor in Clinical Medicine (primary appointment)

BA Saint Louis University 1974

MD Saint Louis University 1977

Carrie Christine Coughlin, MD  
Assistant Professor of Medicine (Dermatology) (primary appointment)

MD Washington Univ in St. Louis 2010

BA Yale University 2005

Martha Laurin Council, MD  
Assistant Professor of Medicine (Dermatology) (primary appointment)

BS Louisiana St University 2000

MD Washington Univ in St. Louis 2004

Daniel W Coyne, MD  
Professor of Medicine (primary appointment)

MD Case Western Reserve Univ 1983

BA Saint Louis University 1979

Clarissa S. Craft  
Assistant Professor of Medicine (primary appointment)

Assistant Professor of Cell Biology and Physiology

Johnetta M Craig, MBA  
Instructor in Clinical Medicine (primary appointment)

BS University of Missouri 1980

MBA University of Pennsylvania 1994

John Jeffrey Cras, MD, MS  
Assistant Professor of Medicine (primary appointment)

MD Georgetown University 2003

MS Georgetown University 1998

BS Loyola College 1994

Charles Crecelius, MD, PhD  
Assistant Professor of Clinical Medicine (primary appointment)
BA Carleton University 1976
MD Saint Louis University 1984
PHD Saint Louis University 1984
Sharon Cresci, MD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Genetics
MD New York University 1986
BS State Univ of NY Binghampton 1982
Stephen R Crespin, MD Associate Professor of Clinical Medicine (primary appointment)
MD Harvard University 1965
Jeffrey S Crippin, MD Professor of Medicine (primary appointment)
BS University of Notre Dame 1980
MD University of Kansas 1984
Paulina Cruz Bravo, MD Instructor in Medicine (primary appointment)
MD Universidad Automoma de Madrid 2009
Philip E Cryer, MD Professor Emeritus of Medicine (primary appointment)
Prof Emeritus of Medicine (primary appointment)
Adjunct Professor of Medicine
BA Northwestern University 1962
MD Northwestern University Med 1965
Phillip S. Cuculich, MD Associate Professor of Medicine (primary appointment)
MD Vanderbilt University 2001
Kevin M Cullison Instructor in Emergency Medicine in Medicine (Pending Dean's Approval) (primary appointment)
Robert Culverhouse, PHD, MA Assistant Professor of Medicine (primary appointment)
Assistant Professor of Biostatistics
PHD Washington Univ in St. Louis 1998
MA University of CA Berkeley 1987
BA Vanderbilt University 1983
Lenise Andrea Cummings-Vaughn, MS, MD Assistant Professor of Medicine (primary appointment)
MS San Francisco St University 1998
BS Williams College 1995
MD Saint Louis University 2005
David T Curiel, MD, PHD Distinguished Professor of Radiation Oncology (primary appointment)
Professor of Medicine
Professor of Obstetrics and Gynecology
MD Emory University 1982
BA West Georgia College 1978
PHD University of Groningen 2000
Robert B Cusworth, MD Instructor in Clinical Medicine (primary appointment)
MD University of Rochester 1974
Ann Marie Dale, PHD Associate Professor of Medicine (primary appointment)
Associate Professor of Occupational Therapy
BS University of MO Columbia 1983
PHD Saint Louis University 2009
William H Danforth, MD Professor of Medicine (primary appointment)
Vice Chairman and Chancellor Emeritus
BA Princeton University 1947
MD Harvard University 1951
Erik D. Daniels, MD
Instructor in Clinical Medicine (primary appointment)
MD Howard University 1989

John S Daniels, MA, MD
Associate Professor of Clinical Medicine (primary appointment)
MA University of Arkansas 1974
BA Washington Univ in St. Louis 1970
MD University of Arkansas 1974

Peter G Danis
Instructor in Clinical Medicine (primary appointment)

Rand E Dankner, MD
Associate Professor of Clinical Medicine (primary appointment)
BA University of Pennsylvania 1974
MD Baylor University 1978

Maria Cristina Dans, MD
Assistant Professor of Medicine (primary appointment)
BA Princeton University 1989
MD Washington Univ in St. Louis 1999

Bhajan Shewaldas Dara, MD
Instructor in Clinical Medicine (primary appointment)
MD Sindh Medical College 1987

Lakshman Darsi, MBBS
Assistant Professor of Medicine (primary appointment)
MBBS Guntur Medical College 1985

Koushik Kumar Das, MD
Assistant Professor of Medicine (primary appointment)
MD Columbia University 2016

Sundeep Das
Instructor in Clinical Medicine (primary appointment)
Carlos Colton Daughaday
Professor of Medicine (primary appointment)

John D Davidson, MD
Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1952

Nicholas O Davidson, MBBS
Professor of Medicine
Professor of Developmental Biology
MBBS King's College London 1974

Victor G Davila-Roman, MD
Professor of Medicine (primary appointment)
Professor of Radiology
Professor of Anesthesiology
MD University of Puerto Rico 1981
BS University of Puerto Rico 1977

Andrea Jill Davis, MD, MSN
Instructor in Clinical Medicine (primary appointment)
MD St George's University 2004
MSN Arizona State University 2000
BS Randolph Macon College 1997

Thomas Edward Davis
Professor of Medicine (primary appointment)

Caroline Elizabeth Day, M PH
Instructor in Clinical Medicine (primary appointment)
M PH San Diego St University 2005
BS University of Colorado Boulder 1990

Thomas M De Fer, MD
Professor of Medicine (primary appointment)
MD University of Missouri 1989

Lisa De Las Fuentes, MD
Associate Professor of Medicine (primary appointment)
Associate Professor of Biostatistics
MD University of Texas Southwest 1996
BA Stanford University 1991

Vincent R De Mello
Assistant Professor of Clinical Medicine (primary appointment)

Anne V Dean
Instructor in Clinical Medicine (primary appointment)

Melissa DeFoe, MD
Instructor in Medicine (primary appointment)
Angeline Diane DeiSanti, MD  **Assistant Professor of Medicine** (primary appointment)

MD University of MO Columbia 2003
BS University of MO Columbia 1998

Jennifer A. Delaney, MD  **Instructor in Clinical Medicine** (primary appointment)

BA Georgetown University 1992
MD Washington University in St. Louis 1997

James Albert Delmez, MD  **Professor of Medicine** (primary appointment)

MD University of Rochester 1973
BA Washington University in St. Louis 1969

Rowena Bayudan Delos Santos  **Assistant Professor of Medicine** (primary appointment)

BS Creighton University 2000

Bethany L Dement, MD  **Instructor in Medicine** (primary appointment)

MD Southeast Missouri State University 2001

David G. DeNardo, PhD  **Assistant Professor of Medicine** (primary appointment)

Assistant Professor of Pathology and Immunology

BS Willamette University 1999
PHD Baylor University 2005

Amber Zimmer Deptolal  **Instructor in Medicine** (primary appointment)

Sunny Desai  **Instructor in Clinical Medicine** (primary appointment)

Teresa Deshields, PhD, MS  **Associate Professor of Clinical Medicine** (primary appointment)

PHD University of Georgia 1985
BA Meredith College 1981
MS University of Georgia 1983

Vladimir Novak Despotovic, MD  **Assistant Professor of Medicine** (primary appointment)

MD Michigan State University 2004

Neelendu Dey, MD  **Assistant Professor of Medicine** (primary appointment)

MD Yale University 2005
BS Harvard University 2000

Michael Diamond, MD  **Professor of Medicine** (primary appointment)

Professor of Molecular Microbiology
Professor of Pathology and Immunology

Herbert S Gasser Professor
BA Columbia College 1985
MD Harvard University 1994

Judith A Dibble, MD  **Instructor in Clinical Medicine** (primary appointment)

MD Washington University in St. Louis 1986

Brian K Dieckgraefe, PhD  **Associate Professor of Medicine** (primary appointment)

PHD Washington University in St. Louis 1987
BA University of Kansas 1982

Kathryn M Diemer, MD  **Associate Professor of Medicine** (primary appointment)

Assistant Dean for Career Counseling

BA University of Missouri 1984
MD University of Missouri 1985

James A Diestelhorst, MD  **Instructor in Clinical Medicine** (primary appointment)

BS Southern Illinois University 1964
MD University of Missouri 1967

Li Ding, PhD  **Associate Professor of Medicine** (primary appointment)
Associate Professor of Genetics
PHD University of Utah 1998
John F Dipersio, MD, PHD Virginia E and Sam J Golman Professor of Medicine (primary appointment)
Professor of Pediatrics
Professor of Pathology and Immunology
MD University of Rochester 1980
PHD University of Rochester 1980
BA Williams College 1973
Richard M Divalerio Instructor in Clinical Medicine (primary appointment)
Abhinav Diwan Associate Professor of Medicine (primary appointment)
Associate Professor of Cell Biology and Physiology
Martin A Docherty, MD Assistant Professor of Emergency Medicine in Medicine (primary appointment)
BS Edinburgh University 1978
MD Saint Louis University 1983
Irl Joseph Don, MD Associate Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1972
James W Donnelly, MD Instructor in Clinical Medicine (Dermatology) (primary appointment)
BA Northwestern University 1982
MD Washington Univ in St. Louis 1986
Balraj Doray Assistant Professor of Medicine (primary appointment)
BS Southern Illinois University 1993
Gerald W. Dorn II Philip and Sima K Needleman Professor of Medicine (primary appointment)
William H Dribben, MD Assistant Professor of Emergency Medicine in Medicine (primary appointment)
MD University of North Carolina 1990
BA University of North Carolina 1985
Erik R Dubberke, MPH, MD Associate Professor of Medicine (primary appointment)
BA Augustana University College 1995
MPH Saint Louis University 2008
MD University of Illinois 1999
James Matthew DuBois, D SC, MA, PHD Steven J Bander Professor of Medical Ethics and Professionalism (primary appointment)
Professor of Psychological & Brain Sciences
D SC University of Vienna 1997
MA University of Rhode Island 1990
PHD Intrnl Academy of Philosophy 1992
BA Franciscan University Stubenv 1989
Nicole Marie Ducharme, DOST Instructor in Clinical Medicine (primary appointment)
DOST Univ of Health Sciences KC 2003
Carolyn Dufault, PHD Instructor in Medicine (primary appointment)
Assistant Dean for Office of Education
PHD Washington Univ in St. Louis 2009
Maria C Dumadag-Sabio, MD Instructor in Clinical Medicine (primary appointment)
BA University of Missouri 1988
MD University of Missouri 1988
Edward Harry DuMontier Instructor in Clinical Medicine (primary appointment)
William C Dunagan, MD, MS Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1983
MS University of Texas Austin 1980
BS University of Texas Austin 1978

Julia Passyn Dunn, MD, MS Assistant Professor of Medicine (primary appointment)
MD University of South Alabama 2002
MS Vanderbilt University 2010

Kirsten F Dunn, MD Instructor in Medicine (primary appointment)
MD Saint Louis University 2012

Michael Joseph Durkin Instructor in Medicine (primary appointment)
BA Illinois Wesleyan University 2004
M PH1 University of North Carolina 2015

Tiffany Biason Dy, MD Instructor in Medicine (primary appointment)
BS University of Miami 2005
MD Univ Texas Health Science Ctr 2009

William Charles Eades Jr Associate Professor of Medicine (primary appointment)

Dayna S Early, MD Professor of Medicine (primary appointment)
BA University of Missouri 1986
MD University of Missouri 1990

Royal J Eaton, MD Instructor in Clinical Medicine (primary appointment)
BA University of Missouri 1960
MD University of Missouri 1964

Charles S Eby Professor of Pathology and Immunology (primary appointment)

Professor of Medicine
BS Duke University 1977

Charmaine E. Edwards Instructor in Clinical Medicine (primary appointment)
BS Alcorn State University 1987

John R. Edwards, PHD Assistant Professor of Medicine (primary appointment)
PHD Columbia University 2003

Stilianos Efstratiadis Assistant Professor of Clinical Medicine (primary appointment)

Russell E Eggebrecht, MD Associate Professor of Clinical Medicine (primary appointment)
BS University of Illinois 1967
MD Washington Univ in St. Louis 1971

Ali A Ehsani, MD Professor of Medicine (primary appointment)
MD Tehran University 1965

Zamir Eidelman Associate Professor of Clinical Medicine (primary appointment)

Arthur Z Eisen, MS, MD Professor of Medicine (Dermatology) (primary appointment)
MS Brown University 1953
BA State Univ of NY Buffalo 1951
MD University of Pennsylvania 1957

Seth A Eisen, MD, MS Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1966
MS Harvard University 1989
BA Reed College 1963

Linda G Eissenberg, PHD Assistant Professor of Medicine (primary appointment)
BA University of Tennessee 1977
PHD University of North Carolina 1982

Lamice R. El-Kholy Instructor in Clinical Medicine (primary appointment)
John Ellena, MD **Associate Professor of Clinical Medicine** (primary appointment)
MD Southern Illinois University 1983
BS Southern Illinois University 1980

Charlene Ann Ellsworth, PHD, MD **Instructor in Clinical Medicine** (primary appointment)
PHD Mass Inst of Technology (MIT) 2004
MD Washington Univ in St. Louis 2008

Amged Eltahir, MD **Instructor in Clinical Medicine** (primary appointment)
MD University of Khartoum 1985
AB1 Saint Louis University 2006

Jill Elizabeth Elwing, MD **Assistant Professor of Medicine** (primary appointment)
BS University of MO Columbia 1996
MD University of MO Columbia 2000

James Michael Epstein, MD **Instructor in Clinical Medicine** (primary appointment)
BS University of Notre Dame 1965
MD Washington Univ in St. Louis 1969

Gerome V Escota **Assistant Professor of Medicine** (primary appointment)

Neil A Ettinger, MD **Assistant Professor of Clinical Medicine** (primary appointment)
MD Washington Univ in St. Louis 1983
BS Vanderbilt University 1979

Bradley A Evanoff, MD **Richard A and Elizabeth Henby Sutter Professor of Occupational, Industrial, and Environmental Medicine in Medicine** (primary appointment)
Professor of Occupational Therapy
Assistant Dean for Clinical and Translational Research
BA Cornell University 1982
MD Washington Univ in St. Louis 1986

Alex S Evers **Henry E Mallinckrodt Professor of Anesthesiology** (primary appointment)
Head of the Department of Anesthesiology
Professor of Developmental Biology

**Professor of Medicine**
BS Yale University 1974

Carol Jane Evers **Instructor in Clinical Medicine** (primary appointment)

Gregory A Ewald, MD **Associate Professor of Medicine** (primary appointment)
MD Northwestern University 1989

Elisa Fabbrini, PHD **Adjunct Assistant Professor of Medicine** (primary appointment)
PHD La Sapienza University 2006

Mitch N Faddis, MD **Associate Professor of Medicine** (primary appointment)
MD Washington Univ in St. Louis 1993
BS Kansas State University 1985

Akinrinola Fatoki **Instructor in Clinical Medicine** (primary appointment)

Todd A Fehniger, MD, PHD **Associate Professor of Medicine** (primary appointment)
MD Ohio State University 2002
PHD Ohio State University 2000

Herman L Ferrell **Instructor in Clinical Medicine** (primary appointment)
BS University of Arkansas 1973

Brian N. Finck, PHD **Associate Professor of Medicine** (primary appointment)
BS University of Illinois 1994
PHD University of Illinois 2000
Lewis Conrad Fischbein, MD, Associate Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1974

Peter Uwe Fischer, MS, Associate Professor of Medicine (primary appointment)
MS Free University of Berlin 1991

Norman Fishman, MD, Assistant Professor of Clinical Medicine (primary appointment)
MD School Not Listed 1974
BA School Not Listed 1970

Sean C. Fitzmaurice, MD, Instructor in Emergency Medicine in Medicine (primary appointment)
MD Saint Louis University 1995
BS Georgetown University 1989

James M Fleckenstein, MD, Associate Professor of Medicine (primary appointment)
MD Saint Louis University 1985
BS Xavier University 1981

Jaquelyn F Fleckenstein, MD, Professor of Medicine (primary appointment)
MD Saint Louis University 1985
BA Cornell University 1981

Avegail Gascon Flores, MD, Assistant Professor of Medicine (primary appointment)
MD University of Pittsburgh 2007

Justin Douglas Floyd, DOST, Assistant Professor of Clinical Medicine (primary appointment)
DOST Kirksville College of Osteopathy 2000
BS University of Arizona 1996

Emily Fondahn, MD, Assistant Professor of Medicine (primary appointment)
MD Northwestern University 2008

Luigi Fontana, MD, PHD, Professor of Medicine (primary appointment)
MD University of Verona 1994
PHD University of Padova 2004

Glennon Joseph Fox, MD, Instructor in Clinical Medicine (primary appointment)
MD University of MO Columbia 1984

Judy Ann Frain, BN, MSN, PHD, Adjunct Assistant Professor of Medicine (primary appointment)
BN Webster University 2003
MSN Saint Louis University 2004
PHD University of MO St Louis 2013

James Matthew Freer, MD, Assistant Professor of Medicine (primary appointment)
BS Truman State University 1998
MD University of MO Columbia 2002

Deborah Frenchie, MD, Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1993
BA Washington Univ in St. Louis 1984

Ashley Elizabeth Frith, MD, Assistant Professor of Medicine (primary appointment)
MD University of AR Med Sciences 2008

Brian R. Froelke, MD, Assistant Professor of Emergency Medicine in Medicine (primary appointment)
MD University of Cincinnati 2002

Brian M Fuller, MD, Assistant Professor of Emergency Medicine in Medicine (primary appointment)
Assistant Professor of Anesthesiology
Assistant Professor of Anesthesiology
MD University of Alabama 2003
BA University of Alabama 1998
Michael Paul Fuller, MD
Associate Professor of Clinical Medicine (primary appointment)
MD University of Utah 1994
BA Brigham Young University 1990

Suzanne Furesz
Instructor in Clinical Medicine (primary appointment)

Gary Gaddis, PHD, MD
Professor of Emergency Medicine in Medicine (Pending Executive Faculty Approval) (primary appointment)
PHD Indiana State University 1984
MD Indiana University School of M 1986

Brian F Gage, MD
Professor of Medicine (primary appointment)
MD University of California 1988
BS Stanford University 1984

Daniel Gaitan, MD
Associate Professor of Clinical Medicine (primary appointment)
BS University of AL Birmingham 1980
MD University of Mississippi 1986

Arthur H Gale, MD
Associate Professor of Clinical Medicine (primary appointment)
MD University of Missouri 1959

Feng Gao, PHD
Associate Professor of Surgery (Public Health Science) (primary appointment)
Associate Professor of Biostatistics
Associate Professor of Medicine
PHD Emory University 2003

Jane M. Garbutt, MHS, MBCHB
Professor of Medicine (primary appointment)
Professor of Pediatrics
MHS University of Toronto 1988
MBCHB Bristol University 1977

John A Garcia, MD
Instructor in Clinical Medicine (primary appointment)
BA Carleton College 1985
MD University of Illinois 1990

Jacquelyn B Garrett, MD
Instructor in Clinical Medicine (Dermatology) (primary appointment)
MD Howard University 1985
BS Howard University 1983

Francisco J Garriga, MD
Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1970
BS University of Puerto Rico 1966

Felicitas Z Gatachalian, MD
Instructor in Clinical Medicine (primary appointment)
MD University of Santo Tomas 1976
BS University of Santo Tomas 1970

Joseph H Gatewood, MD
Instructor in Emergency Medicine in Medicine (primary appointment)
MD University of Chicago 1970
BA Swarthmore College 1966

Joseph P. Gaut, PHD, MD
Assistant Professor of Pathology and Immunology (primary appointment)
Assistant Professor of Medicine
BA Washington Univ in St. Louis 1996
PHD Washington Univ in St. Louis 2004
MD Washington Univ in St. Louis 2004

William M Gee, MD
Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1981
BA Cornell College 1977
Richard A Geisman, MD  Instructor in Clinical Medicine (primary appointment)  
MD Tulane University 1983  
BS Saint Louis University 1979  
Edward M Geltman, MD  Professor of Medicine (primary appointment)  
Assistant Professor of Radiology  
BS Mass Inst of Technology (MIT) 1967  
MD New York University 1971  
Ige A George, MBBS  Instructor in Medicine (primary appointment)  
MBBS Christian Medical College 1998  
Armin Ghobadi, MD  Assistant Professor of Medicine (primary appointment)  
MD Iran Univ of Medical Sciences 2001  
Matthew John Gibfried, MD  Instructor in Clinical Medicine (primary appointment)  
MD University of MO Columbia 2003  
Stephen James Giddings, MD, PHD  Associate Professor of Medicine (primary appointment)  
MD University of Rochester 1976  
PHD Dartmouth College 1973  
BA Dartmouth College 1968  
Thomas J Girard, PHD  Assistant Professor of Medicine (primary appointment)  
BS Univ of Wisconsin Oshkosh 1979  
PHD Iowa State University 1985  
Margo Renee Girardi, MD  Assistant Professor of Medicine (primary appointment)  
MD Saint Louis University 2005  
BS University of Illinois 2001  
Gardar T Gislason  Adjunct Instructor in Medicine (primary appointment)  
Josephine Lee Aguob Glaser  Instructor in Clinical Medicine (primary appointment)  
Marye J Gleva, MD  Professor of Medicine (primary appointment)  
MD University of Washington 1988  
BA Wellesley College 1984  
Andrew S Gold, MD  Instructor in Clinical Medicine (primary appointment)  
MD University of Iowa 1989  
BS University of Illinois 1985  
Anne Carol Goldberg, MD  Professor of Medicine (primary appointment)  
BA Harvard University 1973  
MD University of Maryland 1977  
Daniel E Goldberg, MD  David M and Paula L Kipnis Distinguished Professor (primary appointment)  
Professor of Molecular Microbiology  
MD Washington Univ in St. Louis 1985  
Gregory I Goldberg, PHD  Professor of Medicine (Dermatology) (primary appointment)  
Professor of Biochemistry and Molecular Biophysics  
PHD Weizmann Institute of Science 1977  
Seth Goldberg, MD  Assistant Professor of Medicine (primary appointment)  
BS University of South Florida 1999  
MD University of South Florida 2003  
Scott Ryan Goldsmith  Instructor in Medicine (primary appointment)  
Benjamin M Goldstein, MD  Associate Professor of Clinical Medicine (primary appointment)  
BA Washington Univ in St. Louis 1960  
MD Washington Univ in St. Louis 1964  
Yong-feng Gong, MS, PHD  Instructor in Medicine (primary appointment)
MS China Medical University 2005
PHD Zhejiang Medical University 2009
Maria Cristina Gonzalez-Mayda, MD Assistant Professor of Medicine (primary appointment)
MD University of Puerto Rico 2008
BS University of Puerto Rico 2004
Daniel M Goodenberger Professor of Medicine (primary appointment)
Jeffrey I Gordon, MD Professor of Pathology and Immunology (primary appointment)
Dr Robert J Glaser Distinguished University Professor
Director of the Center for Genome Sciences
Professor of Medicine
Professor of Developmental Biology
BA Oberlin College 1969
MD University of Chicago 1973
Mary Jo Gorman, MBA Instructor in Clinical Medicine (primary appointment)
MBA Washington Univ in St. Louis 1996
BA Saint Louis University 1981
Ramaswamy Govindan, MD Professor of Medicine (primary appointment)
MD University of Madras 1986
Siddhesh Gowda Associate Professor of Clinical Medicine (primary appointment)
Gregory Alan Grant, PHD Professor of Biochemistry in Medicine (Dermatology) (primary appointment)
Professor of Developmental Biology
PHD Univ of Wisconsin Madison 1975
BS Iowa State University 1971
Jonathan M Green, MD Professor of Medicine (primary appointment)
Associate Dean for Human Studies
Professor of Pathology and Immunology
BS University of Michigan 1982
MD Wayne State University 1986
Aaron Greenspan Instructor in Clinical Medicine (primary appointment)
Mark H Gregory, MD Assistant Professor of Clinical Medicine (primary appointment)
MD University of Vermont 1986
Walter Blake Gribben, MD Instructor in Medicine (primary appointment)
MD University of Alabama 2010
Richard T Griffey Jr, MD Associate Professor of Emergency Medicine in Medicine (primary appointment)
MD Norfolk General Hospital 1977
Obi Lee Griffith, PHD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Genetics
PHD British Columbia Open Univ 2008
Scott D. Groesch, MD Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1994
John R Groll, MD Instructor in Clinical Medicine (primary appointment)
MD University of Illinois 1988
BA Illinois Wesleyan University 1984
Robert John Gropler, MD Professor of Radiology (primary appointment)
Associate Professor of Medicine
Associate Professor of Biomedical Engineering
BS Allegheny College 1977
MD University of Cincinnati 1981
Richard Warren Gross, PHD, AB, MD Professor of Medicine (primary appointment)
Professor of Developmental Biology
Professor of Chemistry
PHD Washington Univ in St. Louis 1982
AB Columbia University 1972
MD New York University 1976
Brenda Jean Grossman, MS, MD Professor of Pathology and Immunology (primary appointment)
Professor of Medicine
MS Saint Louis University 2003
MD Medical College Georgia 1980
BS Ohio University 1976
Jessica Rosenbaum Grubb, MD Assistant Professor of Medicine (primary appointment)
BA John Hopkins University 1992
MD University of Maryland 1996
Brian Anthony Grus, MD Instructor in Clinical Medicine (primary appointment)
MD University of Pennsylvania 1992
BS University of Pittsburgh 1988
Guner B Gulmen, PHD Assistant Professor of Clinical Medicine (primary appointment)
PHD University of Minnesota 1974
Vyjanthanath R. Gunasingham, MD Instructor in Clinical Medicine (primary appointment)
MD School Not Listed 1982
BS School Not Listed 1975
Mark Cobb Gunby, DOST Assistant Professor of Clinical Medicine (primary appointment)
BS University of Tulsa 1981
DOST Oklahoma St University 1988
Maria Gurrieri, MD, DIP Instructor in Clinical Medicine (primary appointment)
MD Catholic University 1989
DIP School Not Listed 1982
Reena Gurung, MD Instructor in Medicine (primary appointment)
MD Kathmandu University 2007
Alexandra Gutierrez, MD, M PH Associate Professor of Medicine (primary appointment)
MD Case Western Reserve Univ 2000
M PH Harvard University 2006
BS Brown University 1996
Chandra Prakash Gyawali, MBBS, MD Professor of Medicine (primary appointment)
MBBS University of Calicut 1985
MD University of Calicut 1990
Ramsey R Hachem, MD Professor of Medicine (primary appointment)
Tracey C Marshall - Dr. Elbert P Trulock Distinguished Professor of Medicine
MD1 University of Texas Southwest 1997
MD University of Texas Southwest 1997
BA1 Southern Methodist University 1992
BA Southern Methodist University 1992
Matthew D Hageman Instructor in Clinical Medicine (primary appointment)
Jennifer Christine Hagopian Adjunct Instructor in Medicine (primary appointment)
Ashfaq H Hakim, MD, MBBS Instructor in Clinical Medicine (primary appointment)
MD RNT Medical College 1973
MBBS RNT Medical College 1968
Ilia Gueorguev Halatchev, MD Assistant Professor of Medicine (primary appointment)
MD Oregon Health Science Univer 2007
Sarah Eliza Halcomb, MD Assistant Professor of Emergency Medicine in Medicine (primary appointment)
MD Royal College of Surgeons 2000
Angela Marie Hall, PHD Assistant Professor of Medicine (primary appointment)
PHD Univ of Minnesota Twin Cities 2005
BS University of MO Columbia 1999
Ira McCarthy Hall, PHD Associate Professor of Medicine (primary appointment)
Assistant Professor of Genetics
Associate Director of the Genome Center
BS University of CA Berkeley 1998
PHD Cold Spring Harbor Laboratory 2003
Yasir A Hamad Instructor in Medicine (primary appointment)
Stephanie M Hammer, MD Instructor in Clinical Medicine (primary appointment)
MD Chicago St University 1995
Se Young Han Instructor in Medicine (primary appointment)
Zahirul Haque Instructor in Clinical Medicine (primary appointment)
Charles A. Harris Assistant Professor of Medicine (primary appointment)
Assistant Professor of Developmental Biology
Lydia-Ann Lynell Harris, PHD Instructor in Medicine (primary appointment)
PHD State University of New York 2011
Jeffrey A Haspel Assistant Professor of Medicine (primary appointment)
BS Binghamton University 1994
Anisa Hassan, MD Instructor in Clinical Medicine (primary appointment)
MD Dow Medical College Karachi 1976
Thomas F Hastings, MD Instructor in Clinical Medicine (primary appointment)
MD University of Missouri 1986
BA Rockhurst College 1981
Krysta Lynn Heath, MD Instructor in Medicine (primary appointment)
MD University of AR Med Sciences 2011
George Heberton, MD Instructor in Medicine (primary appointment)
MD Univ of Texas Med Sch Houston 2013
James N Heins, MD Professor of Clinical Medicine (primary appointment)
Adjunct Professor of Medicine
MD University of Louisville 1961
BA University of Louisville 1957
Laura Elaina Heitsch Assistant Professor of Emergency Medicine in Medicine (primary appointment)
Assistant Professor of Neurology
Jason M Held, PHD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Anesthesiology
PHD University of San Francisco 2006
BS Duke University 2001
Jeffrey P. Henderson, PHD, MD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Molecular Microbiology
Katherine Eileen Henderson, **Assistant Professor of Clinical Medicine** (primary appointment)
BS Univ of Wisconsin Madison 1993
MD Washington Univ in St. Louis 2002

Kristina Louise Henderson, **MD Instructor in Clinical Medicine** (primary appointment)
MD Saint Louis University 1991
BA Saint Louis University 1982

Daniel Robert Herleth, **Instructor in Clinical Medicine** (primary appointment)

Catherine Hermann, **Instructor in Clinical Medicine** (primary appointment)

Leonel F. Hernandez Aya, **MD Assistant Professor of Medicine** (primary appointment)
MD Universidad Nacional de Columb 2007

Cynthia Joan Herrick, **MD Assistant Professor of Medicine** (primary appointment)
MD Washington Univ in St. Louis 2006
BS Princeton University 2002

Andreas Herrlich, **PHD, MD Associate Professor of Medicine** (primary appointment)
PHD Freie University 1998
MD Freie University 1994

Virginia M Herrmann, **MD Professor of Surgery (General Surgery)** (primary appointment)

**Professor of Medicine**
MD Saint Louis University 1974

Jennifer Kristen Hester, **Instructor in Clinical Medicine** (primary appointment)

Scot G Hickman, **MD Professor of Medicine** (primary appointment)
BA Duke University 1966
MD Washington Univ in St. Louis 1970

Stuart T. Higano, **MD Instructor in Clinical Medicine** (primary appointment)
MD University of Massachusetts 1984

SueLin Ming Hilbert, **Assistant Professor of Emergency Medicine in Medicine** (primary appointment)

Elizabeth Hilliker, **MA Assistant Professor of Emergency Medicine in Medicine** (primary appointment)

**Assistant Professor of Surgery (General Surgery)**
BA Washington Univ in St. Louis 1965
MA Washington Univ in St. Louis 1970

Paul Flack Hintze, **MD Assistant Professor of Clinical Medicine** (primary appointment)
MD University of Utah 1978
BS Brigham Young University 1974

Angela Christine Hirbe, **MD, PHD Assistant Professor of Medicine** (primary appointment)
BS Washington Univ in St. Louis 2001
MD Washington Univ in St. Louis 2009
PHD Washington Univ in St. Louis 2009

Grant S. Hoekzema, **MD Instructor in Clinical Medicine** (primary appointment)
MD Washington Univ in St. Louis 1992

J. Langston Hoffman, **MD Instructor in Clinical Medicine** (primary appointment)
MD Washington Univ in St. Louis 1999
BS Univ of Wisconsin Madison 1994

Sandra S Hoffmann, **MD Instructor in Clinical Medicine** (primary appointment)
BA University of Kansas 1972
John Otto Holloszy, MD  Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1957
Christopher Vincent Holthaus  Assistant Professor of Emergency Medicine in Medicine (primary appointment)
Michael J Holtzman  Selma and Herman Seldin Professor of Medicine (primary appointment)
Professor of Cell Biology and Physiology
Neal Holzum  Instructor in Clinical Medicine (primary appointment)
Hitoshi Honda  Adjunct Assistant Professor of Medicine (primary appointment)
Barry Allen Hong, MD  Professor of Psychiatry (primary appointment)
Professor of Psychological & Brain Sciences
Vice Chairman for Clinical Affairs, Department of Psychiatry
Professor of Medicine
BA Concordia University 1969
MD Concordia University 1972
Bruce Jay Hookerman, MD  Assistant Professor Emeritus of Clinical Medicine (Dermatology) (primary appointment)
Asst Prof Emeritus of Clin Medicine (Derm) (primary appointment)
Barbra A Horn, MD  Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1982
BA Clark University 1975
Ian Kerst Hornstra, PHD, MD  Associate Professor of Medicine (Dermatology) (primary appointment)
PHD University of Florida 1993
MD University of MO Kansas City 1986
BA University of MO Kansas City 1985
Timothy Adam Horwedel  Adjunct Instructor in Medicine (primary appointment)
Richard S Hotchkiss  Professor of Anesthesiology (primary appointment)
Professor of Surgery (General Surgery)
Professor of Developmental Biology
Professor of Medicine
Jianghui Hou, PHD  Associate Professor of Medicine (primary appointment)
PHD Edinburgh University 2003
BS Nanjing University 1999
Dennis Emil Hourcade, MA, PHD  Professor of Medicine (primary appointment)
BS Mass Inst of Technology (MIT) 1971
MA Harvard University 1974
PHD Harvard University 1978
Stacey L House  Instructor in Emergency Medicine in Medicine (primary appointment)
BS Yale University 1999
Jacqueline Howard  Instructor in Clinical Medicine (primary appointment)
UNKNOWN School Not Listed 1995
David Thomas Howell  Instructor in Clinical Medicine (primary appointment)
Randall A Howell, MD  Assistant Professor of Emergency Medicine in Medicine (primary appointment)
BS Kansas State University 1974
Keith A Hruska, MD Professor of Pediatrics (primary appointment)
Professor of Cell Biology and Physiology
Professor of Medicine
BS Creighton University 1965
MD Creighton University 1969
Chyi-Song Hsieh Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology
Alan A and Edith L Wolff Distinguished Professor
Fong Fu Hsu, PhD, MS Professor of Medicine (primary appointment)
PHD University of Utah 1986
MS Tsinghua University, China 1975
Kevin Hsueh, MD Instructor in Medicine (primary appointment)
BS Williams College 2003
BS1 Williams College 2003
MD New York University 2008
Raymond J Hu Instructor in Clinical Medicine (primary appointment)
Wei-Wei Huang Instructor in Clinical Medicine (Dermatology) (primary appointment)
Yafei Huang, PhD, MS Instructor in Medicine (primary appointment)
PHD Univ of Texas Med Sch Houston 2007
MS Beijing Medical University 2000
John W Hubert, MD Associate Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1975
BA Wabash College 1971
Elizabeth Stack Huebner, MD Assistant Professor of Medicine (primary appointment)
BA Washington Univ in St. Louis 1995
MD Loyola University Chicago 2000
Laura Huff, MD Assistant Professor of Medicine (Dermatology) (primary appointment)
MD U of Colorado Health Sci Ctr 2011
BS Colorado St University 2006
Jing Hughes, MD Instructor in Medicine (primary appointment)
MD University of Pennsylvania 2009
BS Stanford University 2002
Benjamin Duane Humphreys Associate Professor of Medicine (primary appointment)
Eva A Hurst, MD Associate Professor of Medicine (Dermatology) (primary appointment)
MD Washington Univ in St. Louis 2002
Mark Albert Hurt, MD Instructor in Clinical Medicine (Dermatology) (primary appointment)
MD University of Missouri 1982
BS Southeast Missouri St Univers 1978
Jennifer L Hyde, PhD Instructor in Medicine (primary appointment)
BS University of Queensland 2005
PHD University of Queensland 2011
Richard G. Ihnat Instructor in Clinical Medicine (primary appointment)
Shin-Ichiro Imai Professor of Developmental Biology (primary appointment)
Professor of Medicine
Belinda K. Ireland, MD Adjunct Assistant Professor of Medicine (primary appointment)
MD University of MO Columbia 1976
Warren Isakow, MD Associate Professor of Medicine (primary appointment)
Hassan Issa, MD Instructor in Medicine (primary appointment)
MD Tishreen Univ College of Med 2003
Eva Susanne Istvan Assistant Professor of Medicine (primary appointment)
HHMI Specialist II

MD University of the Witwatersra 1998

Carolyn M Jachna, MD Assistant Professor of Medicine (primary appointment)
BS Washington Univ in St. Louis 1993
MD Northwestern University Med 1998

Daryl Jacobs, MD, ME Instructor in Clinical Medicine (primary appointment)
BS Washington Univ in St. Louis 1977
MD Washington Univ in St. Louis 1983
ME Carnegie Mellon University 1979

Myron H Jacobs, MD Instructor in Clinical Medicine (primary appointment)
BA Vanderbilt University 1965
MD Louisiana St Univ Hlth Sci 1969

Steven Jacobson, MD Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1985

Meagan A. Jacoby, MD Assistant Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 2005

Sanjay Jain Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology
BA University of California 1990

Sudhir Kumar Jain, MBBS Associate Professor of Medicine (primary appointment)
MBBS Maulana Azad Medical College 1986
George Jarad Assistant Professor of Medicine (primary appointment)

Daniel Ragin Jasper, MD Instructor in Clinical Medicine (primary appointment)
BA University of Texas Austin 1990
MD Saint Louis University 1994

Anuja Java, MD Instructor in Medicine (primary appointment)
MD Government Medical College 2002

Donna Beth Jeffe, MA Professor of Medicine (primary appointment)
MA Washington Univ in St. Louis 1990
BA Washington Univ in St. Louis 1972

Christopher M. Jenkins, PHD Assistant Professor of Medicine (primary appointment)
PHD Vanderbilt University 1997
BS Michigan State University 1991

Xuntian Jiang, PHD Assistant Professor of Medicine (primary appointment)
PHD China Pharmaceutical Univ 1992

Morris Joftus, MD Assistant Professor of Clinical Medicine (primary appointment)
MD University of Illinois 1967

Eric Keith Johnson, MD Instructor in Medicine (primary appointment)
MD Univ of Wisconsin Madison 1999

Reuben D Johnson, BE, MD Assistant Professor of Emergency Medicine in Medicine (primary appointment)
BE Georgia Tech 1996
BS1 Morehouse College 1996
MD Howard University College of M 2002
William F Johnson, Adjunct Instructor in Medicine (primary appointment)
Sushma Jonna, MD, Instructor in Medicine (primary appointment)

MD Saint Louis University 2013

Amy M Joseph, Associate Professor of Medicine (primary appointment)
BA Johnston Community College 1977

Barbara Jost, MS, Instructor in Clinical Medicine (primary appointment)
MS Northwestern University 1995
BS University of Missouri 1993

Randall S Jotte, Associate Professor of Emergency Medicine in Medicine (primary appointment)

Brad S Kahl, MD, Professor of Medicine (primary appointment)
BS University of Wisconsin-Madiso 1989

MD Tufts University 1994

Caroline Holleck Kahle, MD, Assistant Professor of Medicine (primary appointment)
MD University of North Carolina 2006

Sona Sharad Kamat, Instructor in Clinical Medicine (primary appointment)

Vinay Gopal Kamat, MD, Instructor in Clinical Medicine (primary appointment)
MD University of Pennsylvania 1994

Deborah Shipley Kane, MD, Assistant Professor of Emergency Medicine in Medicine (primary appointment)

BS University of MO Kansas City 2006
MD University of MO Kansas City 2006

Patricia F Kao, BE, MD, Associate Professor of Medicine (Pending Executive Faculty Approval) (primary appointment)
MS2 Ohio State University 1997
BE Princeton University 1994
MD Case Western Reserve Univ 2001

Robert S Karsh, MD, Professor of Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1951
MD Washington Univ in St. Louis 1952

Victoria Kaskutas, MHS, Associate Professor of Occupational Therapy (primary appointment)

Associate Professor of Medicine
BS University of Illinois 1980
MHS Washington Univ in St. Louis

Andrew M. Kates, MD, Associate Professor of Medicine (primary appointment)
BS Tufts University 1990
MD Tufts University 1994

Shashi Krishna Katukoori, MS, Instructor in Medicine (primary appointment)
BS Kakatiya Medical College 2004
MS Eastern Kentucky University 2010

David A Katzman, MD, Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1991
BA Brown University 1986

Andrew L. Kau, MD, PHD, Assistant Professor of Medicine (primary appointment)
BS Emory University 1998
MD Washington Univ in St. Louis 2006
PHD Washington St University 2006

Charles Kaufman, PHD, MD, Assistant Professor of Medicine (Pending Executive Faculty Approval) (primary appointment)
Assistant Professor of Developmental Biology
PHD University of Chicago 2003
MD University of Chicago 2005
BA Washington Univ in St. Louis 1997
Robert L Kaufman, MD Assistant Professor of Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1959
MD Washington Univ in St. Louis 1963
Elizabeth Jane Keath, PHD Assistant Professor of Medicine (primary appointment)
BA University of MO St Louis 1978
PHD Saint Louis University 1985
Dalius Kedainis, MD Instructor in Clinical Medicine (primary appointment)
MD Kaunas University of Medicine 1998
Jacob Brian Keeperman, MD Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Emergency Medicine in Medicine
MD Loyola University Chicago 2006
Eirini Kefalogianni Instructor in Medicine (primary appointment)
Jesse Wade Keller Instructor in Medicine (primary appointment)
BS University of Tulsa 2005
Daniel P Kelly, MD Adjunct Professor of Medicine (primary appointment)
BS University of Illinois 1978
MD University of Illinois 1982
John J Kelly, MD Associate Professor of Medicine (primary appointment)
BS Rockhurst College 1959
MD Saint Louis University 1963
Charlotte J Kennedy, PHD, MD Assistant Professor of Clinical Medicine (primary appointment)
PHD Washington Univ in St. Louis 1992
MD Washington Univ in St. Louis 1992
BA Agnes Scott College 1984
Joseph L Kenzora, MD Associate Professor of Medicine (primary appointment)
MD University of New Mexico 1975
Martin Hurley Kerrigan Assistant Professor of Medicine (primary appointment)
BS Saint Josephs University 2001
Ahmed Sultan Khan Adjunct Instructor in Medicine (primary appointment)
Thomas B Kibby, MD Instructor in Emergency Medicine in Medicine (primary appointment)
MD Eastern Virginia Med School 1979
Daniel Jason Kichura, MD Instructor in Medicine (primary appointment)
MD Israel Institute of Technology 2012
George Kichura, MD Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1993
Mary Kiehl, AS Assistant Professor of Clinical Medicine (primary appointment)
BA University of California 1985
AS Long Beach City College 1976
Kenneth Richard Kilian, MD Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1984
Charles Kilo, MD Professor of Medicine (primary appointment)
Professor of Pathology and Immunology
MD Washington Univ in St. Louis 1959
Charles John Kilo, MD Instructor in Clinical Medicine (primary appointment)
Albert J Kim, MD
Instructor in Emergency Medicine in Medicine (primary appointment)

Alfred Kim
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology

Brian Kim, MD
Assistant Professor of Medicine (Dermatology) (primary appointment)
Assistant Professor of Anesthesiology
Assistant Professor of Pathology and Immunology

MD University of Missouri Columbia 1996
Donald Kevin King, MD
Assistant Professor of Clinical Medicine (primary appointment)

Kevin Patrick King, MD
Instructor in Clinical Medicine (primary appointment)

MD Saint Louis University 2006
Tinna P King
Instructor in Clinical Medicine (primary appointment)

Erik Paul Kirk, MS, PHD
Adjunct Assistant Professor of Medicine (primary appointment)

Nigar Kirmani, MD
Professor of Medicine (primary appointment)

Sameer M. Kirtane, MD
Instructor in Clinical Medicine (primary appointment)

MD Jefferson Medical College 2008

Michael K Klebert, BN, PHD, MSN
Instructor in Medicine (primary appointment)

Robert E Kleiger
Professor of Medicine (primary appointment)

Robyn Sue Klein, PHD
Professor of Pathology and Immunology

Samuel Klein, MD, MSDanforth Professor of Medicine (primary appointment)
Professor of Cell Biology and Physiology
BA Brandeis University 1974
MD Temple University 1979
MS Mass Inst of Technology (MIT) 1984
Linda Marie Klutho Instructor in Clinical Medicine (primary appointment)
Paula J Knapp-Baker Instructor in Clinical Medicine (primary appointment)
Eric Knoche, MD Assistant Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 2006
BS Davidson College 2001
Kathryn Knoop Instructor in Medicine (primary appointment)
Carolyn Koenig, MD Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 2002
Ismail Kola, PHD Adjunct Professor of Medicine (primary appointment)
PHD School Not Listed 1985
UNKNOWN Rhodes College 1982
BS Rhodes College 1982
Marin H Kollef, MD Professor of Medicine (primary appointment)
BS US Military Academy 1979
MD University of Rochester 1983
Hermann M Koller, MD Instructor in Medicine (primary appointment)
MD Washington Univ in St. Louis 1978
BS Stanford University 1974
Sri Devi Kolli, MBBS Instructor in Clinical Medicine (primary appointment)
MBBS Guntur Medical College 1989
Mary E. Koly, MD Instructor in Clinical Medicine (primary appointment)
BA University of MO Kansas City 1995
MD University of MO Kansas City 1995
Kevin L Konzen Assistant Professor of Clinical Medicine (primary appointment)
Robert G Kopitsky, MD Assistant Professor of Clinical Medicine (primary appointment)
BS Emory University 1978
MD Duke University 1982
Kevin Marc Korenblat, MD Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1996
Phillip E Korenblat Professor of Clinical Medicine (primary appointment)
Stuart A Kornfeld David C and Betty Farrell Professor of Medicine (primary appointment)
Professor of Biochemistry and Molecular Biophysics
BA Dartmouth College 1958
Alex H Kosloff, MD Instructor in Clinical Medicine (primary appointment)
BS Washington Univ in St. Louis 1975
MD Saint Louis University 1980
Attila Kovacs Associate Professor of Medicine (primary appointment)
BS School Not Listed 1981
Sandor J Kovacs, MD, MS, PHD Professor of Medicine (primary appointment)
Adjunct Professor of Physics
Professor of Biomedical Engineering
Professor of Cell Biology and Physiology
MD University of Miami 1979
MS California Institute Technolo 1972
Mark S Krasno, MD Instructor in Clinical Medicine (primary appointment)
BA Amherst College 1987
MD Johns Hopkins University 1991

Ronald J Krone, MD Professor of Medicine (primary appointment)
John E Simon Scholar in Medicine
MD University of Chicago 1966
BS University of Michigan 1962

Elaine Susan Krul, PHD Adjunct Associate Professor of Medicine (primary appointment)
PHD McGill University 1982

Kilannin Cathleen Krysiak, PHD Instructor in Medicine (primary appointment)
PhD Washington University in St. Louis 2014
BS University of Illinois 2006

Thomas Kuciejczyk-Kernan, MD Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1986
BS University of Illinois 1982

Ralph F Kuhlman, MD Assistant Professor of Clinical Medicine (primary appointment)
MD University of Illinois 1964

Frederick Matthew Kuhlmann, MD Instructor in Medicine (primary appointment)
MD Emory University 2002
BS Emory University 1998

Anthony Kulczycki Jr, MD Associate Professor of Medicine (primary appointment)
Associate Professor of Molecular Microbiology
MD Harvard University 1970

Robin A. Kundra, PHD, MD Instructor in Clinical Medicine (primary appointment)
PHD Washington University in St. Louis 2000
MD Washington University in St. Louis 2000
BS University of Georgia 1992

David I. Kuperman Instructor in Clinical Medicine (primary appointment)
BA Hendrix College 1997

Howard I. Kurz, MEE, MD Professor of Medicine (primary appointment)
MEE Princeton University 1980
MD New York Medical College 1984
BS Massachusetts Institute of Technology (MIT) 1979
BS1 Massachusetts Institute of Technology (MIT) 1979

Vladimir Kushnir, MD Assistant Professor of Medicine (primary appointment)
MD Ohio State University 2006
BS University of Utah 2002

Jennie H Kwon, DOST Instructor in Medicine (primary appointment)
BA University of Illinois-Champaign 2005
DOST Chicago College of Osteopathic Medicine 2009
BS University of Illinois-Champaign 2005

George B Kyei, MS, MD, PHD Assistant Professor of Medicine (primary appointment)
MS University of Ghana Medical School 2003
MD University of Ghana Medical School 1998
PHD University of New Mexico 2007

Jack H Ladenson, PHD Oree M Carroll and Lillian B Ladenson Professor of Clinical Chemistry in
Pathology and Immunology (primary appointment)
Professor of Clinical Chemistry in Medicine
PHD University of Maryland 1971
BS Pennsylvania State University 1964
Albert Max Lai, PHD, M PHIL Associate Professor of Medicine (primary appointment)
PHD Columbia University 2007
M PHIL Columbia University 2005
Roop Lal, MS Instructor in Clinical Medicine (primary appointment)
MS Osmania Medical College 1971
Irena Lanc Instructor in Medicine (primary appointment)
Michael A. Lane, MD, MS Assistant Professor of Medicine (primary appointment)
MD Drexel University 2004
MS John Hopkins University 2000
BA Colgate University 1995
Gabriel David Lang, MD Assistant Professor of Medicine (primary appointment)
MD University of Illinois Chicago 2009
Gregory Mark Lanza, PHD, MS Oliver M Langenberg Distinguished Professor of Science and Practice of Medicine (primary appointment)
Professor of Biomedical Engineering
BA Colby College 1975
PHD University of Georgia 1981
MS University of Georgia 1978
Gina N LaRossa, MD Assistant Professor of Medicine (primary appointment)
MD Yale University 2007
BS Yale University 2001
Shane Joseph LaRue, MD Assistant Professor of Medicine (primary appointment)
MD Medical College of Wisconsin 2005
John M Lasala, MD Professor of Medicine (primary appointment)
Professor of Surgery (Cardiothoracic Surgery)
BA Drew University 1975
MD University of Connecticut 1983
Steven A Lauter, MD Associate Professor of Medicine (primary appointment)
MD Wayne State University 1971
BS Wayne State University 1967
Kory J. Lavine, PHD, MD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Development Biology
PHD Washington Univ in St. Louis 2008
BS University of Rochester 2001
MD Washington Univ in St. Louis 2008
Steven Jay Lavine Professor of Medicine (primary appointment)
BA Temple University 1972
Steven J Lawrence, MS Associate Professor of Medicine (primary appointment)
MS University of London 2004
BS Rose Hulman Institute 1992
Caroline Martz Lee, PHD, MD Instructor in Medicine (primary appointment)
BS Knox College 2003
PHD University of North Carolina 2009
MD University of North Carolina 2011
Eileen May Lee, MD Assistant Professor of Medicine (primary appointment)
BA University of Iowa 2002
MD University of Iowa 2006

Kim Lynette Lee Instructor in Clinical Medicine (primary appointment)
BS Washington Univ in St. Louis 1979

Sena Lee, PHD Assistant Professor of Medicine (Dermatology) (primary appointment)
PHD Rockefeller University 2002

Wang Sik Lee, PHD, MA Assistant Professor of Medicine (primary appointment)
PHD Korea University Medical Coll 1990
MA Korea University Medical Coll 1982
BA Korea University Medical Coll 1978

Robert B Lehman Instructor in Clinical Medicine (primary appointment)
BA Texas Tech University 1977

Deborah J. Lenschow, MD, PHD Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology
MD University of Chicago 1998
PHD1 University of Chicago 1995
PHD University of Chicago 1995
MD1 University of Chicago 1998

Marc Stephen Levin, MD Professor of Medicine (primary appointment)
MD Columbia University 1981

Mark D Levine, MD Associate Professor of Emergency Medicine in Medicine (primary appointment)
MD New York University 1996
BA Washington Univ in St. Louis 1991

Lawrence M Lewis, AA, MD Professor of Emergency Medicine in Medicine (primary appointment)
AA University of Florida 1972
MD University of Miami 1976

Warren Graybill Lewis, PHD Instructor in Medicine (primary appointment)
BS State Univ of NY Buffalo 1998
PHD Scripps Research Institute 2005

Timothy J Ley Lewis T and Rosalind B Apple Professor of Medicine (primary appointment)
Professor of Genetics
BA Drake University 1974

Li Li, MD, PHD Instructor in Clinical Medicine (primary appointment)
MD Shanghai Medical University 1988
PHD Loyola University Chicago 1998

Shunqiang Li, PHD Assistant Professor of Medicine (primary appointment)
PHD Chinese Academy of Med Science 1999

Tingting Li, MD Associate Professor of Medicine (primary appointment)
MD State Univ of NY Buffalo 1999

Min Lian, PHD Assistant Professor of Medicine (primary appointment)
PHD Texas Tech University 2006

Stephen Yuan-Tung Liang Assistant Professor of Medicine (primary appointment)

Charles H Lieu, MD Instructor in Clinical Medicine (primary appointment)
MD State Univ of NY Buffalo 1993

Stephen Bradley Lillard, MD Instructor in Clinical Medicine (primary appointment)
MD Univ of Health Sciences KC 1970
Kian-Huat Lim, PHD, MD Assistant Professor of Medicine (primary appointment)
PHD Duke University 2006
MD National Taiwan University 1999
Congxing Lin Instructor in Medicine (primary appointment)
Michael Yun Lin, MD Associate Professor of Medicine (primary appointment)
MD University of Iowa 1994
BA Harvard University 1990
Kathryn Jesseca Lindley, MD Assistant Professor of Medicine (primary appointment)
BS University of Illinois 2003
MD Emory University 2007
Brian Richard Lindman, MD, MA Associate Professor of Medicine (primary appointment)
MD Vanderbilt University 2003
BS Duke University 1997
MA Reformed Theological Seminary 2001
Daniel C Link, MD Alan A and Edith L Wolff Distinguished Professor of Medicine (primary appointment)
Professor of Pathology and Immunology
MD Univ of Wisconsin Milwaukee 1985
Michael Brayer Lippmann, MD Professor of Medicine (primary appointment)
MD State University of New York 1977
BA State University of New York 1973
Mauricio Lisker-Melman, MD Professor of Medicine (primary appointment)
MD National Autonomous U of Mex 1980
Mary Kathryn Liszewski Assistant Professor of Medicine (primary appointment)
Howard S Lite, MD Instructor in Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1977
MD University of Missouri 1983
Patricia Elizabeth Litkowski, MD Instructor in Medicine (primary appointment)
MD Washington Univ in St. Louis 2013
Adam Daniel Littich, MD Instructor in Medicine (primary appointment)
MD Saint Louis University 2009
Marina Litvin Assistant Professor of Medicine (primary appointment)
BA Washington Univ in St. Louis 2003
Jianmei Liu, MS Instructor in Clinical Medicine (primary appointment)
MS Shanghai Medical University 1987
Xinping Liu, MS, PHD Instructor in Medicine (primary appointment)
MS Southeast Missouri St Univers 1999
BS School Not Listed 1986
PHD Washington Univ in St. Louis 2005
Albert C Lockhart, MHS, MD Professor of Medicine (primary appointment)
BA Rice University 1989
MHS Duke University 2001
MD University of Texas Dallas 1993
Amy Loden, MD Instructor in Medicine (primary appointment)
MD University of MO Columbia 2010
Irfan J Lodhi, PHD, MS Assistant Professor of Medicine (primary appointment)
PHD University of Michigan 2007
BS University of Michigan 1993
MS Wayne State University 1996
**Beverly A Logan-Morrison** *Instructor in Clinical Medicine* (primary appointment)
BA Webster University 1976

**Andrea Loiselle, MD, M PH** *Assistant Professor of Medicine* (primary appointment)
BS University of California 1995
MD Drexel University 2005
M PH California State University 1999

**Jane Loitman, MS, MD** *Assistant Professor of Clinical Neurology* (primary appointment)
Instructor in Clinical Medicine
MS Georgetown University 1988
MD University of Minnesota 1992
BA Tufts University 1982

**Fanxin Long, PhD** *Professor of Orthopaedic Surgery* (primary appointment)
Professor of Developmental Biology
Professor of Medicine
PHD Tufts University 1997

**Gregory D Longmore, MD, MS** *Professor of Medicine* (primary appointment)
Professor of Cell Biology and Physiology
MD McGill University 1983
BS University of Western Ontario 1977
MS University of Toronto 1979

**Dwight C Look, MD** *Professor of Medicine* (primary appointment)
MD University of MO Kansas City 1985
BA University of MO Kansas City 1985

**James F Loomis Jr, MD, MBA** *Instructor in Clinical Medicine* (primary appointment)
MD University of Arkansas 1985
BA Hendrix College 1981
MBA Washington Univ in St. Louis 1997

**Herbert Lubowitz, MD** *Associate Professor of Clinical Medicine* (primary appointment)
MD Washington Univ in St. Louis 1958
BA Clark University 1954

**Philip A Ludbrook, MBBS** *Professor Emeritus of Medicine* (primary appointment)
Prof Emeritus of Medicine (primary appointment)
Professor Emeritus of Psychiatry
MBBS University of Adelaide 1963
BS School Not Listed 1957

**Kenneth M Ludmerer, MA** *Professor of Medicine* (primary appointment)
Mabel Dorn-Reeder Distinguished Professor of the History of Medicine
MA Johns Hopkins University 1971

**Lauren Michelle Ludwig Lee, MD** *Instructor in Clinical Medicine* (primary appointment)
MD University of MO Kansas City 2008

**Susan L Luedke, MD** *Instructor in Clinical Medicine* (primary appointment)
MD University of Rochester 1972

**Jingqin Luo, PHD, MS** *Assistant Professor of Surgery (Public Health Sciences)* (primary appointment)
Assistant Professor of Biostatistics
Assistant Professor of Medicine
PHD Duke University 2006
MS Renmin University of China 2001
MS1 Duke University 2003
BS Renmin University of China 1998

Barbara A Lutey, MD, MLS Assistant Professor of Medicine (primary appointment)
BA Indiana University Bloomington 1982
MD University of Iowa 1999
MLS Indiana University Bloomington 1983
Christopher Raymond Lynch Instructor in Clinical Medicine (primary appointment)

John P Lynch, MD Professor of Medicine (primary appointment)
BA Saint Louis University 1983
MD Georgetown University 1989

Alan P Lyss, MD Associate Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1976
BA Washington Univ in St. Louis 1972
Carl A Lyss Assistant Professor of Clinical Medicine (primary appointment)

Cynthia Xiuguang Ma, PhD, MD Associate Professor of Medicine (primary appointment)
PHD University of Cincinnati 1997
MD Beijing Medical University 1990

Hongming Ma, MS, PhD Instructor in Medicine (primary appointment)
BA Qufu Normal University 1993
MS Fudan University 1996
PHD Ocean University of China, Qin 2004
Liang Ma, PhD Associate Professor of Medicine (Dermatology) (primary appointment)

Associate Professor of Developmental Biology
PHD University of CA Los Angeles 1995
BA University of CA Berkeley 1989
Ningning Ma Instructor in Medicine (primary appointment)

Julie Kathleen MacPhee, MD Instructor in Clinical Medicine (primary appointment)
MD Albert Einstein College of Med 2008
BS Trinity College 2003

Blair B Madison, PhD Assistant Professor of Medicine (primary appointment)
PHD University of Michigan 2005
BS Washington Univ in St. Louis 1998

William Edwin Magee, MD Associate Professor of Clinical Medicine (primary appointment)
MD Duke University 1950

Leonard B Maggi Jr, PhD Assistant Professor of Medicine (primary appointment)
BA Cornell College 1995
PHD Saint Louis University 2001
BA1 Cornell College 1995

Jambunathan Mahadevan Instructor in Clinical Medicine (primary appointment)

Christopher A Maher, PhD Assistant Professor of Medicine (primary appointment)

Assistant Director of The Genome Institute
PHD Stony Brook School of Medicine 2006

Nicole Maher, PhD Instructor in Medicine (primary appointment)
PHD Case Western Reserve Univ 2007
BA Ithaca College 1998

Mohamed Mahjoub Assistant Professor of Medicine (primary appointment)

Assistant Professor of Cell Biology and Physiology
Robert John Mahoney, MD
Associate Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1997
BA Princeton University 1993

Elaine Michelle Majerus, MD
Associate Professor of Medicine (primary appointment)
Associate Professor of Cell Biology and Physiology
BA Washington Univ in St. Louis 1986
MD Saint Louis University 1998
BS Washington Univ in St. Louis 1986

Majesh Makan, MD
Associate Professor of Medicine (primary appointment)
MD Univ of Panama School of Med 1984

Mohsin Ilyas Malik, MBBS
Instructor in Clinical Medicine (primary appointment)
MBBS Army Medical College 1999

Andrew F. Malone
Assistant Professor of Medicine (primary appointment)
BA Trinity College Dublin 2000
MBCHB1 Royal College of Surgeons 2005

Hersh Maniar, MD
Associate Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Associate Professor of Medicine
MD University of Illinois 1998
BS University of Michigan 1994

Shivaprasad Gowda Manjappa, MBBS
Instructor in Clinical Medicine (primary appointment)
MBBS Medical College of India 2004

Caroline Mann, MS, MD
Associate Professor of Medicine (Dermatology) (primary appointment)
BS Indiana University Bloomington 1986
MS Sarah Lawrence College 1988
MD Indiana University Bloomington 1993

Douglas L. Mann, MD
Tobias and Hortense Lewin Professor of Medicine (primary appointment)
Professor of Cell Biology and Physiology
MD Temple University 1979
BA Lafayette College 1973

George Mansour, MD
Instructor in Medicine (primary appointment)
MD Tishreen Univ College of Med 2010

Sarah K Margolis, MD
Associate Professor of Clinical Medicine (primary appointment)
MD State University of New York 1989
BA Barnard College 1984

Jonas Marschall, MD
Adjunct Assistant Professor of Medicine (primary appointment)
MD University of Basel 1996

Jay Phillips Marshall II, MD
Assistant Professor of Clinical Medicine (primary appointment)
MD University of Missouri 1972
BA De Paul University 1968

Ann G Martin
Associate Professor of Medicine (Dermatology) (primary appointment)
BS University of Notre Dame 1977

Nathan Russell Martin, MD
Assistant Professor of Medicine (primary appointment)
MD University of Texas Southwest 2005
BA University of Pennsylvania 2001

Thomas F Martin, MD
Associate Professor of Clinical Medicine (primary appointment)
MD Saint Louis University 1965
BS Saint Louis University 1961

Wade H Martin III, MD
Associate Professor of Medicine (primary appointment)
BA University of Kansas 1973
MD University of Kansas 1977
**Jerald Arthur Maslanko, MD** Instructor in Clinical Medicine (primary appointment)
MD Emory University 1975

**Mary Vest Mason, MD, MBA** Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1994
MBA Washington Univ in St. Louis 1999
BS University of Illinois 1990

**Joan Alice Mass, MD** Assistant Professor of Clinical Medicine (primary appointment)
MD Temple University 1977
BA Washington Univ in St. Louis 1971

**Stanley Mathew, MBBS** Instructor in Clinical Medicine (primary appointment)
MBBS Kerala University 1991

**Scot J. Matkovich, PHD** Assistant Professor of Medicine (primary appointment)
BA University of Melbourne 1995
BS University of Melbourne 1996
PHD University of Melbourne 2000

**Anthony J-P Mattaline, DOST** Assistant Professor of Clinical Medicine (primary appointment)
BA St Edwards University 1979
BS Northeast Missouri St Univrsty 1981
DOST School Not Listed 1985

**Caline Mattar, MD** Instructor in Medicine (primary appointment)
MD American University of Beirut 2010
BS American University of Beirut 2006

**Henry E Mattis, MD** Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1975

**Thin Thin Maw, MS, MBBS** Assistant Professor of Medicine (primary appointment)
MS Long Island University Brookl 2008
MBBS Institute of Medicine 2004

**Kara H Mayes** Instructor in Clinical Medicine (primary appointment)

**Gabriel Mbalaviele, PHD, MA** Associate Professor of Medicine (primary appointment)
PHD University of Paris 1992
MA School Not Listed 1987

**Timothy Joseph McCann, MD** Instructor in Clinical Medicine (primary appointment)
BS Saint Louis University 1980
MD American Univ of the Caribbean 1984

**Donte D McClary, MD** Instructor in Clinical Medicine (primary appointment)
MD Meharry Med College 1998
BS Xavier University 1993

**Leslie Rose McCrary-Etuk, MD** Instructor in Clinical Medicine (primary appointment)
MD New York Medical College 2001

**Jay R. McDonald, MD** Assistant Professor of Medicine (primary appointment)
MD Oregon Health Science Univers 1998
BA Duke University 1991
BS Portland St University 1994

**Debra Ann McDonnell, MS, DPT, AS** Associate Professor of Emergency Medicine in Medicine
(association appointment)

Assistant Professor of Orthopaedic Surgery
Associate Professor of Physical Therapy
BS Washington Univ in St. Louis 1990
MS Washington Univ in St. Louis 1990
DPT Washington Univ in St. Louis 2005
AS Oakton Community College 2000

Cheryl Riddle McDonough, MD
Instructor in Medicine (primary appointment)
BS Vanderbilt University 1997
MD University of Tennessee 2001

Colleen McEvoy, MD
Assistant Professor of Medicine (primary appointment)
BS Fairfield University 2004
MD University of MO Columbia 2008

Janet B McGill, MA, MD
Professor of Medicine (primary appointment)
BS University of Michigan 1972
MA Northern Michigan University 1980
MD Michigan State University 1979

Oliver McKee, MD
Instructor in Clinical Medicine (Dermatology) (primary appointment)
MD School Not Listed 1981
BA McGill University 1975

Clark R McKenzie, MD
Instructor in Clinical Medicine (primary appointment)
MD University of Missouri 1989
BA University of Missouri 1989

Robert M McMahon
Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1991
BA University of Missouri 1972

Amy McQueen
Assistant Professor of Medicine (primary appointment)
BA University of CA San Diego 1996

Robert Paul Mecham, PhD
Alumni Endowed Professor of Cell Biology and Physiology (primary appointment)

Professor of Medicine
Professor of Biomedical Engineering
Professor of Pediatrics

Gerald Medoff, MD
Professor Emeritus of Medicine (primary appointment)
Prof Emeritus of Medicine (primary appointment)
MD Washington Univ in St. Louis 1962
BA School Not Listed 1958

Neha Mehta-Shah, MD
Assistant Professor of Medicine (primary appointment)
MD Northwestern University Med 2009

Anibal G Melo, MD
Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1991

Gary Jay Meltz, MD
Instructor in Clinical Medicine (primary appointment)
BA University of Missouri 1972
MD University of Miami 1977

Robert S Mendelsohn
Associate Professor of Clinical Medicine (primary appointment)

Paul A Mennes, MD
Professor of Clinical Medicine (primary appointment)
BS Univ of Wisconsin Madison 1966
MD Washington Univ in St. Louis 1970

Ronald L Mera, MD
Instructor in Clinical Medicine (primary appointment)
MD School Not Listed 1976
Adam Vogeler Meyer, MD, Assistant Professor of Medicine (primary appointment)
BS School Not Listed 1970
MD Baylor College of Medicine 2009
Claire Elizabeth Meyer, MD, Assistant Professor of Medicine (primary appointment)
BS Roanoke College 2004
MD Washington Univ in St. Louis 2009
Rabya Mian, MBBS, Instructor in Clinical Medicine (primary appointment)
MBBS King Edward Medical College 1999
Scott Micek, MD, Adjunct Instructor in Medicine (primary appointment)
MD University of Iowa 1999
Gina Michael, Instructor in Clinical Medicine (primary appointment)
BS University of Missouri 1978
Andrew Philip Michelson, MD, Instructor in Medicine (primary appointment)
MD Case Western Reserve Univ 2013
BS Case Western Reserve Univ 2007
William Samuel Micka, MD, Instructor in Clinical Medicine (primary appointment)
BA Saint Louis University 1999
MD Saint Louis University 2003
Jeffrey D Milbrandt, PhD, MD, James S McDonnell Professor of Genetics (primary appointment)
Professor of Medicine
Professor of Neurology
Professor of Pathology and Immunology
Head of the Department of Genetics
PHD University of Virginia 1983
MD Washington Univ in St. Louis 1978
BS Univ of Nebraska at Kearney 1974
Brent William Miller, MD, Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1990
BS Stanford University 1986
Charles William Miller, Assistant Professor of Clinical Medicine (Dermatology) (primary appointment)
Christopher A Miller, PhD, Instructor in Medicine (primary appointment)
PHD Baylor University 2011
BS Truman State University 2005
BS1 Truman State University 2005
Heidi B Miller, MD, Instructor in Clinical Medicine (primary appointment)
BS Yale University 1994
MD Harvard University 2000
J. Philip Miller, Professor of Biostatistics (primary appointment)
Professor of Medicine
Tenure Held At-Large in the Medical School
BA Washington Univ in St. Louis 1965
Lara Elizabeth Miller, DOST, Instructor in Clinical Medicine (primary appointment)
DOST Midwestern University 2000
BS Carleton College 1996
Mark James Miller, PhD, Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology
BS University of California 1991
Jeffrey R Millman, PHD
Assistant Professor of Biomedical Engineering
PHD Mass Inst of Technology (MIT) 2011
BS North Carolina State University 2005

Jason C Mills, MD, AB, PHD
Professor of Medicine (primary appointment)
Professor of Developmental Biology
Professor of Pathology and Immunology
MD University of Pennsylvania 1997
BA Washington University in St. Louis 1989
AB Washington University in St. Louis 1989
PHD University of Pennsylvania 1997
MD1 University of Pennsylvania 1997

Graeme Mindel, MS, MBBCH
Instructor in Clinical Medicine (primary appointment)
MS University of the Witwatersrand 1992
MBBCH University of the Witwatersrand 1992

Jeffrey H Miner, PHD
Professor of Medicine (primary appointment)
Professor of Cell Biology and Physiology
PHD California Institute of Technology 1991

Jonathan J Miner, MD
Instructor in Medicine (primary appointment)
MD University of Oklahoma 2010

Khurram Rehman Mirza, MBBS
Instructor in Medicine (primary appointment)
MBBS King Edward Medical College 2002

Makedonka Mitreva, PHD, MS
Associate Professor of Medicine (primary appointment)
Associate Professor of Genetics
PHD Wageningen University 2001
MS University of Skopje - Macedonia 1994

Bettina Mittendorfer, PHD, MS
Professor of Medicine (primary appointment)
PHD University of Texas Southwestern 1999
MS University of Vienna 1999

C. Scott Molden, MD
Instructor in Clinical Medicine (primary appointment)
BA De Paul University 1968
MD Case Western Reserve University 1972

Hector D Molina-Vicent, MD
Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology
BS University of Puerto Rico 1982
MD University of Puerto Rico 1985

Cynthia L Monaco, MD, PHD
Instructor in Medicine (primary appointment)
BS Texas Tech University 2000
MD University of Texas Southwestern 2009
PHD University of Texas Southwestern 2009

Michael David Monaco, MD
Instructor in Medicine (primary appointment)
MD University of Texas Health Science Center 2009

Jennifer Marie Monroy, MD
Assistant Professor of Medicine (primary appointment)
BS Incarnate Word College 2003
MD University of Texas Health Science Center 2008

Austin F Montgomery, MD
Instructor in Clinical Medicine (primary appointment)
MD University of Pittsburgh 1954
Sung Ho Moon, MS, PhD \textit{Instructor in Medicine} (primary appointment)

Nathan Moore, MD \textit{Instructor in Clinical Medicine} (primary appointment)

Donald G Morris, MS, MD \textit{Instructor in Clinical Medicine} (primary appointment)

Aubrey R Morrison, MBBS \textit{Professor of Medicine} (primary appointment)

Mike Max Mueckler, PHD \textit{Professor of Cell Biology and Physiology} (primary appointment)

Kristen L Mueller, MD \textit{Instructor in Emergency Medicine in Medicine} (primary appointment)

Faquir Muhammad \textit{Instructor in Clinical Medicine} (primary appointment)

Joshua Mutambuki Muiia, PHD \textit{Instructor in Medicine} (primary appointment)

Daniel Kast Mullady, MD \textit{Associate Professor of Emergency Medicine in Medicine} (primary appointment)

Michael E Mullins, MD \textit{Associate Professor of Medicine} (primary appointment)

Amy Musiek, MD \textit{Associate Professor of Medicine (Dermatology)} (primary appointment)

Umadevi Muthyala \textit{Instructor in Clinical Medicine} (primary appointment)

Elna M Nagasako, PHD, MD \textit{Assistant Professor of Medicine} (primary appointment)
Jyotirmaya Nanda, Instructor in Clinical Medicine (primary appointment)
Nicola Napoli, Adjunct Research Assistant Professor of Medicine (primary appointment)
Michael J. Naughton, MD, Associate Professor of Medicine (primary appointment)
MD State Univ of NY Buffalo 1993
BA Williams College 1989
Rosanne S Naunheim, MD, Associate Professor of Emergency Medicine in Medicine (primary appointment)
MD University of Chicago 1978
BA Carleton College 1970
Robert F Nease Jr, Adjunct Associate Professor of Medicine (primary appointment)
Burton M Needles, MD, Instructor in Clinical Medicine (primary appointment)
BS City College 1970
MD Loyola University Chicago 1974
Jeanne M Nerbonne, PhD, Professor of Medicine (primary appointment)
Alumni Endowed Professor of Molecular Biology and Pharmacology in Developmental Biology
BS Framingham State College 1974
PhD Georgetown University 1978
Elizabeth P. Newberry, PhD, Assistant Professor of Medicine (primary appointment)
PhD Washington Univ in St. Louis 1995
BA Knox College 1988
Rodney D Newberry, MD, Professor of Medicine (primary appointment)
BA Washington Univ in St. Louis 1987
MD Washington Univ in St. Louis 1991
Amy C Ney, MD, Instructor in Clinical Medicine (Dermatology) (primary appointment)
MD University of Virginia 2001
BS Mary Washington College 1997
Khanh Nguyen, MD, Instructor in Medicine (primary appointment)
MD University of Illinois Chicago 2013
BS Loyola University Chicago 2008
Nguyet Minh Nguyen, MD, Assistant Professor of Medicine (primary appointment)
MD Wayne State University 1993
BS1 University of Michigan 1989
BS University of Michigan 1989
Joan P Noelker, MD, Instructor in Emergency Medicine in Medicine (primary appointment)
MD Royal College of Surgeons 2010
BA University of Virginia 2004
Amit Noheria, Assistant Professor of Medicine (primary appointment)
Lemuel Benedict R Non, MD, Instructor in Medicine (primary appointment)
BS Mindanao State University 2003
MD University of the Philippines 2008
Scott Monroe Nordlicht, MD, Professor of Medicine (primary appointment)
BA Columbia University 1969
MD State University of New York 1973
Tracy Wynette Norfleet, MD, Instructor in Clinical Medicine (primary appointment)
MD Louisiana St Univ Hlth Sci 2002
Deborah Veis Novack, PHD, MD
Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology
BA Princeton University 1987
PHD Washington Univ in St. Louis 1995
MD Washington Univ in St. Louis 1995

Sabrina Nunez, PHD
Assistant Professor of Medicine (primary appointment)
PHD Stony Brook School of Medicine 2007

Samuel R Nussbaum, MD
Professor of Clinical Medicine (primary appointment)
MD School Not Listed 1973

Muhammad Akram Nyazee
Instructor in Clinical Medicine (primary appointment)
UNKNOWN1 Nishtar Medical College Multa 1974
UNKNOWN Govt College Sarhodha 1968

G Patrick O'Donnell, MD
Instructor in Clinical Medicine (primary appointment)
BA University of Kansas 1972
MD School Not Listed 1977

Julie O'Neal, PHD
Instructor in Medicine (primary appointment)
BS University of MO Columbia 1999
PHD Washington Univ in St. Louis 2009

Andrew John Odden, MD
Assistant Professor of Medicine (primary appointment)
BS Gustavus Adolphus College 2003
MD University of Minnesota 2007

Devin Christopher Odom, MD
Instructor in Medicine (primary appointment)
MD Wake Forest University 2010

Stephen T. Oh, PHD, MD
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
PHD Northwestern University 2002
MD Northwestern University 2004
BS Harvard University 1996

Adewole L. Okunade, PHD
Assistant Professor of Medicine (primary appointment)
BS University of Ibadan 1975
PHD University of Ibadan 1981

George Charles Oliver, MD
Professor Emeritus of Clinical Medicine (primary appointment)
Prof Emeritus of Clinical Medicine (primary appointment)
BA Harvard University 1953
MD Harvard University 1957

Margaret Olsen, PHD, MPH
Professor of Medicine (primary appointment)
Professor of Surgery (Public Health Sciences)
PHD University of Pennsylvania 1986
MPH Saint Louis University 2001
BS Southern Illinois University 1976

Robert F Onder Jr, MD
Assistant Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1987
BA Washington Univ in St. Louis 1983

Peter J. Oppelt, MD
Assistant Professor of Medicine (primary appointment)
MD University of MO Columbia 2008

S. Michael Orgel, MD
Instructor in Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1960
MD Saint Louis University 1965
Matthew J Orland, MD Associate Professor of Clinical Medicine (primary appointment)
MD University of Miami 1979
BS Yale University 1975

David William Ortbals, MD Assistant Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1970
BS Saint Louis University 1966

Daniel Scott Ory, MD Professor of Medicine (primary appointment)
Professor of Cell Biology and Physiology
Alan A and Edith L Wolff Professor of Cardiology
MD Harvard University 1986
BA Harvard University 1982

Tiffany Medlin Osborn, M PH, MD Associate Professor of Surgery (General Surgery) (primary appointment)
Associate Professor of Emergency Medicine in Medicine
M PH London Hygiene & Tropical Med 2009
BS University of Houston 1992
MD Univ Texas Health Sci San Anto 1997

Richard E Ostlund Jr, MD Professor of Medicine (primary appointment)
MD University of Utah 1970
BS University of Utah 1966

Theodore Ott Instructor in Clinical Medicine (primary appointment)
UNKNOWN School Not Listed 1983

Jiafu Ou, MD Assistant Professor of Medicine (primary appointment)
MD Sun Yat-Sen University 1995

Edgar Turner Overton, MD Adjunct Assistant Professor of Medicine (primary appointment)
MD University of Tennessee 1999
BA University of Tennessee 1992

Vani Pachalla, MD Instructor in Clinical Medicine (primary appointment)
MD School Not Listed 1990

Russell Kent Pachynski, MD Assistant Professor of Medicine (primary appointment)
BS Stanford University 1994
MD Univ of Wisconsin Madison 2003

Robert C Packman, MD Professor of Clinical Medicine (primary appointment)
BS University of Missouri 1954
BA Washington Univ in St. Louis 1953
MD Washington Univ in St. Louis 1956

Ross Ian Palis, MD Instructor in Clinical Medicine (primary appointment)
BS Duke University 1998
MD Vanderbilt University 2002

Chris M Palmer, MD Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Emergency Medicine in Medicine
BS Virginia Tech 2004
MD SUNY - Empire State College 2008

Hua Pan, MS Assistant Professor of Medicine (primary appointment)
BS Huashong University of Science 1997
MS Huashong University of Science 2002

Peter D Panagos Associate Professor of Emergency Medicine in Medicine (primary appointment)
Associate Professor of Neurology
BA Dartmouth College 1987
**Anupam S Pande, MBBS, MS** Instructor in Medicine (primary appointment)
MBBS Byramjee Jeejeebhoy Medical Co 2009
MS University of Texas Houston 2011
**Joseph Pangelinan, PhD** Assistant Professor in Medicine (primary appointment)
PHD University of MO St Louis 2015
Andrew Yong-Woo Park Instructor in Medicine (primary appointment)
**Haeseong Park, MD, MS** Assistant Professor of Medicine (Pending Executive Faculty Approval)
(primary appointment)
MD Seoul National University 2006
BS Seoul National University 2001
MS Johns Hopkins University Medicine 2007
Stephanie Sun-Young Park Instructor in Clinical Medicine (primary appointment)
**David A Parks, MD, MBA** Associate Professor of Clinical Medicine (primary appointment)
MD Saint Louis University 1994
BS University of MO Rolla 1979
MBA Southern Illinois University 1985
**Deborah L Parks, MD** Professor of Medicine (primary appointment)
BA Washington University in St. Louis 1978
MD University of Louisville 1982
**Shadi Parsaei, DOST** Instructor in Medicine (primary appointment)
BS University of Louisville 2002
DOST Chicago College of Osteopathic Medicine 2007
Dilip H. Patel Instructor in Clinical Medicine (primary appointment)
Pravin Kumar Manjibhai Patel Instructor in Medicine (primary appointment)
**Rajiv Nanu Patel, MD** Instructor in Clinical Medicine (primary appointment)
MD Saba University School of Med 2001
**Rupa R Patel** Assistant Professor of Medicine (primary appointment)
BA University of Michigan 2000
**Urvi Patel, MD** Assistant Professor of Medicine (Dermatology) (primary appointment)
BA Kent State University 2007
MD University of Tenn Memphis 2011
Vaiibhav Patel Instructor in Medicine (primary appointment)
**Amanullah Pathan, MS** Instructor in Clinical Medicine (primary appointment)
UNKNOW1 School Not Listed 1969
MS School Not Listed 1969
**Bruce Patterson, PhD** Professor of Medicine (primary appointment)
PHD University of Illinois 1980
BS Southern Illinois University 1974
**Philip Richard Orrin Payne, MA** Professor of Medicine (primary appointment)
Robert J Terry Professor
Professor of Computer Science and Engineering
MA Columbia University 2000
BA University of CA San Diego 1999
**Chelsea Elizabeth Pearson, MD** Instructor in Clinical Medicine (primary appointment)
MD Washington University in St. Louis 2013
**Susan E Pearson, MS, PHD, BFA, DOST** Instructor in Clinical Medicine (primary appointment)
MS Central Michigan University 1984
William A Peck, MDProfessor of Medicine (primary appointment)
Alan A and Edith L Wolff Distinguished Professor
Director, Center for Health Policy
Affiliated Professor of Engineering
MD University of Rochester 1960
Katrina Sophia Pedersen, MS, MDAssistant Professor of Medicine (primary appointment)
MS University of Iowa 2005
BA Grinnell College 2003
MD Southern Illinois University 2009
Marybeth PereiraAssociate Professor of Clinical Medicine (primary appointment)
BA Swarthmore College 1973
Julio E Perez, MDProfessor of Medicine (primary appointment)
BS University of Puerto Rico 1970
MD University of Puerto Rico 1973
Laurence F Perlstein, MDInstructor in Clinical Medicine (primary appointment)
MD University of Louisville 1974
BS Tulane University 1967
Linda R Peterson, MDAssociate Professor of Medicine (primary appointment)
Associate Professor of Radiology
BS Georgetown University 1986
MD Washington Univ in St. Louis 1990
Lindsay L Peterson, MDAssistant Professor of Medicine (primary appointment)
BS Tulane University 2000
MD Tulane University 2006
Timothy Richard PetersonAssistant Professor of Medicine (primary appointment)
BS University of Michigan 1999
Christine T PhamAssociate Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
BS University of Florida 1981
Jennifer A Philips, MD, PHD, PHDAssistant Professor of Medicine (primary appointment)
Assistant Professor of Molecular Microbiology
MD University of CA San Francisco 2000
PHD University of CA San Francisco 1998
PHD University of CA San Francisco 2015
BA Columbia University 1991
William J Phillips, MDAssistant Professor of Clinical Medicine (primary appointment)
BA Ohio State University 1959
MD Washington Univ in St. Louis 1963
Jay Francis PiccirilloProfessor of Otolaryngology (primary appointment)
Vice Chairman for Research, Dept of Otolaryngology
Professor of Medicine
Professor of Occupational Therapy
Professor of Biostatistics
BA University of Vermont 1979
Joel Picus, MDDirector of Research, Department of Otolaryngology
Assistant Professor of Clinical Medicine (primary appointment)
Stephen J Pieper, MD **Instructor in Clinical Medicine** (primary appointment)
MD Washington Univ in St. Louis 1988

Brian Pierce, MD **Instructor in Medicine** (primary appointment)
MD Wayne State University 2013

Bryan Douglas Piotrowski, MD **Instructor in Clinical Medicine** (primary appointment)
MD Saint Louis University 2004

Beatrice Plougastel Douglas, PHD **Instructor in Medicine** (primary appointment)
PHD University of Pierre et Marie 1994

Doug Pogue, MD **Instructor in Clinical Medicine** (primary appointment)
MD Washington Univ in St. Louis 1996

Robert Francis Poirier Jr, MD **Assistant Professor of Emergency Medicine in Medicine** (primary appointment)
MD American U of Carribean SchMed 1999

Donovan Polack, MD **Assistant Professor of Clinical Medicine** (primary appointment)
MD Cornell University 1979

Gregory Polites, MD **Associate Professor of Emergency Medicine in Medicine** (primary appointment)
MD University of Illinois Chicago 1996

Alex Politsmakher, MD **Assistant Professor of Medicine** (primary appointment)
BA Yeshiva University 1997

MD Ross Univ School of Medicine 2002

Kenneth S Polonsky, MBBCH **Adjunct Professor of Medicine** (primary appointment)
MBBCH University of the Witwatersra 1973

Katherine P Ponder, MD **Professor of Medicine** (primary appointment)
Professor of Biochemistry and Molecular Biophysics
BS Stanford University 1979

MD Washington Univ in St. Louis 1983

Makhawadee Pongruangporn, MD **Instructor in Clinical Medicine** (primary appointment)
MD Chiang Mai University 2001

Harish Ponnuru, MD **Instructor in Clinical Medicine** (primary appointment)
BA University of MO Kansas City 1995

MD University of Missouri 1995

Lee S Portnoff **Assistant Professor of Clinical Medicine (Dermatology)** (primary appointment)
BS Purdue University 1972

Daniel E Potts, MD **Associate Professor of Clinical Medicine** (primary appointment)
MD Washington Univ in St. Louis 1972

BS Beaufort Technical College 1968

William G Powderly, MDJ. William Campbell Professor of Medicine** (primary appointment)
Director for the Institute of Public Health
MD National University of Irelan 1979

John A Powell **Assistant Professor of Clinical Medicine (Dermatology)** (primary appointment)
BS University of Notre Dame 1967

Jennifer Lynn Powers **Assistant Professor of Medicine (Pending Executive Faculty Approval)** (primary appointment)

Diana A Prablek, MD **Instructor in Clinical Medicine** (primary appointment)
BA Texas Christian University 1984
MD Southwestern University 1988
**Lawrence Prablek, MD** Instructor in Clinical Medicine (primary appointment)
BS Southern Methodist University 1984
MD University of Texas Southwest 1988
**Simeon Prager, MD** Assistant Professor of Clinical Medicine (primary appointment)
MD University of California 1991
Vajravel M Prasad Adjunct Instructor in Medicine (primary appointment)
**David J Prelutsky** Associate Professor of Clinical Medicine (primary appointment)
BA Northwestern University 1975
**Rachel M. Presti, PHD, MD** Assistant Professor of Medicine (primary appointment)
BA Scripps College 1990
PHD Washington Univ in St. Louis 2001
MD Washington Univ in St. Louis 2001
Aaron J Pugh Adjunct Instructor in Medicine (primary appointment)
**Edward Puro, PHD, MD, MS** Assistant Professor of Clinical Medicine (primary appointment)
PHD University of Toronto 1970
BS University of Toronto 1962
MD Washington Univ in St. Louis 1975
MS University of Toronto 1966
**Iskra Pusic, MD** Assistant Professor of Medicine (primary appointment)
MD University of Zagreb 1997
Usman Qayyum Instructor in Clinical Medicine (primary appointment)
**Nishath Quader, MD** Assistant Professor of Medicine (primary appointment)
BS University of Illinois Chicago 2002
MD Northwestern University 2007
**Patricia M Quinley, MD** Instructor in Clinical Medicine (primary appointment)
MD University of Illinois 1989
BS University of Illinois 1985
**Abdul H Qureshi, MS** Instructor in Clinical Medicine (primary appointment)
MS School Not Listed 1992
**Susan B. Racette, PHD** Professor of Physical Therapy (primary appointment)
Professor of Medicine
PHD University of Chicago 1994
BS Bucknell University 1988
Srinivasan Raghavan Instructor in Clinical Medicine (primary appointment)
**Britney Martin Ramgopal, MD** Instructor in Medicine (primary appointment)
BS Oklahoma St University 2008
MD Oklahoma St University 2012
**Rajeev Ramgopal, MD** Instructor in Medicine (primary appointment)
MD University of Oklahoma 2012
BS University of Rochester 2005
**Gwendalyn Jan Randolph, PHD** Unanue Distinguished Professor of Immunology (primary appointment)
Professor of Medicine
BS Temple University 1991
PHD State University of New York 1995
**Prabha Ranganathan, MBBS** Associate Professor of Medicine (primary appointment)
MBBS Kilpauk Medical College 1990
Srinivasan Dubagunta Rao Adjunct Instructor in Medicine
(secondary appointment)

U. Ramakrishna Rao, PHD Associate Professor of Medicine
(secondary appointment)
BS Mysore University 1975
PHD University of Bombay 1987

Antonella Luisa Rastelli, MD Associate Professor of Medicine
(secondary appointment)
Associate Professor of Surgery (General Surgery)
BA University of Verona 1984
MD University of Verona 1991

Gary A Ratkin, MD Associate Professor of Clinical Medicine
Instructor in Clinical Radiation Oncology
MD Washington Univ in St. Louis 1967
BA Rice University 1963

Lee Ratner, MA, PHD Professor of Medicine
(secondary appointment)
Professor of Molecular Microbiology
Alan A and Edith L Wolff Professor of Oncology
BA Harvard University 1973
MA Harvard University 1973
PHD Yale University 1979

Gregory Ratti, MD Instructor in Medicine
(secondary appointment)
MD University of Cincinnati 2013

Daniel Rauch, PHD Assistant Professor of Medicine
(secondary appointment)
PHD University of Iowa 2001
BS Augustana College 1996
BS1 Augustana College 1996

Saadia Taufiq Raza, MD Assistant Professor of Clinical Medicine
(Dermatology)
(secondary appointment)
MD Emory University 1997

Babak Razani, PHD, MD Assistant Professor of Medicine
(secondary appointment)
Assistant Professor of Pathology and Immunology
PHD Albert Einstein College of Med 2003
MD Albert Einstein College of Med 2003

Timothy Patrick Rearden, MD, MS Instructor in Clinical Medicine
(secondary appointment)
BS Southeast Missouri St Univers 1979
MD University of MO Columbia 1985
MS University of MO Columbia 1981

Arhaanth D Reddy Instructor in Clinical Medicine
(secondary appointment)
Kavitha Reddy Assistant Professor of Emergency Medicine in Medicine
(secondary appointment)
Katherine Marie Reeder, PHD Adjunct Assistant Professor of Medicine
(secondary appointment)
PHD University of Iowa 2007

Dominic N Reeds Associate Professor of Medicine
(secondary appointment)
BA University of Texas Austin 1992

Susan Robinson Reeds Assistant Professor of Medicine
(secondary appointment)
Lester T Reese, MD Professor of Clinical Medicine
(Dermatology)
(secondary appointment)
BS Tulane University 1962
MD Tulane University 1966

Kara Anne Regan, MD Assistant Professor of Medicine
(secondary appointment)
BS East Carolina University 2002
Margaret Reiker, MD, PHD  
**Instructor in Clinical Medicine** (primary appointment)  
UNKOWN Saint Louis University 1986  
MD Saint Louis University 1993  
PHD Saint Louis University 1991  

Craig K Reiss, MD  
**Professor of Clinical Medicine** (primary appointment)  
MD University of Missouri 1983  
BA University of Missouri 1979  

Jacqueline Levy Reiss, MD  
**Instructor in Clinical Medicine** (primary appointment)  
BA University of MO Kansas City 1989  
MD University of Missouri 1990  

Maria Sara Remedi, PHD, MS  
**Assistant Professor of Medicine** (primary appointment)  
Assistant Professor of Cell Biology and Physiology  
PHD University of Cordoba 1999  
MS University of Cordoba 1989  
BS University of Cordoba 1987  

Hilary Elizabeth Lee Reno, MD, MS, PHD  
**Assistant Professor of Medicine** (primary appointment)  
MD University of Illinois 2002  
MS University of Illinois 1997  
PHD University of Illinois 2000  

Stacey L. Rentschler, MS, PHD, MD  
**Assistant Professor of Medicine** (primary appointment)  
**Assistant Professor of Developmental Biology**  
MS Mount Sinai School of Medicine 2000  
PHD Mount Sinai School of Medicine 2002  
MD Mount Sinai School of Medicine 2004  

Nicholas R Renz  
**Instructor in Emergency Medicine in Medicine** (primary appointment)  
BA University of MO Columbia 2004  

Michael P Rettig, PHD  
**Assistant Professor of Medicine** (primary appointment)  
BS Illinois State University 1993  
PHD Purdue University 2000  

Michael W Rich, MD  
**Professor of Medicine** (primary appointment)  
BA University of Illinois 1974  
MD University of Illinois 1979  

Lois F. Richard, PHD  
**Assistant Professor of Medicine** (primary appointment)  
BS Murray St University 1982  
PHD Saint Louis University 1998  

Cheryl Richards, MA, PHD  
**Assistant Professor of Psychiatry** (primary appointment)  
Assistant Professor of Medicine  
MA University of Illinois 1981  
BS Ohio University 1977  
PHD University of Illinois 1987  

Justin M Richner, PHD  
**Instructor in Medicine** (primary appointment)  
BS Washington Univ in St. Louis 2006  
PHD University of CA Berkeley 2011  

Terrence E Riehl, MS, PHD  
**Associate Professor of Medicine** (primary appointment)  
MS Rutgers University 1976  
BS Rutgers University 1974  
PHD Ohio University 1981
Amy Elizabeth Riek **Assistant Professor of Medicine** (primary appointment)  
*Robert D Rifkin, MD* **Professor of Medicine** (primary appointment)  
BS Mass Inst of Technology (MIT) 1968  
MD New York University 1972  
*Caron E Rigden, BFA, MD* **Assistant Professor of Medicine** (primary appointment)  
BFA Tulane University 1996  
MD Tulane University 2000  
*Joan K. Riley, PHD* **Assistant Professor of Obstetrics and Gynecology** (primary appointment)  
Assistant Professor of Pediatrics  
Instructor in Medicine  
PHD Washington Univ in St. Louis 1998  
*Tracy Marie Riordan, MD* **Instructor in Clinical Medicine** (primary appointment)  
BA Saint Louis University 1996  
MD Saint Louis University 2000  
*Elisha D.O. Roberson, PHD* **Assistant Professor of Medicine** (primary appointment)  
Assistant Professor of Genetics  
BS Western Kentucky University 2004  
PHD Johns Hopkins University 2009  
*Paul Arthur Robiolio, M PHIL, MD* **Assistant Professor of Clinical Medicine** (primary appointment)  
M PHIL Cambridge University 1985  
MD Washington Univ in St. Louis 1989  
BS Haverford College 1983  
*M. Reza Rofougaran, MD* **Instructor in Clinical Medicine** (primary appointment)  
MD Tehran University 1988  
*H. Bryan Rogers, MD* **Instructor in Clinical Medicine** (primary appointment)  
MD Washington Univ in St. Louis 1965  
*Felice A Rolnick, MD* **Instructor in Clinical Medicine** (primary appointment)  
MD School Not Listed 1987  
BS Union College New York 1982  
*Rizwan Romee, MD* **Assistant Professor of Medicine** (primary appointment)  
MD Gov't Gandhi Memorial Sci Coll 2004  
*Arthur G. Romero* **Associate Professor of Medicine** (primary appointment)  
BS Johns Hopkins University 1979  
Ernesto J Romo **Instructor in Emergency Medicine in Medicine (Pending Dean's Approval)** (primary appointment)  
*Daniel B Rosenbluth, MD* **Professor of Medicine** (primary appointment)  
Professor of Pediatrics  
Tracey C and William J Marshall Professor of Medicine  
MD Mount Sinai School of Medicine 1989  
BS Columbia University 1985  
*Anna Roshal* **Assistant Professor of Medicine** (primary appointment)  
BS University of Rochester 1993  
*Ilana Shaina Rosman, MD* **Assistant Professor of Medicine (Dermatology)** (primary appointment)  
Assistant Professor of Pathology and Immunology  
MD Washington Univ in St. Louis 2008  
Ian Ross **Instructor in Medicine** (primary appointment)  
*Willie Ray Ross, M PH, MD* **Associate Dean for Diversity** (primary appointment)  
Professor of Medicine
BS Yale University 1980
M PH Saint Louis University 2007
MD Washington Univ in St. Louis 1984
Bruce J Roth, MD Professor of Medicine (primary appointment)
MD Saint Louis University 1980
Marcos Rothstein, MD Professor of Medicine (primary appointment)
MD University of Zulia 1974
Ernest Tuttle Rouse III, MD Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1971
Jeremy Rower, MD Instructor in Clinical Medicine (primary appointment)
MD University of Cincinnati 1997
BS University of Cincinnati 1993
Deborah C Rubin, MD Professor of Medicine (primary appointment)
MD Albert Einstein College of Med 1981
BS Mass Inst of Technology (MIT) 1977
Myra L. Rubio, MD Associate Professor of Medicine (primary appointment)
MD Indiana University Bloomington 1998
BA Washington Univ in St. Louis 1994
Paetra Ruddy, MD Assistant Professor of Medicine (Dermatology) (primary appointment)
BA Bard College 1997
MD University of Iowa 2011
Emily Lindholm Rumora, MD Instructor in Medicine (primary appointment)
MD Dartmouth College 2013
Brent E Ruoff, MD Associate Professor of Emergency Medicine in Medicine (primary appointment)
BS Graceland College 1977
MD Saint Louis University 1981
Michael B Rusche Adjunct Instructor in Medicine (primary appointment)
Tonya D Russell, MD Associate Professor of Medicine (primary appointment)
MD University of Florida 1997
Joseph F Ruwitch Jr Professor of Clinical Medicine (primary appointment)
Kenneth J Rybicki, MS, MD, PHD Instructor in Clinical Medicine (primary appointment)
MS Southern Illinois University 1980
MD University of Texas Austin 1987
BA Southern Illinois University 1978
PHD University of Texas Austin 1984
Raya Saba, MD Instructor in Medicine (primary appointment)
MD Damascus University 2011
Molly Sachdev Assistant Professor of Medicine (primary appointment)
Justin Sadhu, MD Instructor in Medicine (primary appointment)
MD Washington Univ in St. Louis 2007
J. Evan Sadler, MD, PHD Professor of Medicine (primary appointment)
Professor of Biochemistry and Molecular Biophysics
MD Duke University 1979
PHD Duke University 1978
Mohammed Jaafar Saeed, M PH, MD Instructor in Medicine (primary appointment)
M PH University of Kentucky 2012
MD Baghdad University 2007
Mehrdad Saeed-Vafa, MD
Instructor in Clinical Medicine (primary appointment)
MD School Not Listed 2000

Jose Bernardo Saenz, PHD, MD
Instructor in Medicine (primary appointment)
BA Cornell University 2003
PHD Washington Univ in St. Louis 2009
MD Washington Univ in St. Louis 2011

Shabbir H Safdar
Professor of Clinical Medicine (primary appointment)
UNKNOW1 School Not Listed 1961

Jose Bernardo Saenz, PHD, MD
Instructor in Medicine (primary appointment)
BA Cornell University 2003
PHD Washington Univ in St. Louis 2009
MD Washington Univ in St. Louis 2011

Shabbir H Safdar
Professor of Clinical Medicine (primary appointment)
UNKNOW1 School Not Listed 1961

Sonny Satnam Saggar
Instructor in Clinical Medicine (primary appointment)

Kaori A. Sakurai
Instructor in Clinical Medicine (primary appointment)

Christine Joan Salter, DC
Instructor in Clinical Medicine (primary appointment)
BS Reading University 1982
DC Logan College of Chiropractic 1991

Robert J Saltman, MD
Associate Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1980

John Mark Samet, MD
Instructor in Clinical Medicine (primary appointment)
BS Washington & Lee 1964
MD University of Missouri 1968

Dmitri Samovski, PHD
Instructor in Medicine (primary appointment)
PHD Hebrew University 2009

Lawrence E Samuels
Instructor in Clinical Medicine (Dermatology) (primary appointment)
BA University of Texas Austin 1972

Guadalupe Sanchez, MD
Instructor in Clinical Medicine (Dermatology) (primary appointment)
MD Harvard University 1978
BA Berry College 1974

Mark Steven Sands, PHD
Professor of Medicine (primary appointment)
Professor of Genetics
PHD State Univ of NY Stonybrook 1990
BS Rochester Institute of Techno 1980

Kristen Marie Sanfilippo, MD
Assistant Professor of Medicine (primary appointment)
MD University of MO Columbia 2007

Daniel Jose Santa Cruz
Instructor in Clinical Medicine (Dermatology) (primary appointment)

Richard Albert Santos, PHD, MD
Assistant Professor of Medicine (primary appointment)
BS Michigan State University 1994
PHD University of Iowa 2002
MD University of Iowa 2002

Evelio E. Sardina, MD, MS, PHD
Instructor in Clinical Medicine (primary appointment)
MD University of South Florida 1994
MS University of South Florida 1988
PHD University of South Florida 1990
BA Rutgers University 1985

Gregory Stephen Sayuk
Associate Professor of Medicine (primary appointment)
Associate Professor of Psychiatry

Lawrence R Schacht, MD
Instructor in Clinical Medicine (primary appointment)
BA University Wyoming 1971
MD Oregon Health Science Univers 1975

Andras Schaffer, MD, PHD
Assistant Professor of Pathology and Immunology (primary appointment)
Assistant Professor of Medicine (Dermatology)
MD University of Pecs Medical Sch 1993
PHD Cornell University 2001
Jean E. Schaffer Virginia Minnich Distinguished Professor of Medicine (primary appointment)
Professor of Developmental Biology
BA Harvard Radcliff 1982
Richard O. Schamp Instructor in Clinical Medicine (primary appointment)
Kenneth B Schechtman, MS, MA, PHD Associate Professor of Biostatistics (primary appointment)
Associate Professor of Medicine
Tenure Held At-Large in the Medical School
BS City University of New York 1967
MS Purdue University 1971
MA Washington Univ in St. Louis 1978
PHD Washington Univ in St. Louis 1978
Jennifer Lynn Scheer, MD Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1994
Erica Lynn Scheller, DDENT Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
DDENT University of Michigan 2011
BS Michigan State University 2004
Mark Scheperle, MD Instructor in Clinical Medicine (primary appointment)
BA University of Missouri 1989
MD University of Missouri 1989
Alvin K Schergen, MD Instructor in Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1976
MD Saint Louis University 1980
Joel D. Schilling, PHD, MD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
PHD Washington Univ in St. Louis 2001
MD Washington Univ in St. Louis 2003
Tania L Schmid, MD Instructor in Clinical Medicine (primary appointment)
MD University of Mississippi 1985
BA University of Mississippi 1981
Richard Urban Schmidt Jr Instructor in Emergency Medicine in Medicine (primary appointment)
Robert Jay Schneider, MD Assistant Professor of Clinical Medicine (primary appointment)
MD Johns Hopkins University 1976
BA Johns Hopkins University 1973
Erin R. Schockett, MD Instructor in Clinical Medicine (primary appointment)
MD Brown University 2005
Mark Andrew Schroeder, MD Assistant Professor of Medicine (primary appointment)
MD University of Cincinnati 2003
BS University of Toledo 1999
Alexander E Schuetz, MD Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1996
BA Saint Louis University 1991
Stephen Schuman Instructor in Clinical Medicine (primary appointment)
Benjamin D Schwartz, PHD, MD Professor of Clinical Medicine (primary appointment)
Adjunct Professor of Medicine
David B Schwartz, PHD, MD
Associate Professor of Medicine (primary appointment)

Evan Stuart Schwarz, MD
Assistant Professor of Emergency Medicine in Medicine (primary appointment)

George G. Schweitzer, MS
Instructor in Medicine (primary appointment)

Mitchell G Scott, MS
Professor of Pathology and Immunology (primary appointment)

Clay F Semenkovich, MD
Irene E and Michael M Karl Professor of Endocrinology and Metabolism in Medicine (primary appointment)

Deepali Prabir Sen, MD, MBBS
Assistant Professor of Medicine (primary appointment)

Joseph Michael Serial
Instructor in Clinical Medicine (primary appointment)

Harvey Serota, MD
Instructor in Clinical Medicine (primary appointment)

James F Sertl, MD
Instructor in Clinical Medicine (primary appointment)

Jieya Shao, PHD
Assistant Professor of Medicine (primary appointment)

Rajiv Kumar Sharma
Adjunct Instructor in Medicine (primary appointment)

Gerald Stephen Shatz, MD
Assistant Professor of Clinical Medicine (primary appointment)

Nidal Shawahin, MD
Instructor in Clinical Medicine (primary appointment)

Vidal T. Sheen, MD
Instructor in Clinical Medicine (primary appointment)
MD University of Louisville 1995
BA Johns Hopkins University 1991

**David M. Sheinbein, MD**
Associate Professor of Medicine (Dermatology) (primary appointment)
MD Saint Louis University 1995
Mounir M Shenouda

**Instructor in Clinical Medicine** (primary appointment)

**Adrian Shifren, MBBCH, MS**
Assistant Professor of Medicine (primary appointment)
MBBCH University of the Witwatersra 1996
MS Washington Univ in St. Louis 2011
BS University of the Witwatersra 1993

**Haina Shin, PHD**
Assistant Professor of Medicine (primary appointment)
BA Northwestern University 2004
PHD University of Pennsylvania 2009

**Cara L Shirai, MS**
Instructor in Medicine (primary appointment)
MS Southeast Missouri St Univers 2005

**Bernard L Shore**
Professor of Clinical Medicine (primary appointment)

**Robert B Shuman**
Associate Professor of Clinical Medicine (primary appointment)
BA Brandeis University 1977

**Sherry E Shuman, MD**
Associate Professor of Clinical Medicine (primary appointment)

**BS University of Michigan 1978**

**MD Wayne State University 1982**

**Barry Alan Siegel**
Professor of Radiology (primary appointment)

Vice Chair for Nuclear Medicine in Radiology

**Professor of Medicine**

BA Washington Univ in St. Louis 1966

**Jeffrey E Siegler**
Instructor in Emergency Medicine in Medicine (primary appointment)

Christine A Sigman
Instructor in Clinical Medicine (primary appointment)

**Julie Martha Silverstein, MD**
Assistant Professor of Neurological Surgery

MD Drexel University 2007

BA New York University 2004

**Randy B Silverstein, MD**
Instructor in Clinical Medicine (primary appointment)

MD University of Missouri

**David R Sinacore, MHS, PHD**
Professor of Physical Therapy (primary appointment)

**Professor of Medicine**

MHS Washington Univ in St. Louis 1983

PHD West Virginia University 1992

BS State University of New York 1979

**Robert W Sindel, MD**
Instructor in Clinical Medicine (primary appointment)

BA Washington Univ in St. Louis 1969

MD Washington Univ in St. Louis 1975

**Sanford S Sineff, MD**
Assistant Professor of Emergency Medicine in Medicine (primary appointment)

BS Harvard University 1992

MD Brown University 1996

**Gary Singer, MD**
Assistant Professor of Clinical Medicine (primary appointment)

MD University of Toronto 1987

**Gurcharan J Singh, MD**
Instructor in Clinical Medicine (primary appointment)

BS Delhi University 1968
Jasvinder Singh, MD  
Associate Professor of Medicine (primary appointment)  
MD Delhi University 1975  
Fiji School of Medicine 1988  

Donald A Skor, MD  
Professor of Clinical Medicine (primary appointment)  
MD Rush University 1978  
BA Washington University in St. Louis 1973  

Gordon Ian Smith, PHD, MS  
Assistant Professor of Medicine (primary appointment)  
MD Fiji School of Medicine 1988  
PHD University of Aberdeen 2006  
MS University College Chichester 2002  

Raymond P Smith, MD  
Instructor in Clinical Medicine (primary appointment)  
BA Vassar College 1980  
MD University of Virginia 1984  

Timothy Robert Smith, MD  
Instructor in Clinical Medicine (primary appointment)  
MD University of Mississippi 1989  
BS University of Mississippi 1983  

Timothy W. Smith, MD, PHD  
Associate Professor of Medicine (primary appointment)  
MD Duke University 1993  
PHD Oxford University 1989  
BS Duke University 1986  

Michael C Snyder  
Adjunct Instructor in Medicine (primary appointment)  

Allen D Soffer, MD  
Instructor in Clinical Medicine (primary appointment)  
BA Emory University  
MD University of Missouri 1983  

Stephanie Rose Solomon, PHD  
Adjunct Assistant Professor of Medicine (primary appointment)  
PHD Emory University 2008  
BS Ohio State University 2001  

Rand Washburn Sommer, MD  
Associate Professor of Clinical Medicine (primary appointment)  
BS Davidson College 1976  
MD Washington University in St. Louis 1980  

Hani Charles Soudah, MD, PHD  
Associate Professor of Clinical Medicine (primary appointment)  
MD School Not Listed 1983  
PHD School Not Listed 1988  

William F Southworth, MD  
Assistant Professor of Clinical Medicine (primary appointment)  
BA Washington University in St. Louis 1969  
MD Washington University in St. Louis 1975  

James Joseph Spadaro Jr  
Assistant Professor of Clinical Medicine (primary appointment)  

Michael L Spearman, MD  
Instructor in Clinical Medicine (primary appointment)  
BS Kansas State University 1978  
MD University of Kansas Medical 1982  

Andrej Spec, MD  
Instructor in Medicine (primary appointment)  
MD University of Illinois 2010  

David H. Spencer, MD, PHD  
Assistant Professor of Medicine (primary appointment)  
MD University of Washington 2010  
BS University of Washington 2001  
PHD University of Washington 2008  

John Spertus  
Adjunct Professor of Medicine (primary appointment)  
Michael Spezial  
Instructor in Clinical Medicine (primary appointment)  
Erik Christian Stabell  
Instructor in Clinical Medicine (primary appointment)
Paul M Stein, MD  Professor of Clinical Medicine (primary appointment)
MD Saint Louis University 1971
BA University of Rochester 1967

Phyllis K Stein, PHD  Associate Professor of Medicine (primary appointment)
BA Barnard College 1962
PHD University of Virginia 1990

Richard Ian Stein, PHD  Associate Professor of Medicine (primary appointment)
PHD Arizona State University 2000

Emily Steiner, MD  Instructor in Medicine (primary appointment)
MD University of Toledo 2013

William F Stenson  Dr Nicholas V Costrini Professor of Medicine (primary appointment)
BS Providence College 1967

Barbara B Sterkel  Adjunct Associate Professor of Medicine (primary appointment)

Karin Sterl, MD  Instructor in Medicine (primary appointment)
MD Luliu Hatieganu U of Med 2007

Kara Ellen Sternhell-Blackwell, MA, MD  Assistant Professor of Medicine (Dermatology) (primary appointment)
MA Washington Univ in St. Louis 2003
MD Washington Univ in St. Louis 2005
BA Washington Univ in St. Louis 1999

Sheila Stewart-Wigglesworth, PHD  Professor of Cell Biology and Physiology (primary appointment)

Nathan O. Stitziel  Assistant Professor of Medicine (primary appointment)
Assistant Professor of Genetics
BA1 Washington Univ in St. Louis 1998

Keith Evan Stockerl-Goldstein, MD  Associate Professor of Medicine (primary appointment)

James Andrew Stokes, MD  Instructor in Clinical Medicine (primary appointment)
MD University of Missouri 1984
BA Stanford University 1976

Michael Gary Stone, MD  Instructor in Clinical Medicine (primary appointment)
MD Kansas Cty Univ Med/Bioscience 2008

Gregory A Storch, MD  Ruth L. Siteman Professor of Pediatrics (primary appointment)
Professor of Molecular Microbiology

Christopher Michael Sturgeon, PHD  Assistant Professor of Medicine (primary appointment)
Assistant Professor of Developmental Biology
PHD University of British Columbia 2006
Xinming Su, Instructor in Medicine (primary appointment)
Xiong Su, PHD, Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
PHD Washington Univ in St. Louis 2004
BS Beijing University 1998
Hamsa Subramanian, Instructor in Clinical Medicine (primary appointment)
BS St. Joseph's Convent - Trichy 1986
Kanagaraj Subramanian, PHD, MS, Assistant Professor of Cell Biology and Physiology
PHD Heidelberg University 2007
MS Heidelberg University 2000
Hani Suleiman, MD, Instructor in Medicine (primary appointment)
MD Regensburg University 2007
Kaharu Sumino, PHD, M PA, MD, Associate Professor of Medicine (primary appointment)
PHD Yokohama City Univ Sch Med 1999
M PA Johns Hopkins University 2008
MD Yokohama City Univ Sch Med 1992
William Craig Summers, MD, Instructor in Clinical Medicine (primary appointment)
MD University of AL Birmingham 1999
BS University of Alabama 1994
Walton Sumner II, MD, Associate Professor of Medicine (primary appointment)
MD Southwestern University 1985
BA Rice University 1981
Rama Suresh, MBBS, Assistant Professor of Medicine (primary appointment)
MBBS University of Madras 1993
Rudee Suwannasri, MD, Instructor in Clinical Medicine (primary appointment)
MD Chiang Mai University 1973
BS Chiang Mai University 1971
Bridgette B Svancarek, Assistant Professor of Emergency Medicine in Medicine (primary appointment)
Elzbieta Anna Swietlicki, MS, PHD, Instructor in Medicine (primary appointment)
MS Medical Academy Lodz 1975
PHD Medical Academy Lodz 1981
Steven D Taff, MS, PHD, Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Medicine
MS Washington Univ in St. Louis 1997
BS MO State U (formerly SW MO St) 1989
PHD University of MO St Louis 2005
Mohammad Tahir, MD, Instructor in Clinical Medicine (primary appointment)
MD Dow Medical College Karachi 1976
Benjamin R Tan, MD, Associate Professor of Medicine (primary appointment)
BS University of the Philippines 1985
MD University of the Philippines 1990
David Tan, MD, Associate Professor of Emergency Medicine in Medicine (primary appointment)
MD Loma Linda University 1997
Kongsak Tanphaichitr, MD, Professor of Clinical Medicine (primary appointment)
MD Siriraj Medical School 1970
Richard S Tao, MD, Instructor in Emergency Medicine in Medicine (primary appointment)
MD Indiana State University 1995
Steven L Teitelbaum, MDMessing Professor of Pathology and Immunology (primary appointment)

Arnold S Tepper, MDInstructor in Clinical Medicine (primary appointment)

Wanda T Terrell, MDAssociate Professor of Clinical Medicine (primary appointment)

Larissa Bryka Thackray, PHDAssistant Professor of Medicine (primary appointment)

Daniel Leonidas Theodoro, MDAssistant Professor of Emergency Medicine in Medicine (primary appointment)

J. Allen Thiel, MDAssociate Professor of Clinical Medicine (primary appointment)

Mark S Thoelke, MDAssociate Professor of Medicine (primary appointment)

Benjamin S Thomas, MDAuxiliary Instructor in Medicine (primary appointment)

Erik P Thyssen, MDAssistant Professor of Clinical Medicine (primary appointment)

LinLin Tian, PHDInstructor in Emergency Medicine in Medicine (primary appointment)

Lawrence S Tierney, MDAssociate Professor of Clinical Medicine (primary appointment)

Jeffrey P Tillinghast, MDAssociate Professor of Clinical Medicine (primary appointment)

Wael Toama, MDInstructor in Medicine (primary appointment)

Garry S Tobin, MDProfessor of Medicine (primary appointment)

Douglas M Tollefsen, MDProfessor of Medicine (primary appointment)

Michael H. Tomasson, MDAuxiliary Assistant Professor of Medicine (primary appointment)

Robert R Townsend, MD, PHD, MSPrincipal Professor of Medicine (primary appointment)
Professor of Cell Biology and Physiology
BS Centenary College 1972
MD Tulane University 1976
PHD Johns Hopkins University 1982
MS Tulane University 1976
Elizabeth A Tracy, MD Instructor in Clinical Medicine (primary appointment)
BS Marquette University 1982
MD Univ of Wisconsin Milwaukee 1986
Doris Janet Tribune-Brown Instructor in Clinical Medicine (primary appointment)
Sandeep Kumar Tripathy, PHD Assistant Professor of Medicine (primary appointment)
PHD University of Chicago 1995
Elbert P Trulock III, MD Rosemary and I Jerome Flance Professor of Pulmonary Medicine in Medicine (primary appointment)
MD Emory University 1978
BS Emory University 1968
Thomas F Tse, MD Instructor in Clinical Medicine (primary appointment)
BS University of Nebraska 1972
MD Univ of Nebraska at Omaha 1976
David J Tucker Assistant Professor of Clinical Medicine (primary appointment)
Dolores R Tucker, MD Assistant Professor of Clinical Medicine (Dermatology) (primary appointment)
MD Washington Univ in St. Louis 1974
BS Saint Mary's College 1958
Stacey S Tull, MD, M PH Assistant Professor of Clinical Medicine (Dermatology) (primary appointment)
MD Duke University 1997
M PH Duke University 1997
John W Turk, PHD, MD Professor of Medicine (primary appointment)
Alan A and Edith L Wolff Professor of Endocrinology
Professor of Pathology and Immunology
BA Washington Univ in St. Louis 1970
PHD Washington Univ in St. Louis 1976
MD Washington Univ in St. Louis 1976
Robert C. Uchiyama, MD Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1980
Fumihiko Urano, MD Samuel E Schechter Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology
MD Keio University 1994
Geoffrey L Uy, MD Associate Professor of Medicine (primary appointment)
BA1 Cornell University 1996
BA Cornell University 1996
MD Washington Univ in St. Louis 2001
Justin Marinus Vader, MD Assistant Professor of Medicine (primary appointment)
MD University of Texas Southwest 2006
Brij R Vaid, MD Instructor in Clinical Medicine (primary appointment)
MD Rush University 1992
Albert Lee Van Amburg Iil, MD Assistant Professor of Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1968
MD Washington Univ in St. Louis 1972
Brian Andrew Van Tine, MD, PHD Assistant Professor of Medicine (primary appointment)
BS University of Arizona 1995
MD University of AL Birmingham 2005
PHD University of AL Birmingham 2005
Gil M Vardi, MD Assistant Professor of Clinical Medicine (primary appointment)
MD Tel-Aviv University 1988
Emmanuel A Venkatesan, MBBS Associate Professor of Clinical Medicine (primary appointment)
MBBS CMC, Vellore, India 1990
Kiran Raj Vij, MD Assistant Professor of Pathology and Immunology
MD Indira Gandhi Medical College 1993
Ravi Vij Professor of Medicine (primary appointment)
Anitha Vijayan Professor of Medicine (primary appointment)
Dennis T Villareal Adjunct Associate Professor of Medicine (primary appointment)
Herbert W Virgin IV, PHD Mallinckrodt Professor of Pathology and Immunology (primary appointment)

Professor of Medicine
Head of the Department of Pathology and Immunology
Professor of Molecular Microbiology
PHD Harvard University 1985
Oksana Volshteyn, MD Professor of Neurology (primary appointment)

Professor of Medicine
MD Minsk State Medical Institute 1976
Benjamin Allen Voss, MD Instructor in Clinical Medicine (primary appointment)
MD Creighton University 2007
BA Saint Louis University 2003
BA1 Saint Louis University 2003
Stanley G Vriezelaar, MD Instructor in Clinical Medicine (primary appointment)
MD University of Iowa 1981
Harry Lee Wadsworth, MD Instructor in Clinical Medicine (primary appointment)
MD Texas Tech University 1983
BS Texas Tech University 1978
Jason Cass Wagner, MD Assistant Professor of Emergency Medicine in Medicine (primary appointment)
MD University of Colorado Denver 2001
Stanley M Wald, MD Associate Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1946
David Wallace, MD Instructor in Clinical Medicine (primary appointment)
BA Saint Anselm College 1980
MD Saint Louis University 1984
David A Walls, MD Instructor in Clinical Medicine (primary appointment)
MD Southern Illinois University 1982
BA Southern Illinois University 1979
Sarah N. Walsh Instructor in Clinical Medicine (Dermatology) (primary appointment)
Matthew John Walter Associate Professor of Medicine (primary appointment)
Associate Professor of Genetics
Richard Coburn Walters, MD Instructor in Clinical Medicine (Dermatology) (primary appointment)
Jean S Wang, PHD
Associate Professor of Medicine (primary appointment)
Associate Professor of Surgery (General Surgery)

PHD John Hopkins University 2009

Lawrence L. Wang, MD, PHD
Instructor in Clinical Medicine (Dermatology) (primary appointment)

BA Harvard University 1993
MD Washington Univ in St. Louis 2001
PHD Washington Univ in St. Louis 2001

Sarah Qian Wang
Instructor in Medicine (primary appointment)

MD University of AR Little Rock 2001
BS Ouachita Baptist University 1993
BS1 Ouachita Baptist University 1993

Saiama Naheed Waqar, MD
Assistant Professor of Medicine (primary appointment)

MD Aga Khan University 2001

Jeffrey Peter Ward, MD, PHD
Instructor in Medicine (primary appointment)

MD SUNY - Empire State College 2010
BS Wilkes University 2002
PHD SUNY - Empire State College 2010

Corinna Hendrell Warren, MD
Instructor in Clinical Medicine (primary appointment)

MD University of Illinois Chicago 1994
BS Southern Ill Univ Edwardsville 1990

David K. Warren, MD, MPH
Professor of Medicine (primary appointment)

MD University of Pittsburgh 1994
MPH Saint Louis University 2005
BS Pennsylvania State University 1990

Lukas Delbert Wartman, MD
Assistant Professor of Medicine (primary appointment)

BS Univ of Wisconsin Madison 1998
MD Washington Univ in St. Louis 2005

Andrzej J. Wasiak, PHD, MD
Assistant Professor of Clinical Medicine (primary appointment)

PHD Szczecin Medical School 1980
MD Szczecin Medical School 1972

Scott P Wasserstrom, MD, MA
Instructor in Clinical Medicine (primary appointment)

MD Washington Univ in St. Louis 1995
BS University of Illinois 1990
MA Washington Univ in St. Louis 1995

Michael J. Weaver, MD
Instructor in Medicine (primary appointment)

MD Loyola University Chicago 2013

Jason Dean Weber, PHD
Associate Professor of Medicine (primary appointment)

Associate Professor of Cell Biology and Physiology

BS Bradley University 1993
PHD Saint Louis University 1997

H. James Wedner, MD
Phillip & Arleen Korenblat Professor of Allergy and Immunology in Medicine (primary appointment)

BS Cornell University 1963
MD Cornell University 1967

Xiaochao Wei, PHD
Instructor in Medicine (primary appointment)
Kevin D Weikart, MD \textbf{Instructor in Clinical Medicine} (primary appointment)

Gary J Weil, MD \textbf{Professor of Medicine} (primary appointment)

Professor of Molecular Microbiology

MD Harvard University 1975
BA Harvard University 1971

Katherine N Weilbaecher, MD \textbf{Professor of Medicine} (primary appointment)

Professor of Pathology and Immunology
Professor of Cell Biology and Physiology

BA Harvard University 1987
MD Stanford University 1992

Carla Joy Weinheimer, MS \textbf{Associate Professor of Medicine} (primary appointment)

MS Washington Univ in St. Louis 1997
BS University of Illinois 1984

Leonard B Weinstock \textbf{Associate Professor of Clinical Medicine} (primary appointment)

Assistant Professor of Clinical Surgery (General Surgery)

BA University of Vermont 1977

Steven Jay Weintraub, MD, MS \textbf{Assistant Professor of Medicine} (primary appointment)

BA State Univ of NY Binghampton 1978
MD University of Virginia 1985
MS University of Virginia 1981

Edmond Weisbart \textbf{Assistant Professor of Clinical Medicine} (primary appointment)

Alan N Weiss, MD \textbf{Professor of Medicine} (primary appointment)

BA Ohio State University 1963
MD Ohio State University 1966

Edward P Weiss, PHD, MS \textbf{Adjunct Research Assistant Professor of Medicine} (primary appointment)

BS Southern Illinois University 1989
PHD University of Maryland 2003
MS Southern Illinois University 1992

Peter Douglas Weiss, MD \textbf{Instructor in Clinical Medicine} (primary appointment)

MD Case Western Reserve Univ 1980
BA Harvard University 1975

John Sutton Welch, PHD, MD \textbf{Assistant Professor of Medicine} (primary appointment)

PHD University of CA San Diego 2002
MD San Diego St University 2004
BS Brigham Young University 1995

Lynn Ellis Welling \textbf{Adjunct Associate Professor of Medicine} (primary appointment)

Alvin S Wenneker, MD \textbf{Professor of Clinical Medicine} (primary appointment)

BA Washington Univ in St. Louis 1949
MD Washington Univ in St. Louis 1953

Jennifer Marie Wessels, MD \textbf{Instructor in Clinical Medicine} (primary appointment)

MD Saint Louis University 2009

Brian T Wessman, MD \textbf{Assistant Professor of Anesthesiology} (primary appointment)

Assistant Professor of Emergency Medicine in Medicine

MD Commonwealth College 2005
BS College of William and Mary 2000
Peter Westervelt, MD, PHD Professor of Medicine (primary appointment)  
MD Washington Univ in St. Louis 1992  
PHD Washington Univ in St. Louis 1992

Alison J Whelan, MD Professor of Medicine (primary appointment)  
Senior Associate Dean for Education  
Professor of Pediatrics  
MD Washington Univ in St. Louis 1986

Neil Harris White, MD Professor of Pediatrics (primary appointment)  
Professor of Medicine  
MD Albert Einstein College of Med 1975  
BS State Univ of NY at Albany 1971

Patrick White, MD Assistant Professor of Medicine (primary appointment)  
BS Notre Dame College 2002  
MD Ohio State University 2007

Michael Peter Whyte, MD Professor of Medicine (primary appointment)  
Professor of Pediatrics  
Professor of Genetics  
MD State University of New York 1972  
BA New York University 1968

Burton M Wice, PHD Associate Professor of Medicine (primary appointment)  
PHD Washington Univ in St. Louis 1992

Cynthia A Wichelman Associate Professor of Emergency Medicine in Medicine (primary appointment)  
Course Director for the Mini-Medical School  
Course Director for the Mini-Medical School  
Course Director for the Mini-Medical School  
BA University of California 1982

John F Wiedner, MD Instructor in Clinical Medicine (primary appointment)  
BA Knox College 1982  
MD School Not Listed 1985

Deborah A Wienski, MD Instructor in Clinical Medicine (primary appointment)  
BA Smith College 1979  
MD Tufts University 1983

Tanya M Wildes, MD Assistant Professor of Medicine (primary appointment)  
MD Washington Univ in St. Louis 2002  
BS Illinois Wesleyan University 1998

Denise Willey, PHD Professor of Psychiatry (primary appointment)  
Professor of Medicine  
Professor of Psychological & Brain Sciences  
Professor of Pediatrics

Scott Rudolph University Professor  
PHD University of Missouri Columbi 1989

Nancy J Williams Instructor in Clinical Medicine (primary appointment)  
BA Dartmouth College 1982

Timothy John Williams, MD Instructor in Medicine (primary appointment)  
BA McKendree College 2008  
MD University of Cincinnati 2012

George A Williams III, MD, MA Assistant Professor of Clinical Medicine (primary appointment)
MD Univ of Wisconsin Madison 1972
MA Columbia University 1968
BA University of Notre Dame 1967

R. Jerome Williams Jr, Associate Professor of Clinical Medicine (primary appointment)
BA Harvard University 1973

Monita Elaine Wilson, MS, PHD, Associate Professor of Medicine (primary appointment)
MS Southern Illinois University 1984
BS Southern Illinois University 1981
PHD Brandeis University 1992

Patrick H Win, Instructor in Clinical Medicine (primary appointment)

David William Windus, MD, Professor of Medicine (primary appointment)
BS Iowa State University 1974
MD Creighton University 1978

Karen Winters, MD, Associate Professor of Medicine (primary appointment)
Director of the Student and Employee Health Service - Medical Campus
BS Illinois State University 1975
MD Southern Illinois University 1983

Chad Alan Witt, MD, Assistant Professor of Medicine (primary appointment)
MD University of Texas Southwest 2005
BS Texas Tech University 2001

Keith Frederic Woeltje, MD, PHD, Professor of Medicine (primary appointment)
MD Texas Southern University 1991
PHD Texas Southern University 1991
BS University of Dallas 1984

Edward M Wolfe, MD, Instructor in Clinical Medicine (Dermatology) (primary appointment)
BA Hobart College 1956
MD Washington Univ in St. Louis 1960

Gerald Wolff, MD, Assistant Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1961
BA Harvard University 1955

Nathan E Wolins, Assistant Professor of Medicine (primary appointment)

Terrence N Wong, MD, PHD, Instructor in Medicine (primary appointment)
MD Dartmouth College 2009
PHD University of Chicago 2007

John A Wood, MD, Associate Professor of Clinical Medicine (primary appointment)
MD University of Oklahoma 1968

Megan Elizabeth Wren, MD, Associate Professor of Medicine (primary appointment)
BA Washington Univ in St. Louis 1981
MD Washington Univ in St. Louis 1985

Jeffrey M Wright, MD, Assistant Professor of Clinical Medicine (primary appointment)
Assistant Professor of Clinical Pediatrics
BS Vanderbilt University 1975
MD Washington Univ in St. Louis 1979

Xiaobo Wu, MD, Assistant Professor of Medicine (primary appointment)
MD Tongji University 1986

Yan Xie, MD, MS, Instructor in Medicine (primary appointment)
MD Tongji University 1986
MS Hubei Medical University 1991
Mai Xu, PHD, MS, MD
Instructor in Medicine (primary appointment)
PHD China Medical University 1992
MS China Medical University 1983
MD China Medical University 1981

Naga M Yalla, MD
Instructor in Medicine (primary appointment)
MD SRTR Medical College 2005

Timothy Teng-Kay Yau, MD
Assistant Professor of Medicine (primary appointment)
MD Saint Louis University 2005

Wayne M Yokoyama, MD
Sam and Audrey Loew Levin Professor of Medicine (Rheumatology)
(secondary appointment)

Howard Hughes Medical Institute Investigator in Medicine
Professor of Pathology and Immunology
BA University of Rochester 1974
MD University of Hawaii 1978

Jun Yoshino, PHD, MD
Assistant Professor of Developmental Biology
Assistant Professor of Medicine
PHD Keio University 2004
MD Keio University 2000

Mihoko Yoshino, PHD, MD
Instructor in Medicine (primary appointment)
PHD Shimane Medical University 2006
MD Keio University 2000

Zhongsheng You, MS
Associate Professor of Cell Biology and Physiology (primary appointment)
Associate Professor of Medicine
MS Shanghai Inst of Biochemistry 1997
BS Zhejiang Medical University 1994

Simon Yu, MD
Instructor in Clinical Medicine (primary appointment)
MD University of MO Columbia 1984

Roger D. Yusen, MPH, MD
Associate Professor of Medicine (primary appointment)
BS University of Illinois 1986
MPH Saint Louis University 2002
MD University of Illinois 1990

Alan Zajarias, MD
Associate Professor of Medicine (primary appointment)
Associate Professor of Surgery (Cardiothoracic Surgery)
MD National Autonomous U of Mex 2000

John F. Zalewski
Instructor in Clinical Medicine (primary appointment)

Yong Zhang, MD, PHD, MS
Instructor in Medicine (primary appointment)
MD Anhui Medical University 1978
PHD Albert Ludwig University 1999
MS Sun Yat-Sen University 1983

Amy Wei Wei Zhou, MD
Instructor in Medicine (primary appointment)
MD Wayne State University 2009

Li Zhou, MD
Instructor in Medicine (primary appointment)
MD Vanderbilt University 2013

Jian Zhu, PHD
Instructor in Medicine (primary appointment)
PHD Oklahoma St University 2004

Robert E Ziegler, PHD, MD
Assistant Professor of Clinical Medicine (Dermatology) (primary appointment)
PHD Duke University 1980
Department of Molecular Microbiology

The Department of Molecular Microbiology teaches introductory courses in microbiology and pathogenic microorganisms for first-year medical students and graduate students. In conjunction with the DBBS program in Molecular Microbiology and Microbial Pathogenesis, the department also offers a number of advanced courses, primarily designed for graduate students, but open to medical students. Advanced elective research activities are offered by faculty in the department.

Please visit the Department of Molecular Microbiology website for more information.

MD Courses — Molecular Microbiology

First year

M30 526 MICROBES AND PATHOGENESIS
Instructors: Henry V. Huang, PhD, 362-2755; Scott Hultgren, PhD, 362-6772
The course emphasizes the importance of understanding molecular and cellular paradigms of how pathogenic microbes interact with their hosts and cause disease. Selected pathogenic microbes, including bacteria, viruses, parasites and fungi, will be utilized as models to explain general principles of host-pathogen interactions and their
consequences. Mechanisms by which microbes evade host defenses to cause acute and chronic infections will be highlighted. Problems facing the medical community in the 21st century such as rising antibiotic resistance and tropical diseases will be addressed. The main objective of this course is to teach students how to think about microbial pathogenesis in a way that will provide them a conceptual framework that relates mechanisms of pathogenesis to symptomology and pathophysiology.

**L41 (Bio) 5392 MOLECULAR MICROBIOLOGY AND PATHOGENESIS**
Instructor: Joseph P. Vogel, PhD, 747-1029
This course is similar to M30 526 but focuses more on the molecular mechanisms used by pathogens to cause disease. L41 (Bio) 5392 encompasses all areas of medical microbiology including bacteriology, eukaryotic pathogens, and virology. Completion of the course will provide a student with a background in microbial pathogenesis and prepare them to perform research in a microbiology laboratory. The primary enrollees in the course are students working for a PhD degree. However, this course is recommended for interested medical students, especially those who may be considering a career in medical research, including MSTP students. MSTP students can take Bio 5392 in place of the Medical Microbiology course (M30 526) and obtain dual credit for both medical school and graduate school.

**Fourth year**

**Electives**

**L41 (Bio) 5217 SPECIAL TOPICS IN MICROBIAL PATHOGENESIS**
Detailed course description is presented under Division of Biology and Biomedical Sciences.

Note — The number preceding the course title indicates that the course carries credit in the Graduate School of Arts & Sciences.
Research — Molecular Microbiology

M30 – MOLECULAR MICROBIOLOGY

MOLECULAR MICROBIOLOGY RESEARCH OPPORTUNITIES (M30 900)

(M30 900) Cross-listed with L41 (Bio) 590

Stephen M. Beverley, PhD
9th Floor, McDonnell Pediatric Research Building
314-747-2630
Molecular genetics of protozoan parasites and tropical diseases; biosynthesis of the parasite surface, genomics, virulence and drug action or resistance.

Michael Caparon, PhD
10th Floor, McDonnell Pediatric Research Building
314-362-1485
Molecular genetics and pathogenicity of the streptococci and other pathogenic gram positive bacteria.

Tamara L. Doering, MD, PhD
10th Floor, McDonnell Pediatric Research Building
314-747-5597
The Doering lab studies the opportunistic fungal pathogen, Cryptococcus neoformans, with the dual motivations of elucidating basic biology and identifying potential drug targets. Projects include studies of the synthesis and regulation of the main cryptococcal virulence factor, its polysaccharide capsule, and investigation of host fungal interactions. Current approaches include those of biochemistry, cell and molecular biology, and genetics; studies also include high-throughput analysis of host-
pathogen interactions and computational approaches to reconstructing the capsule regulatory network.

Daniel Goldberg, MD, PhD
9th Floor, McDonnell Pediatric Research Building
314-362-1514
Biochemistry of malaria.

Henry Huang, PhD
8th Floor, McDonnell Pediatric Research Building
314-362-2755

Scott J. Hultgren, PhD
10th Floor, McDonnell Pediatric Research Building
314-362-6772
Pathogenic mechanisms and disease outcomes in the urinary tract. Work in the Hultgren lab blends multiple scientific disciplines to elucidate bacterial and host mechanisms that determine the onset, course and outcome of interactions between a host mucosal surface and bacterial pathogens. Using genetics, genomics, biochemistry, structural biology, high-resolution imaging, animal models, clinical studies and combinatorial chemistry, we have illuminated new ways in which intracellular lifestyles and community behavior play critical roles in the pathogenesis of urinary tract infection. We have uncovered new principles of adhesive pili biogenesis in Gram Negative bacteria by the chaperone/usher pathway; delineating the fine molecular details of a donor strand complementation and exchange mechanism by which the energy of final subunit folding is used to complete assembly and extrusion of pili across the outer membrane. We revealed how UPEC use type 1 pili to invade and establish biofilm-like intracellular bacterial communities within bladder cells as part of a mechanism that subverts host defenses and how quiescent intracellular reservoirs can seed recurrent infections. We have uncovered complex networks that govern mucosal epithelial response to infection, which we have shown
determines disease outcome. Further, we have made seminal contributions to our understanding of the pathogenesis and response to other uropathogens, polymicrobial infections and catheter-associated UTIs and to the mechanisms by which bacteria form a directed amyloid fiber, curli, which is important in biofilm formation. Together, this work is changing the way UTIs are evaluated, re-shaping models of bacterial infections in general and spawning new technologies to design novel vaccines and anti-microbial therapeutics to diagnose, treat and/or prevent UTIs and their sequelae.

Amanda Lewis, PhD
10th Floor, BJC Institute of Health
314-286-0016

Polymicrobial Infection and Women’s Health. Our lab is using biochemical, cellular and animal models to study infectious processes of the female urogenital tract that involve multiple bacterial species. For example, Bacterial vaginosis (BV) is a polymicrobial imbalance of the vaginal flora characterized by reductions in beneficial lactobacilli and an overgrowth of mostly Gram negative bacteria. BV is the most common of all vaginal infections and is associated with increased risks of adverse pregnancy outcomes and greater susceptibility to sexually transmitted infections. We are collaborating with clinical investigators to define molecular and biochemical processes of BV and identify patient groups most at risk for adverse events. Another active area of study in the lab involves polymicrobial urinary tract infection (UTI). We have developed a mouse model of polymicroba UTI and are currently defining novel processes, bacterial factors and the impact of host that contribute to susceptibility.

Jennifer Lodge, PhD
McDonnell Pediatric Research Building 10210A
314-286-2125

Antifungal therapy and vaccine development against a fungal pathogen: Cryptococcus neoformans is a significant fungal pathogen, particularly in immunocompromised patients, that causes pulmonary infections and meningoencephalitis. It has been estimated that over 1,000,000 new cases of Cryptococcus occur, with over 650,000
deaths per year, and the majority of these cases are in Africa. Our lab focuses on understanding the structure and the synthesis of the fungal cell wall. We are working on it as a target for antifungal therapies and for vaccine development.

David Sibley, PhD
9th Floor, McDonnell Pediatric Research Building
314-362-8873
We study the intracellular survival mechanisms of protozoan parasites, focusing on the model parasite Toxoplasma gondii. Current approaches include high-resolution microscopy, genetic mapping of virulence traits, comparative genomic analyses and development of animal models for studying pathogenesis and resistance.

Christina L. Stallings, PhD
8th Floor, McDonnell Pediatrics Research Building
314-286-0276
Molecular Pathogenesis of Mycobacteria. Our laboratory integrates in vivo disease modeling, molecular biology, and biochemistry to provide answers to the fundamental biological questions regarding molecular pathogenesis and yield therapeutic strategies for treatment of mycobacterial infections.

Niraj H. Tolia, PhD
8th Floor, McDonnell Pediatric Research Building
314-286-0134
Structural and Mechanistic Studies of Malaria Pathogenesis. Our lab is interested in the molecular events that occur during erythrocyte invasion by Plasmodium parasites. We use the tools of structural biology, biochemistry and biophysics to examine proteins and protein complexes associated with these events.

Joseph P. Vogel, PhD
10th Floor, McDonnell Pediatric Research Building
314-747-1029
Legionella pneumophila, the causative agent of Legionnaires’ pneumonia, replicates inside alveolar macrophages by preventing phagosome-lysosome fusion.
Discovery and characterization of novel viruses. We use functional genomic technologies to identify novel viruses from a variety of clinical samples from diseases of unexplained etiology. We then use epidemiologic and molecular/cellular strategies to define the relevance of newly identified viruses to human disease. A range of new viruses, including polyomaviruses, astroviruses and picronaviruses are under investigation.

Faculty — Molecular Microbiology

Stephen M Beverley, PhD
Marvin A Brennecke Professor of Molecular Microbiology (primary appointment)
Head of the Department of Molecular Microbiology
PHD University of California 1979
BS California Institute Technolo 1973
Shabaana Abdul Khader, PhD
Associate Professor of Molecular Microbiology (primary appointment)
PHD Madurai Kamaraj University 2002
Natalia S Akopyants
Instructor in Molecular Microbiology (primary appointment)
Gaya K Amarasinghe, PhD
Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Biochemistry and Molecular Biophysics
Associate Professor of Molecular Microbiology
PHD University of Maryland 2001
John Patterson Atkinson, MD
Samuel Grant Professor of Medicine (primary appointment)
Professor of Molecular Microbiology
BA University of Kansas 1965
MD University of Kansas 1969
Megan Tierney Baldridge, MD, PhD
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Molecular Microbiology
MD Baylor College of Medicine 2011
Wandy L. Beatty, PhD
Assistant Professor of Molecular Microbiology (primary appointment)
BS Montana State University 1989
PHD University of Wisconsin Madison 1994

Adrianus C Boon, PhD, MS
Assistant Professor of Pathology and Immunology
Assistant Professor of Molecular Microbiology
PHD Erasmus University Rotterdam 2003
MS University of Amsterdam 1997

Tamara L. Brent, PhD, MD
Professor of Molecular Microbiology (primary appointment)
PHD Johns Hopkins University Medicine 1991
MD Johns Hopkins University Medicine 1991
BA Johns Hopkins University 1983

Carey-Ann Dawn Burnham, PhD
Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Pediatrics
Associate Professor of Molecular Microbiology
BS University of Alberta 2002
PHD University of Alberta 2007

Michael G. Caparon Jr, PhD
Professor of Molecular Microbiology (primary appointment)
PHD University of Iowa 1985
BS Michigan State University 1981

Gautam Dantas
Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Biomedical Engineering
Associate Professor of Molecular Microbiology
BS Macalester College 2000

Michael Diamond, MD
Professor of Medicine (primary appointment)
Professor of Molecular Microbiology
Professor of Pathology and Immunology
Herbert S. Gasser Professor
BS Columbia College 1985
MD Harvard University 1994

Deborah E Dobson, PhD
Associate Professor of Molecular Microbiology (primary appointment)
PHD University of CA Berkeley 1981
BS University of Illinois 1976

Karen W Dodson, PhD
Instructor in Molecular Microbiology (primary appointment)
PHD Washington University in St. Louis 1990
BA University of Missouri 1983

Mario Federico Feldman, PhD
Associate Professor of Molecular Microbiology (primary appointment)
PHD Universidad del Buenos Aires 2004

Daniel E Goldberg, MD
David M and Paula L Kipnis Distinguished Professor (primary appointment)
Professor of Molecular Microbiology
MD Washington University in St. Louis 1985

Dennis E Hallahan, MD
Professor of Radiation Oncology (primary appointment)
Professor of Cell Biology and Physiology
Professor of Pathology and Immunology
Elizabeth H and James S McDonnell III Distinguished Professor of Medicine
Head of the Department of Radiation Oncology
Professor of Molecular Microbiology
MD Rush University 1984
BS University of Illinois 1980

Jeffrey P. Henderson, PHD, MD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Molecular Microbiology
PHD Washington Univ in St. Louis 2002
BS Univ of Wisconsin Madison 1994
MD Washington Univ in St. Louis 2002

Henry V Huang, PHD Associate Professor of Molecular Microbiology (primary appointment)
PHD California Institute Technolo 1977

Scott James Hultgren, PHD Helen L Stoever Professor of Molecular Microbiology (primary appointment)
BS Indiana University Bloomington 1981
PHD Northwestern University 1987

David A Hunstad, MD Associate Professor of Pediatrics (primary appointment)
Associate Professor of Molecular Microbiology
MD Washington Univ in St. Louis 1995
BA Carleton College 1991

Audrey Ragan Odom John, PHD, MD Associate Professor of Pediatrics (primary appointment)
Associate Professor of Molecular Microbiology
BS Duke University 1996
PHD Duke University 2002
MD Duke University 2003

Anthony Kulczycki Jr, MD Associate Professor of Medicine (primary appointment)
Associate Professor of Molecular Microbiology
MD Harvard University 1970

Sebla Bulent Kutluay, PHD Assistant Professor of Molecular Microbiology (primary appointment)
PHD Michigan State University 2009

Amanda Lark Lewis, PHD Assistant Professor of Molecular Microbiology (primary appointment)
Assistant Professor of Obstetrics and Gynecology
BS Cal Polytec San Luis Obispo 2001
PHD University of San Diego 2006

Efrem S Lim, PHD Instructor in Molecular Microbiology (primary appointment)
PHD University of Washington 2012
BS University of Michigan 2008

Jennifer K Lodge, PHD Professor of Molecular Microbiology (primary appointment)
Vice Chancellor for Research
Vice Chancellor for Research
Associate Dean for Research
Associate Dean for Research
BS Oberlin College 1979
PHD Washington Univ in St. Louis 1988

Paul D Olivo, PHD, MD Adjunct Assistant Professor of Molecular Microbiology (primary appointment)
PHD University of Florida 1982
BA George Washington University 1972
MD University of Florida 1981
Jennifer A Philips, MD, PHD, PHD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Molecular Microbiology
MD University of CA San Francisco 2000
PHD University of CA San Francisco 1998
PHD University of CA San Francisco 2015
BA Columbia University 1991
Lee Ratner, MA, PHD Professor of Medicine (primary appointment)
Professor of Molecular Microbiology
Alan A and Edith L Wolff Professor of Oncology
BA Harvard University 1973
MA Harvard University 1973
PHD Yale University 1979
Charles M Rice III, PHD Adjunct Professor of Molecular Microbiology (primary appointment)
PHD California Institute Technolo 1981
BS University of California 1974
Robert D Schreiber, PHD Alumni Endowed Professor of Pathology and Immunology (primary appointment)
Professor of Molecular Microbiology
PHD State University of New York 1973
BA State University of New York 1968
Laurence David Sibley, PHD Professor of Molecular Microbiology (primary appointment)
Alan A and Edith L Wolff Distinguished Professor
BA Oberlin College 1978
PHD Louisiana St University 1985
Christina Leigh Stallings, MS, MA, PHD Assistant Professor of Molecular Microbiology (primary appointment)
MS Columbia University 2002
MA Columbia University 2001
PHD Columbia University 2005
BS Mary Washington College 1999
Gregory A Storch, MD Ruth L. Siteman Professor of Pediatrics (primary appointment)
Professor of Molecular Microbiology
Professor of Medicine
MD New York University 1973
BA Harvard University 1969
Phillip Irwin Tarr, MD Melvin E Carnahan Professor of Pediatrics (primary appointment)
Professor of Molecular Microbiology
BA Brown University 1975
MD Yale University 1980
Niraj Harish Tolia, PHD Associate Professor of Molecular Microbiology (primary appointment)
Associate Professor of Biochemistry and Molecular Biophysics
PHD Watson Sch of Biological Scien 2004
BS Imperial College 1999
Herbert W Virgin IV, PHD Mallinckrodt Professor of Pathology and Immunology (primary appointment)
Professor of Medicine
Head of the Department of Pathology and Immunology
Department of Neurology

Neurology concerns itself with the diseases of brain, spinal cord, peripheral nerves and muscles. An introduction to the anatomy and physiology of the nervous system is presented in the first-year neuroscience course by faculty from the Department of Anatomy and Neurobiology, with participation of faculty from the Department of Neurology. A first-year selective titled Clinical Correlations in Neuroscience is available, which is an opportunity for interested students to shadow physicians in neuro-related fields and attend basic science or clinical conferences. Another first-year selective titled Alzheimer’s Disease (AD) in the Clinic and the Lab is also available, which is an opportunity for interested students to get an overview of the most exciting areas of AD clinical and science research. In the second year, the Department of Neurology presents the course Diseases of the Nervous System in conjunction with the Departments of Pathology and Immunology, Neurological Surgery and Ophthalmology. The course emphasizes the pathophysiology, pathology, clinical manifestations and treatment of the major neurological and neurosurgical diseases. The department also participates in the Practice of Medicine course, providing
lectures, demonstrations and teaching exercises with patients in neurological physical diagnosis.

In the third year, a four-week clerkship in Neurology introduces students to the clinical care of patients with diseases of the nervous system. Questions pertaining to neurosurgical treatment, neurorehabilitation and ethical issues in management also are addressed. In the fourth year, opportunities exist for many varieties of advanced clinical or research experience. A four-year residency program prepares medical graduates for specialization in neurology. Subspecialty fellowship programs routinely provide additional training in dementia, epilepsy, electrophysiology, electromyography, sleep medicine, cerebrovascular disease and stroke, neuroimmunology, neurological critical care, neuromuscular disease, neuropsychology and movement disorders.

Thirteen divisions and sections are in the department including the Division of Adult Neurology, the Division of Pediatric and Developmental Neurology and the Division of Neurorehabilitation. See www.neuro.wustl.edu for details.

**Division of Neuropsychology:** Steven Petersen, PhD (division director); Francis Miezin, BS, MS; Bradley Schlaggar, MD, PhD; Gordon Shulman, PhD

**Division of Neurorehabilitation:** Maurizio Corbetta, MD (division director); David Brody, MD, PhD; Alex Carter, MD, PhD; Robert Fucetola, PhD; Thy Huskey, MD; Sindhu Jacob, MD; Neringa Juknis, MD; Rimma Ruvinskaya, MD; Nicole Werner, PhD; Oksana Volshteyn, MD; Martin Wice, MD

**Division of Pediatric and Developmental Neurology:** Bradley Schlaggar, MD, PhD (division director); Michael Noetzel, MD (division associate director); Mary Bertrand, MD; Janice Brunstrom, MD; Anne Connolly, MD; Edwin Dodson, MD; Nico Dosenbach, MD, PhD; Rafael Galindo, MD, PhD; Paul Golumbek, MD, PhD; Christina Gurnett, MD, PhD; Kristin Guilliums, MD; David Gutmann, MD; Siddharth Jain, MD; Douglas Larsen, MD; Amy Licis, MD; Soe Mar, MD; Bryan McGill, MD, PhD; Arthur Prensky, MD; Robin Ryther, MD, PhD; Christopher Smyser, MD; Liu Lin Thio, MD, PhD; Jean Thurston, MD; Amy Viehoever, MD, PhD; Judy Weisenberg, MD; Michael Wong, MD, PhD; Kelvin
Yamada, MD; John Zempel, MD, PhD; Craig Zaidman, MD

**Aging and Dementia Section:** John Morris, MD (section head); Randall Bateman, MD; Virginia Buckles, PhD; Nigel J. Cairns, PhD, FRC Path; David Carr, MD; John Cirrito, PhD; Anne Fagan, PhD; Nupur Ghoshal, MD, PhD; Jason Hassenstab, PhD; David Holtzman, MD (department chair); Terri Hosto, MSW; Eugene Johnson, Jr., PhD; Krista Moulder, PhD; Erik Musiek, MD, PhD; Catherine Roe, PhD; Davis Ryman, MD, PhD; Suzanne Schindler, MD, PhD; B. Joy Snider, MD, PhD

**Hope Center for Neurological Disorders (specifically those faculty in the Department of Neurology):** Alison Goate, D.Phil (director); Beau Ances, MD, PhD; Randall Bateman, MD; David Brody, MD, PhD; Janice Brunstrom, MD; Nigel Cairns, PhD, FRCPath, John Cirrito, PhD; Anne Cross, MD; Marc Diamond, MD; Anne Fagan Niven, PhD; Christina Gurnett, MD, PhD; Matthew Harms, MD; David Holtzman, MD (department chairman); Mark Jacquin, PhD; Eugene Johnson Jr., PhD; Paul Kotzbauer, MD, PhD; Terrance Kummer, MD, PhD; Jin-Moo Lee, MD, PhD; Mingjie Li, PhD; Timothy Miller, MD, PhD; John Morris, MD; Erik Musiek, MD, PhD; Joel Perlmutter, MD; Alan Pestronk, MD; Steve Petersen, PhD; Laura Piccio, MD, PhD; Anneliese Schaefer, PhD (executive director); Bradley Schlaggar, MD; B. Joy Snider, MD, PhD; Liu-Lin Thio, MD, PhD; Conrad Chris Weihl, MD, PhD; Michael Wong, MD, PhD; Gregory Wu, MD, PhD; Kelvin Yamada, MD

**Cerebrovascular Disease Section:** Jin-Moo Lee, MD, PhD (section head); David Carpenter, MD; Amar Dhand, MD; Andria Ford, MD; Kristin Guilliams, MD; Salah Keyrouz, MD; Renee Van Stavern, MD; Allyson Zazulia, MD

**Clinical Neurophysiology Section:** Muhammad Al-Lozi, MD, Edward Hogan, MD (section heads); Mary Bertrand, MD; Anne Connolly, MD; Keith Day, MD, PhD; Lawrence Eisenman, MD, PhD; Christina Gurnett, MD, PhD; Amy Licis, MD; Glenn Lopate, MD; Luigi Maccotta, MD, PhD; Samiya Rashid, DO; Liu Lin Thio, MD, PhD; Judy Weisenberg, MD; Michael Wong, MD, PhD; Kelvin Yamada, MD; John Zempel, MD, PhD

**Pediatric Epilepsy and Sleep Section:** Liu Lin Thio, MD, PhD (section co-head); Kelvin
Yamada, MD (section co-head); Mary Bertrand, MD; Christina Gurnett, MD, PhD; Jean Holowach-Thurston, MD; Siddharth Jain, MD; Amy Licis, MD; Robin Ryther, MD, PhD; Judy Weisenberg, MD; Michael Wong, MD, PhD; John Zempel, MD, PhD

**Adult Epilepsy Section**: Edward Hogan, MD (section heard); Keith Day, MD, PhD; Laurence Eisenman, MD, PhD; Yuan Fan, MD, PhD; Luigi Maccotta, MD, PhD

**Neuroimaging Section**: Beau Ances, MD; Kevin Black, MD; Maurizio Corbetta, MD; Colin Derdeyn, MD; Morvarid Karimi, MD; Francis Miezin, MS; Scott Norris, MD; Joel Perlmutter, MD; Steven Petersen, PhD; Bradley Schlaggar, MD, PhD; Gordon Shulman, PhD; Mwiza Ushe, MD; Allyson Zazulia, MD

**Neuroinfectious Disease Section**: David Clifford, MD (section head); Beau Ances, MD

**Neurofibromatosis and Neuro-Oncology**: David Gutmann, MD, PhD

**Movement Disorders Section**: Joel Perlmutter, MD (section head); Kevin Black, MD; Meghan Campbell, PhD; Susan Criswell, MD; Marc Diamond, MD; Gammon Earhart, PhD; Erin Foster, OTD; Johanna Hartlein, APRN; Tamara Hershey, PhD; Morvarid Karimi, MD; Paul Kotzbauer, MD, PhD; Scott Norris, MD; Brad Racette, MD; Bradley Schlaggar, MD, PhD; LinLin Tian, MD, PhD; Mwiza Ushe, MD; Amy Viehoever, MD, PhD; Brenton Wright, MD

**Neuroimmunology Section**: Anne Cross, MD (section head); Becky Parks, MD; Robert Naismith, MD; Laura Piccio, MD, PhD; Gregory Wu, MD

**Neurological Critical Care Section**: Michael Diringer, MD (section head-NNICU); Salah Keyrouz, MD (Medical Director, NNICU); Rajat Dhar, MD; Terrance Kummer, MD; Michael Rubin, MD

**Neuromuscular Diseases Section**: Alan Pestrone, MD (section head); Muhammad Al-Lozi, MD; Robert Bucelli, MD, PhD; Anne Connolly, MD; Julaine Florence, PT, DPT; Paul Golumbek, MD, PhD; Matthew Harms, MD, Glenn Lopate, MD; Timothy Miller, MD, PhD; Brian Sommerville, MD; Arun Varadhachary, MD, PhD; Chris Weihl, MD, PhD;
MD Courses — Neurology

First year

Selectives

M04 5017 01 CLINICAL CORRELATIONS IN NEUROSCIENCE
Instructor: Allyson Zazulia, MD, 362-2560
Clinical faculty for this selective are members of the following departments or divisions: Neurology, Pediatric Neurology, Neurological Surgery, Neuro ICU, Radiology, Pathology and Immunology, and Psychiatry. Students will shadow physicians, attend rounds and meet for seminars and demonstrations to discuss particular patient cases and research studies. Teaching Objective: to gain exposure to medical career options involving neuroscience.
Alzheimer’s disease (AD) affects more than 5 million Americans, and will increase substantially as our population ages. Of the top 10 causes of death in the United States, AD is the only disease without any way to prevent, cure or slow the progression. The cost of caring for AD patients has been estimated at over $172 billion annually, and the human toll on patients and family members can be devastating. Patients and families turn to primary care and specialist physicians (e.g., neurologists, psychiatrists, geriatricians) for answers to their plight. The good news for physicians is that research on AD is moving at a rapid pace. Exciting advances in our understanding of AD etiology, early diagnosis and treatment are changing the landscape of dementia care.

Students in this course are offered a dynamic and interactive overview of the most exciting areas of AD clinical and science research from one of the top Alzheimer’s disease research centers in the world. Find out how amyloid plaques and other AD-related abnormalities form in the brain and new discoveries about their possible reversal! The course includes lecture and student presentation components, plus opportunities to observe patients and families in an active neurology memory disorder clinic, participate in neuropathology evaluations of demented individuals, experience and administer psychometric evaluation tools and interact with investigators from the fields of molecular genetics, cell biology and neuropathology.

Second year

M35 632 DISEASES OF THE NERVOUS SYSTEM
Instructor: Allyson Zazulia, MD, 362-2560
The goal of this course is to provide an introduction to diseases of the central and peripheral nervous systems, including their clinical manifestations, pathology, pathophysiology and pharmacotherapy. The course includes reading assignments, lectures, laboratories, conferences and clinical presentations.
Third year

M35 720 NEUROLOGY CLERKSHIP
Instructor: Robert Naismith, MD, 362-3998
A full-time, four-week clerkship is provided on the inpatient neurology services at Barnes-Jewish Hospital south. Patients are assigned to students, who evaluate and follow them with the resident staff and discuss them regularly in conferences with the senior neurological staff. Students also work in the neurology clinic under staff supervision and attend a series of lectures on neurosurgical problems. The goal of this rotation is to gain expertise in the evaluation and treatment of patients with neurologic diseases.

Up to two students may elect to obtain their clerkship experience on the neurosurgery service. Up to two students may elect to obtain their clerkship experience on the inpatient pediatric neurology service. Students participate in the neurology specialty clinics at St. Louis Children's Hospital, working under the supervision of pediatric neurology fellows and senior staff.

M25 730 PHYSICAL MEDICINE AND REHABILITATION CLERKSHIP
Coursemaster: Neringa Juknis MD, 454-7757
The clerkship in PM&R for third-year medical students provides an opportunity to gain basic knowledge and clinical skills in evaluation and management of a wide range of neurological and musculoskeletal diseases and conditions that require specialized rehabilitative medical and therapeutic care. Students spend two weeks on the Spinal Cord Injury Unit (SCI) and two weeks on the Brain Injury (BI) and Stroke Unit at The Rehabilitation Institute of St. Louis. Students are expected to be a part of the rehabilitation team, follow two to three patients, participate in daily morning rounds, participate in performing consults and attend team meetings and family conferences.

Students are required to attend several outpatient clinics such as SCI, BI, Amputee and Stroke. During the entire rotation, students work together with PM&R residents and fellows, and under direct guidance of the neurorehabilitation faculty. The usual duty hours are 7-7:30 a.m. to 5 p.m. on weekdays and 8 a.m. to noon on Saturdays. There is
Students are required to attend all PM&R curriculum lectures and conferences. On the first day of rotation, students meet briefly with the PM&R program coordinator. Students will meet with the coursemaster at The Rehab Institute during their first week to go over goals, objectives. Upon completion of the rotation, students are required to provide written email feedback regarding the rotation experience.

Fourth year

Electives

SCHOOL OF MEDICINE STUDENTS

M35 827 / NEUROLOGY SUB-INTERNSHIP FOR WASHINGTON UNIVERSITY SCHOOL OF MEDICINE STUDENTS
Instructor(s): Director: Robert Naismith, MD, 314-362-3998
Location: Barnes-Jewish Hospital or St. Louis Children’s Hospital
Elective Contact: Chrissy McIntosh, 362-3998

Other Information: Completion of the WU neurology clerkship is a prerequisite for this elective. WU medical students will not repeat clerkship orientation and student-specific neurology conferences. Students will present to their team at the beginning of day one, and will attend resident-oriented conferences (i.e. Morning Report, Journal Club, Clinical Neuroscience).

Enrollment limit per period: 2
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This four-week elective will be customized to include inpatient and outpatient experiences desired by WU students who have completed the WU Neurology Clerkship. Students may choose this elective to further improve their Neurology knowledge and skills. Students considering Neurology as a career may also desire
The elective is split into two 2-week rotations which may include:

1. Adult Inpatient General Service (with 1 clinic/week)
2. Adult Inpatient Stroke Service (with 1 clinic/week)
3. Adult Inpatient Consult Service (with 1 clinic/week)
4. Pediatric Neurology Consult Service (with 1 clinic/week)
5. Adult Neurology ICU (with 1 clinic/week)
6. Outpatient Clinics (with 8-10 clinics/week)

Student time distribution: Consult Service: Inpatient 90%, Outpatient 10%; Inpatient Service: Inpatient 90%, Outpatient 10%; Inpatient 90-50% (with 2 clinic/week); Outpatient 10-50% (with 2 clinic/week)

Major teaching responsibility: Consult Service: Single attending and resident; Inpatient Service: Single attending, chief resident, junior resident

Patients seen/weekly: Consult Service: 10-12; Inpatient Service: 8-12

On call/weekend responsibility: Consult Service: No call. Work one day per weekend; Inpatient Service: Every 4th night

M35 828 / NEUROLOGY SUB-INTERNSHIP FOR VISITING US MEDICAL STUDENTS
Instructor(s): Robert Naismith, MD, 314-362-3998
Location: Barnes-Jewish Hospital
Elective Contact: Christy McIntosh, 314-362-3998
Other Information: Visiting students will attend Orientation on the first day of the elective, in addition to Neurology Clerkship student conferences.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This four-week elective for fourth-year visiting students from a US medical school provides the option (space permitting) of four weeks of Adult Inpatient Service (Stroke
for 2 weeks, General Neurology for 2 weeks), or two weeks on an Adult Inpatient Service and two weeks on the Adult Consult Service.

Students on the inpatient service will function as a Sub-Intern under the supervision of their junior resident, chief resident, and attending physician. The student will also attend weekly clinical conferences and a weekly outpatient clinic experience. This elective is suitable for visiting fourth-year students interested in Neurology, who wish to improve their Neurology knowledge and skills.

Student time distribution: Consult Service: Inpatient 90%, Outpatient 10%; Inpatient Service: Inpatient 90%, Outpatient 10%
Major teaching responsibility: Consult Service: Single attending and resident; Inpatient Service: Single attending, chief resident, junior resident
Patients seen/weekly: Consult Service: 10-12; Inpatient Service: 8-12
On call/weekend responsibility: Consult Service: No call. Work one day per weekend; Inpatient Service: Every 4th night

**M35 830 / NEURO-ONCOLOGY**
Instructor(s): David H. Gutmann, MD, PhD, 362-7379
Location: Suite C, 6th Floor CAM Building
Elective Contact: David H. Gutmann, MD, PhD, gutmannd@neuro.wustl.edu, Kristi Bullock, 362-7379
Other Information: Students should email Dr. Gutmann at least one week prior to the start date of elective.
Enrollment limit per period: 1
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Provide an outpatient-oriented combined pediatric and adult neuro-oncology experience for 4th year medical students. (1) Attend multidisciplinary adult and pediatric neuro-oncology clinics and case conferences (tumor boards); (2) Attend adult and pediatric radiation oncology clinics; (3) Attend neuropathology brain tumor review; (4) Participate in subspecialty brain tumor clinics; (5) Attend monthly brain tumor research conferences.
Student time distribution: Outpatient 90%, Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Team teaching in clinic
Patients seen/weekly: 50 patients
On call/weekend responsibility: None

M35 851 / CLINICAL ASPECTS OF AGING AND DEMENTIA
Instructor(s): Joy Snider, MD, PhD, and John C. Morris, MD
Location: Knight Alzheimer’s Disease Research Center (ADRC), 4488 Forest Park Ave. (two-story brick building at intersection with Taylor)
Elective Contact: Jennifer Phillips, MPA (coordinator), 314-286-2882, phillipsj@wustl.edu
Other Information: Please contact Jennifer Phillips to discuss what type of elective experience you would like to have.
Enrollment limit per period: 1
Valid start weeks for 4-week blocks are: Weeks 9, 13, 17, 21, 33, 37 and 41.

This elective provides the opportunity to learn about clinical research and clinical care in health brain aging and dementia. Students should contact Dr. Morris or Dr. Snider to discuss this, as this elective is customized based on student interests. This can be a two-week or four-week elective. Students can gain proficiency in interviewing techniques and in the neurologic examination of the geriatric patient, and be introduced to neuropsychology, neuropathology, biomarkers, neuroimaging, genetics, and other biomedical procedures important in the diagnostic evaluation of older adults. The Knight ADRC is an interdisciplinary group, so students have the opportunity to interact with physicians, nurse clinicians, psychologists, and social workers, and to explore the neuropsychology, neuropathology, biomarkers, neuroimaging, genetics, and other biomedical procedures used in the diagnosis of dementing disorders such as Alzheimer’s disease, dementia with Lewy bodies, frontotemporal dementias, cerebrovascular disorders, and affective disorders.

Student time distribution: Varies based on student interest: a typical distribution would be Research and Clinical Patient Evaluation 80%, Conferences/Lectures 20%,
Subspecialty Care 100%

Major teaching responsibility: Attending neurologists, psychiatrists, and geriatricians involved in the evaluation of memory and aging

Patients seen/weekly: 6-12

On call/weekend responsibility: None

**M35 859 / NEONATAL NEUROLOGY**

Instructor(s): Chris Smyser, MD, 314-454-6120, smyserc@neuro.wustl.edu

Location: 1260 Northwest Tower

Elective Contact: Chris Smyser, MD, 314-454-6120, smyserc@neuro.wustl.edu

Other Information: Meet at St. Louis Children's Hospital NICU, West Library, 8:30 a.m. first day of the elective.

Enrollment limit per period: 1

Valid start weeks for two-week blocks are: Weeks 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, and 43.

The Neonatal Neurology elective will consist of a combination of inpatient and outpatient experiences designed to provide medical students with comprehensive exposure to the field. Through the rotation, students will actively participate in all aspects of patient care, acquiring the knowledge and skill necessary to effectively manage infants with neurological disorders, including encephalopathy, stroke, seizures, hypotonia, intraventricular hemorrhage, and periventricular leukomalacia, among others. Clinical activities will be tailored to fit the interests and goals of the individual student and include a combination of inpatient and outpatient exposures. Inpatient activities will occur in the St. Louis Children's Hospital Neonatal Intensive Unit as part of the Neonatal Neurology Consultation service. Outpatient activities will occur in the St. Louis Children's Hospital Outpatient Clinics. Students will also attend educational conferences specific to the field during the rotation, including Neonatal Neurology Clinical Conference and Neonatal Neuroradiology Conference.

Student time distribution: Inpatient 60%; Outpatient 30%; Conferences/Lectures 10%; Subspecialty Care 100%

Major teaching responsibility: Pediatric Neurology faculty attending on consult service
and in outpatient clinics
Patients seen/weekly: 25-30
On call/weekend responsibility: None

M35 860 / PEDIATRIC NEUROLOGY
Instructor(s): Douglas Larsen, MD, MEd, 314-454-6042
Location: 12th Floor, Suite 1260 Northwest Tower
Elective Contact: Christy McIntosh, 314-362-3998
Other Information: Students report to Dr. Larsen on the 12th floor, Suite 1260
Northwest Tower, 8:00 a.m. first day of elective for orientation.
Enrollment limit per period: 1 (Inpatient); 1 (Consultation Office Service)
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The senior elective experience in child neurology is designed to adapt to the individual goals and objectives of students. The elective takes place in two 2-week blocks that occur among five possible venues as chosen by the student: (1) Outpatient clinics, (2) In-patient ward service, (3) In-patient general consult service, (4) NICU consult service, and (5) Video EEG (VEEG) monitoring service. The combination of services and experiences will be arranged directly between the student and the Course Master prior to beginning the rotation. In the outpatient clinics, students will rotate between a variety of subspecialty clinics and work with a variety of attendings in order to experience the breadth of outpatient pediatric neurology. Students rotating on the inpatient ward service will have a different role than the third-year student on pediatrics. The fourth-year student will focus solely on neurology patients and work closely with the pediatric neurology resident to develop neurology-specific care plans. No call or weekend duties will be expected on this rotation. On the general consult services, students will work with the consult attending and pediatric neurology residents on that team to see consults in the PICU, CICU, ER, and other hospital floors. The NICU consult team focuses on infants in the NICU. Student rotating on the VEEG monitoring service will focus on learning the indications and uses of VEEG and basic EEG reading skills. All students choosing a pediatric neurology elective will arrange
their specific schedule with the Course Master beforehand.

Student time distribution: Inpatient rotation 80%; Outpatient rotation 80%; Conferences/Lectures 20%; Subspecialty Care 100%
Major teaching responsibility: Inpatient: Single attending and senior resident; Outpatient: Multiple attendings
Patients seen/weekly: Inpatient: 5-9; Outpatient: 20-25
On call/weekend responsibility: None

**M35 861 / NEUROLOGY/NEUROSURGERY ICU**
Instructor(s): Raj Dhar, MD, 314-362-2999
Location: 10400B Barnes-Jewish Hospital
Elective Contact: Liz Vansickle, 314-362-2999
Other Information: Students report to 10400 ICU, 7:30 a.m. first day of elective.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The student will be integrated into the Critical Care Team that provides care in the Neurology/Neurosurgery ICU. Diseases frequently encountered include intracerebral hemorrhage, head trauma, subarachnoid hemorrhage, and stroke. The student will follow patients, participate in rounds and perform some procedures under supervision. Didactic sessions will be provided as conferences or lectures from the ICU attending.

Student time distribution: Inpatient 80%; Conferences/Lectures 20%; Subspecialty Care 100%
Major teaching responsibility: Fellows and residents
Patients seen/weekly: 25
On call/weekend responsibility: Variable

**M35 865 / ADULT AND PEDIATRIC EPILEPSY**
Instructor(s): Edward Hogan, MD, 314-362-3944
Students will learn how epileptologists diagnose and manage epilepsy in adults and children. They will learn how to use the history and physical exam and laboratory studies such as EEG, MRI, PET, and SPECT to diagnose and manage patients with new onset epilepsy, established epilepsy, and medically intractable epilepsy. They will become familiar with the medical management of epilepsy as well as the treatment options for medically intractable epilepsy including surgery, the vagus nerve stimulator, and the ketogenic diet. They will also learn how to manage the co-morbid conditions that accompany epilepsy such as depression, behavioral problems, cognitive impairment, sleep disturbance, and non-epileptic events. Students will accomplish these goals by attending epilepsy clinics and rounding on the inpatient epilepsy service with the epilepsy team at Barnes-Jewish Hospital and St. Louis Children’s Hospital. They will attend the Adult Epilepsy Conference, the Pediatric Epilepsy Conference, and Neurology Grand Rounds. Students will also have the opportunity to observe epilepsy surgery if they wish. They will have the option to present one 15-30 minute talk on a topic relevant to epilepsy.

Student time distribution: Inpatient 70%; Outpatient 10%; Conferences/Lectures 20%; Subspecialty Care 100%
Major teaching responsibility: Attending faculty, fellows
Patients seen/weekly: 40
On call/weekend responsibility: None
Other Information: Contact Dr. Parks by email to arrange time and location to report on first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 5, 13, 17, 21, 25, 29, 33, 37, and 41.

Students will have the opportunity to interview and examine patients with multiple sclerosis or related neuroimmunological disorders. They will become familiar with the differential diagnosis of MS, appropriate laboratory evaluation and common MRI findings in MS. This elective will also familiarize students with the disease-modifying therapies used to treat MS. They will gain practical knowledge about evaluation and treatment of spasticity, neurogenic bladder, fatigue and other common symptoms.

Third-year medical students rotating as part of a core rotation will attend the required conferences for third-year students. Students choosing this elective to gain additional experience in the field of Neurology will attend Neurology Grand Rounds on Friday morning. Students may also attend our MS Journal Club and the MS Patient Care conference held on the first and third Thursdays of every month, respectively.

Student time distribution: Inpatient 0%; Outpatient 90%; Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Becky Parks, MD
Patients seen/weekly: 30+
On call/weekend responsibility: None

**M35 872 / MS CENTER/OUTPATIENT – MISSOURI BAPTIST**

Instructor(s): Barry Singer, MD, 314-996-7966
Location: Missouri Baptist Medical Center, 3009 N. Ballas Rd, Building B, Ste. 207B, St. Louis, MO 63131
Elective Contact: Barry Singer, MD, 314-996-7966
Other Information: Students meet at 8:00 a.m., Missouri Baptist Medical Center, 3009 N. Ballas Rd, Building B, Ste. 207B, St. Louis, MO 63131, first day of elective.
Enrollment limit per period: 2
Valid start weeks for 4-week blocks are: Weeks 5 and 9.
Students will develop their skills in taking histories and performing neurological examinations on patients with multiple sclerosis under direct supervision of multiple sclerosis specialists. Localization of neurological findings and symptoms to the neuro-axis will be emphasized. A major goal for the students will be to increase the understanding of comprehensive patient management including disease treatment, symptom management, adjunctive therapy services, and psychosocial issues.

The outpatient rotation will be four weeks at The MS Center for Innovations in Care at Missouri Baptist Medical Center with Dr. Barry Singer and Dr. Mark Tullman. An additional goal for students will be to understand process of clinical research and translation into approved therapies. The center has been a leader in clinical trial development of therapeutics that have been or will soon be FDA-approved as new medications for multiple sclerosis.

Student time distribution: Outpatient 100%; Subspecialty Care 100%
Major teaching responsibility: Barry Singer, MD, Mark Tullman, MD
Patients seen/weekly: 20
On call/weekend responsibility: None

M80 807 / PHYSICAL MEDICINE AND REHABILITATION
Instructor(s): Neringa Juknis, MD, 314-454-7757, juknisn@neuro.wustl.edu
Location: Suite 2304, Rehabilitation Division, Neurology Department, 4444 Forest Park
Elective Contact: Donna Barbier, 314-454-7757, barbierd@neuro.wustl.edu
Other Information: Students report to Suite 2304, Rehabilitation Division, Neurology Department, 4444 Forest Park, 9:00 a.m. first day of elective.
Rotation location: The Rehabilitation Institute of St. Louis, 4455 Duncan Ave.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The elective is designed to provide the student with a broad introduction to the field of Physical Medicine and Rehabilitation. Major objective of this clinical elective is to achieve greater knowledge of the neurological and musculoskeletal diseases and their
treatment, and gain understanding of basic principles of rehabilitation. The student will learn the clinical and rehabilitative care of patients with strokes, traumatic brain injury, spinal cord trauma and diseases, and limb amputations. Student will gain clinical skills in evaluating in management of functional impairments. Students will be expected to participate in daily rounds on inpatient rehabilitation units with the clinical care team, follow 3-5 patients, attend multidisciplinary team conferences and family meetings, attend outpatient rehabilitation clinics in spinal cord, stroke, traumatic brain injury, and amputee. Teaching and supervision is provided by the physiatry and neurology faculty of the Division of Rehabilitation. Rehabilitation and neurology residents are involved in student teaching as well. Students are required to participate in didactic teaching conferences within the PM&R residency.

This rotation is particularly useful for students considering careers in rehabilitation, neurology, geriatrics, primary care, neurosurgery, or any other field that will require experience in the evaluation and management of patients with physical impairment and disabilities.

Student time distribution: Inpatient 80%; Outpatient 10%; Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attending faculty and residents
Patients seen/weekly: 20
On call/weekend responsibility: None

Research — Neurology

NEUROLOGY RESEARCH OPPORTUNITIES (M35 900)

Beau Ances, MD
Neuroimaging of Neurodegenerative Disorders. Students can work in a neuroimaging laboratory that is focused on translational discovery of neuroimaging biomarkers for neurodegenerative diseases. The laboratory focuses on the pathogenesis of HIV dementia and Alzheimer's disease. We are investigating the effects of neurodegenerative diseases on brain networks using blood oxygen level dependent imaging and arterial spin labeling. Multiple projects that involve bioengineering, neuroimaging, and infectious disease are available depending on the interest of the student.

Randall Bateman, MD
304 Biotechnology Center
314-747-7066

Central Nervous System protein metabolism in aging and dementia. This research elective will expose the student to translational research in the study of Alzheimer's disease. The student will participate in multiple areas of the research including participant consent, enrollment, and admission to a research hospital unit. Lumbar catheter placement and CSF sample collection will be demonstrated. The student will participate in sample analysis including processing for mass spectrometry quantitation, ELISA, and western gel methods. Quantitation, analysis and modeling of the data will be taught in the context of data interpretation and study design.

Maurizio Corbetta, MD
4525 East Building, Room 2127
314-362-7620

Website: www.nil.wustl.edu/labs/corbetta

The elective will provide the opportunity to learn about neuroimaging (Structural MRI, functional MRI, Diffusion MRI, Functional Connectivity MRI), behavior methods (reaction times; psychophysics; eye movement recordings), and their application to cognitive neuroscience, and investigations of brain injury (stroke, TBI) and recovery of function. A 3-month project will involve typically a well-defined data analysis project on
available data either neuroimaging or behavioral, while a longer rotation may provide the opportunity for a more substantial project that can lay the foundation for a training or fellowship. Experience in programming (C++, Matlab) is desirable for neuroimaging projects.

Anne H. Cross, MD, and Laura Piccio, MD, PhD
3rd Floor, McMillan
314-747-4591 or 314-747-0405
Understanding interactions of the immune system with the central nervous system as it relates to multiple sclerosis and other neuroimmunological disorders. Our goal is to understand how immune cells cross the blood-brain barrier and initiate the cascade of events leading to lesions of multiple sclerosis. We are also funded to study the effects of diet and adipokines on neuro-inflammation. Depending upon the time commitment of the student and their individual interests and goals, they will either assist with ongoing projects, or be given a laboratory project on which to work. Projects may involve animal models for MS, cell culture or studies of human samples (CSF, blood, autopsied specimens).
Interested students should contact Dr. Cross (crossa@neuro.wustl.edu) or Dr. Piccio (picciol@neuro.wustl.edu) several weeks in advance before signing up for this research to allow for sufficient planning.

Robert T. Naismith, MD
310B McMillan
314-747-0432
Clinical Imaging Research in Multiple Sclerosis (8 weeks). The student will learn about neuroimaging, imaging analyses, data collection, data management, and clinical study endpoints in multiple sclerosis (MS). They will observe patient participants undergoing a detailed evaluation of disability measures, such as ambulation, symptom scales, cognition, vision, upper extremity function, etc. They will witness the entire process of image acquisition, processing, analyses, and data extraction. They will have the opportunity to interact with many people who are vital to the research, including research coordinators, imaging technologists, imaging physicists/chemists, and
specialized research clinicians (i.e. neurocognitive and physical therapy research specialists).

The student will assist with hands-on clinical investigative research. They will gain an excellent appreciation of MS, from its pathophysiology within the central nervous system, to how it affects the neurological function of individuals. Through detailed and quantitative imaging analysis, the student will become very adept at analyzing brain MRI scans. They will mark and track lesions, determine their effects on clinical function, normal appearing white matter, cortex and gray-matter structures. They will become familiar with Amira Imaging Analysis Software, SPSS Statistical Analysis Software, SIENA Volume Analysis Software, and Matlab Imaging Analysis Software.

Steven E. Petersen, PhD
2108 East Building
314-362-3319
This lab is interested in brain organization and function, particularly for language, attention, and memory. Our main approaches to these issues are through functional MRI and large-scale network analysis.

Joel S. Perlmutter, MD
2nd Floor East Building
314-362-6026
Pathophysiology of Movement Disorders. The lab is primarily interested in etiology, pathophysiology and treatment of basal ganglia disorders. We have several studies of PD. We investigate mechanisms of action of deep brain stimulation, a dramatic new treatment. These studies combine PET, cognitive testing and quantified measures of movement. We also test new drugs that might rescue injured nigrostriatal neurons (a model of PD). For these, we use PET to measure dopamine pathways and also quantify motor behavior. We also have an active program developing and validation neuroimaging biomarkers for PD and integrity of the nigrostriatal pathway that includes studies in people and animal models of PD. We have an active program combining a variety of approaches to develop biomarkers and investigate the pathophysiology of dementia associated with PD. We use PET to measure radioligand
binding and sensorimotor processing in dystonia. We developed a new animal model of dystonia to investigate pharmacologic and physiologic changes. We use PET to investigate drug-mediated pathways in the brain and parse out the effects of selective dopaminergic agonists. We also are working to develop MR-based methods including DTI and resting state functional connectivity to investigate brain mechanisms underlying PD and dystonia.

Brad A. Racette, MD
9th Floor, McMillan
314-362-5291
Our lab is primarily interested in environmental risk factors associated with Parkinson disease. We use a variety of techniques to study these risk factors, including traditional field epidemiology in which we evaluate workers exposed to metals in the US and residents living near a smelter in South Africa, neuroimaging where we study the pathophysiology of toxin mediated parkinsonism, geographic information systems research where we associate environmental toxin exposures with incident and prevalent Parkinson disease in the US and Finland, and neuropathologic studies in manganese exposed workers from South Africa. There are numerous opportunities available for students to be involved with any of these projects. Students will have some clinical exposure, as well, to familiarize them with pertinent clinical syndrome.

Marcus E. Raichle, MD
Neuro Imaging Laboratory – 2nd Floor, East Building
314-362-6907
In vivo brain hemodynamic, metabolic and functional studies of human cognition and emotion using cyclotron-produced isotopes and emission tomography (PET) as well as functional magnetic resonance imaging (fMRI) in humans. See also Steven E. Petersen, PhD.

Gregory Wu, MD, PhD
3rd Floor, McMillan
314-362-3293
Understanding how immune responses are generated that target the central nervous
system. Specifically, studies on antigen presentation cell contributions to autoimmune animal models of multiple sclerosis. Our goal is to understand what cellular interactions are critical to the development of immune-mediated demyelination.

## Faculty — Neurology

**David Michael Holtzman, MD**
Andrew B. and Gretchen P. Jones Professor of Neurology (primary appointment)
Head of the Department of Neurology
Professor of Developmental Biology
MD Northwestern University 1985
BS Northwestern University 1983

**Aninda Bhat Acharya, MD**
Instructor in Clinical Neurology (primary appointment)
MD1 University of Kansas 1996
BS University of Kansas 1992
MD University of Kansas 1996

**Muhammad Taher Al-Lozi, MD**
Professor of Neurology (primary appointment)
MD University of Panjab 1980

**Amber Salter Albright, PHD, M PH**
Assistant Professor of Biostatistics (primary appointment)
Assistant Professor of Neurology
PhD University of Alabama-Birmingham 2015
M PH University of North Texas Heal 2005

**Denis Ian Altman, MBBCH**
Associate Professor of Clinical Neurology (primary appointment)
Assistant Professor of Clinical Pediatrics
MBBCH University of the Witwatersranda 1975

**Lizette Alvarez-Montero, MD**
Instructor in Clinical Neurology (primary appointment)
MD School Not Listed 1991
BA Washington Univ in St. Louis 1987

**Beau Mark Ances, MS, PHD, MD**
Associate Professor of Neurology (primary appointment)
Associate Professor of Biomedical Engineering
Associate Professor of Radiology
MS London School of Economics 1994
BS University of Pennsylvania 1993
PHD University of Pennsylvania 2000
MD University of Pennsylvania 2001

**Gabriel C Araujo**
Instructor in Clinical Neurology (primary appointment)

**Sylvia Awadalla, MD**
Professor of Neurology (primary appointment)
MD Ohio State University 1985
Robert H Baloh, MD, PHD
Adjunct Assistant Professor of Neurology (primary appointment)
MD Washington Univ in St. Louis 2001
BS Brown University 1995
PHD Washington Univ in St. Louis 2005
MD1 Washington Univ in St. Louis 2001

Randall John Bateman, MD
Professor of Neurology (primary appointment)
Charles F and Joanne Knight Distinguished Professor of Neurology
BS1 Washington Univ in St. Louis 1995
MD Case Western Reserve Univ 2000
BS Washington Univ in St. Louis 1995

M. Carolyn Baum, MA, PHD
Professor of Occupational Therapy (primary appointment)
Professor of Neurology (Occupational Therapy)
Elias Michael Executive Director of the Program in Occupational Therapy
BS University of Kansas 1966
MA Webster University 1979
PHD Washington Univ in St. Louis 1993

Max Prely Benzaquen
Instructor in Clinical Neurology (primary appointment)

Christine R. Berg, MS, BSOT, PHD
Associate Professor of Occupational Therapy (primary appointment)

Mary Ellen Bertrand, MD
Associate Professor of Neurology (primary appointment)
Associate Professor of Pediatrics
BS McKendree College 1987
MD Southern Illinois University 1993

Alan J Birtwistle
Assistant Professor of Clinical Neurology (primary appointment)

Joseph T Black, MD
Professor of Clinical Neurology (primary appointment)
MD School Not Listed 1965
BA University of Rochester 1961

Lynn Bennett Blackburn, MA, PHD
Assistant Professor of Clinical Neurology (primary appointment)
MA Indiana University Bloomington 1970
BS Univ of Wisconsin Madison 1968
PHD Indiana University Bloomington 1972

Marghuretta Dakota Bland, MS
Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Neurology
Assistant Professor of Occupational Therapy
MS Washington Univ in St. Louis 2008
BS Canisius College 2004

James Scott Bonner, MD
Instructor in Clinical Neurology (primary appointment)
MD University of Missouri 1980
BA Drury College 1976

David L Brody, MD, PHD
Professor of Neurology (primary appointment)
Associate Professor of Biomedical Engineering (Courtesy)
BA Stanford University 1992
MD Johns Hopkins University 2000
Janice E Brunstrom-Hernandez
Adjunct Associate Professor of Neurology (primary appointment)

Robert Charles Bucelli, PHD, MD
Assistant Professor of Neurology (primary appointment)

PHD Johns Hopkins University 2000
Janice E Brunstrom-Hernandez
Adjunct Associate Professor of Neurology (primary appointment)
Robert Charles Bucelli, PHD, MD
Assistant Professor of Neurology (primary appointment)
PHD State Univ of NY Buffalo 2007
BS Canisius College 2001
MD State Univ of NY Buffalo 2007

Virginia D Buckles, PHD, MS
Professor of Neurology (primary appointment)
PHD Univ of Wisconsin Madison 1981
BS California St Poly Pomona 1974
MS California St Poly Pomona 1977

Michelle A. Burack, PHD, MD
Adjunct Instructor in Neurology (primary appointment)
PHD University of Virginia 2000
MD Washington Univ in St. Louis 2002
BS Duke University 1990

Garrett C Burris, MD
Associate Professor of Clinical Neurology (primary appointment)
Associate Professor of Clinical Pediatrics
BS School Not Listed 1964
MD Saint Louis University 1968

Nigel John Cairns, PHD
Professor of Neurology (primary appointment)
Professor of Pathology and Immunology
PHD University of London 1995
David J Callahan
Assistant Professor of Clinical Neurology (primary appointment)
Assistant in Clinical Pediatrics

Alejandra Camacho-Soto
Instructor in Neurology (Pending Dean's Approval) (primary appointment)
BA Georgetown University 2005

Meghan Clark Campbell
Assistant Professor of Neurology (primary appointment)
Assistant Professor of Radiology
BS University of Illinois 1999

Russell C. Cantrell, MD
Instructor in Clinical Neurology (primary appointment)
BS School Not Listed 1985
MD University of Tennessee 1989

David A Carpenter, MD
Professor of Neurology (primary appointment)
BS Amherst College 1979
MD Washington Univ in St. Louis 1983

Alexandre Carter, PHD, MD
Assistant Professor of Neurology (primary appointment)
Assistant Professor of Occupational Therapy
PHD Harvard University 2003
MD Harvard University 2003

Yasheng Chen, PHD
Assistant Professor of Neurology (primary appointment)
BA Tianjin University 1993
PHD Washington Univ in St. Louis 2002

Milan G Chheda, MD
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Neurology
MD Albert Einstein College of Med 2002

Luqi Chi, MD
Associate Professor of Neurology (primary appointment)
MD Huabei Medical College for Coa 1984

John R. Cirrito, PHD
Associate Professor of Neurology (primary appointment)
Billie Ruth Clark, PHD
Professor of Physical Therapy (primary appointment)
Professor of Neurology
BS Saint Louis University 1974
PHD Saint Louis University 1988
David B Clifford
Melba and Forest Seay Professor of Clinical Neuropharmacology in Neurology
(primary appointment)
Professor of Medicine
Berdale S. Colorado, MS, DOST
Assistant Professor of Orthopaedic Surgery (primary appointment)
Assistant Professor of Neurology
MS Des Moines University 2009
DOST Des Moines University 2009
BS University of Iowa 2004
Anne Maureen Connolly, MD
Professor of Neurology (primary appointment)
Professor of Pediatrics
MD Indiana University Bloomington 1984
BS Saint Mary's College 1980
Maurizio Corbetta, MD
Norman J. Stupp Professor of Neurology (primary appointment)
Professor of Radiology
Associate Professor of Psychological & Brain Sciences
Professor of Neuroscience
MD University of Pavia 1985
Susan R Criswell
Associate Professor of Neurology (primary appointment)
Dorothy Anne Cross, MD
Professor of Neurology (primary appointment)
MD University of Alabama 1980
Beth Elaine Crowner, MS, DPT, BS PT, M PP
Associate Professor of Physical Therapy (primary appointment)
Division Director of Clinical Practice in Physical Therapy
Associate Professor of Neurology
MS Washington University in St. Louis 1989
DPT Washington University in St. Louis 2007
BS PT Washington University in St. Louis 1989
M PP University of Missouri St Louis 1997
Carlos Cruchaga
Associate Professor of Psychiatry (primary appointment)
Associate Professor of Neurology
Nicole Cruz
Instructor in Clinical Neurology (primary appointment)
David Rex Curfman, MD
Instructor in Clinical Neurology (primary appointment)
BS Purdue University 2007
MD Case Western Reserve University 2011
Jeanenne M Dallas
Instructor in Occupational Therapy (primary appointment)
Instructor in Neurology
BS University of Central Arkansas 1979
Rachel S Darken, MD, PHD
Associate Professor of Neurology (primary appointment)
MD Cornell University 2004
PHD Cornell University 2003
BA University of Texas Austin 1996
Jessica L Dashner, MS
Instructor in Occupational Therapy (primary appointment)
Instructor in Neurology
BS McKendree College 2000
MS Washington Univ in St. Louis 2002
Albert Augustus Davis, PHD, MD Instructor in Neurology (primary appointment)
BS Emory University 2002
PHD Emory University 2009
MD Vanderbilt University 2011
Brian Keith Day, MD, PHD Assistant Professor of Neurology (primary appointment)
MD University of Kentucky 2007
PHD University of Kentucky 2005
BS Harvard University 1997
Gregory Scott Day, MS, MD Instructor in Neurology (primary appointment)
MS Queen's University 2006
MD Queen's University 2009
BS Queen's University 2003
Gabriela De Bruin Assistant Professor of Neurology (primary appointment)

Andrea Denny Instructor in Neurology (Pending Dean's Approval) (primary appointment)
Amar Dhand, PHD, MD Adjunct Assistant Professor of Neurology (primary appointment)
BS Dartmouth College 2001
PHD Oxford University 2006
MD Harvard University 2008
Rajat Dhar Associate Professor of Neurology (primary appointment)
Marc I Diamond, MD Adjunct Professor of Neurology (primary appointment)
MD University of San Francisco 1993
Michael N Diringer, MA, MD Professor of Neurology (primary appointment)
Professor of Anesthesiology
Professor of Occupational Therapy
Professor of Neurological Surgery
MA University of Louisville 1978
MD University of Kentucky 1982
Jonathan Noel Dodd Instructor in Clinical Neurology (primary appointment)
Joseph M Dooley Jr, MD Associate Professor of Clinical Neurology (primary appointment)
BS Saint Louis University 1954
MD Saint Louis University 1958
Nico U. Dosenbach, MD, PHD Assistant Professor of Neurology (primary appointment)
Assistant Professor of Pediatrics
Assistant Professor of Occupational Therapy
BS Columbia University 2000
MD Washington Univ in St. Louis 2008
PHD Washington Univ in St. Louis 2008
Alexander W Dromerick, MD Adjunct Associate Professor of Neurology (primary appointment)
Adjunct Associate Professor of Occupational Therapy
Adjunct Associate Professor of Physical Therapy
BA University of Virginia 1980
MD University of Maryland 1986
Ryan Patrick Duncan, DPT, MS Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Neurology
DPT Washington Univ in St. Louis 2012
BS Maryville University 2007
MS Maryville University 2008
Gammon Marie Earhart, MS, PHD Professor of Physical Therapy (primary appointment)
Professor of Neuroscience
Professor of Neurology
Associate Director of Movement Science PhD Program in Physical Therapy
Executive Director of the Program in Physical Therapy
MS Beaver College 1996
BS Beaver College 1994
PHD Washington Univ in St. Louis 2000
Dorothy F Edwards, PHD Adjunct Associate Professor of Occupational Therapy
Adjunct Associate Professor of Neurology
PHD Washington Univ in St. Louis 1980
Lawrence N Eisenman, MD, PHD Associate Professor of Neurology (primary appointment)
MD Northwestern University 1997
PHD Northwestern University 1997
Juan Escandon, MD Assistant Professor of Clinical Neurology (primary appointment)
BS School Not Listed 1985
MD School Not Listed 1989
Eugene Evra, MD Instructor in Clinical Neurology (primary appointment)
MD Smolensk State Medical Academy 1996
Julaine Marie Florence, DPT, MS Professor of Neurology (primary appointment)
Professor of Physical Therapy
DPT Washington Univ in St. Louis 2002
MS Washington Univ in St. Louis 1983
BS Washington Univ in St. Louis 1975
Andria L Ford, MD Associate Professor of Neurology (primary appointment)
MD University of Oklahoma 2002
BS Duke University 1998
Bennett David Frank, MD, PHD Instructor in Clinical Neurology (primary appointment)
MD Beaufort Technical College 1988
PHD Beaufort Technical College 1987
BA Washington Univ in St. Louis 1982
Robert P. Fucetola, MA, PHD Professor of Neurology (primary appointment)
Adjunct Professor of Psychological & Brain Sciences
BA Washington Univ in St. Louis 1991
MA Washington Univ in St. Louis 1993
PHD Washington Univ in St. Louis 1997
Rafael Galindo, PHD Assistant Professor of Neurology (primary appointment)
PHD University of New Mexico 2005
BS University of New Mexico 1996
Gilbert Gallardo, MS, PHD Assistant Professor of Neurology (primary appointment)
MS Univ of Texas San Antonio 2002
BS University of Texas El Paso 1999
PHD University of Texas Southwest 2008
Stefanie Geisler, MD Instructor in Neurology (primary appointment)
MD Humboldt University 2001
Nupur Ghoshal, PHD, MD Assistant Professor of Neurology (primary appointment)
James M Goldring, MD, PHD
Instructor in Clinical Neurology (primary appointment)
MD Washington Univ in St. Louis 1986
PHD Washington Univ in St. Louis 1977

Paul T Golumbek, MD, PHD
Assistant Professor of Neurology (primary appointment)
MD Washington Univ in St. Louis 1986
PHD Washington Univ in St. Louis 1977

Royal Gene Grueneich, PHD
Assistant Professor of Clinical Neurology (primary appointment)
PHD University of Minnesota 1979
BA School Not Listed 1973

Rejean Michael Guerriero, MD
Assistant Professor of Neurology (primary appointment)
BS Bates College 2001
MD University of New England 2009

Kristin Guilliams, MD
Assistant Professor of Neurology (primary appointment)
MD University of Virginia 2006
BS Furman University 2002

Christina A. Gurnett, PHD, MD
Associate Professor of Neurology (primary appointment)
Assistant Professor of Orthopaedic Surgery
Assistant Professor of Pediatrics
BS University of Notre Dame 1991
MD University of Iowa 1998

David H Gutmann
Donald O. Schnuck Family Professor of Neurology (primary appointment)
Professor of Genetics
Professor of Neurological Surgery
Professor of Pediatrics

Joseph Hanaway, MD
Assistant Professor of Clinical Neurology (primary appointment)
BA McGill University 1956
MD McGill University 1960

Lisa Adel Harker
Instructor in Clinical Neurology (primary appointment)

Jason J Hassenstab, PHD, MS PSYC
Assistant Professor of Neurology (primary appointment)
Assistant Professor of Psychological & Brain Sciences
PHD Fordham University 2009
MS PSYC Fordham University 2005

J Michael Hatlelid, MD
Associate Professor of Clinical Neurology (primary appointment)
MD Washington Univ in St. Louis 1977
BA St Johns University 1970

Laura Elaina Heitsch
Assistant Professor of Emergency Medicine in Medicine (primary appointment)

Tamara G Hershey
Professor of Psychiatry (primary appointment)
Adjunct Professor of Psychological & Brain Sciences (Courtesy)
Professor of Neurology
Robert Edward Hogan III, MD  Professor of Neurology (primary appointment)
MD University of MO Columbia 1989
Carey Lane Holleran, MS, PHD  Assistant Professor of Physical Therapy (primary appointment)

Assistant Professor of Neurology
MS Duquesne University 2004
BS Duquesne University 2003
PHD University of Indianapolis 2014
Terri L Hosto, BSW, MSW  Instructor in Neurology (primary appointment)
BSW University of Illinois 1981
MSW University of Michigan 1986
Chung Hsu, MD, PHD  Adjunct Professor of Neurology (primary appointment)
MD National Taiwan University 1970
PHD University of Virginia 1975
Theresa Human  Instructor in Clinical Neurology (primary appointment)
Devyan M. Hunt, MD  Associate Professor of Orthopaedic Surgery (primary appointment)

Associate Professor of Neurology
MD University of Texas Houston 2000
BS University of Texas Austin 1995
Linda Ann Hunt  Adjunct Associate Professor of Neurology

Adjunct Associate Professor of Occupational Therapy
Thy N Huskey, MD  Associate Professor of Neurology (primary appointment)
MD Northwestern University Med 1996
BS Northwestern University 1993
Krzysztof L Hyrc, PHD, MS  Assistant Professor of Neurology (primary appointment)
PHD Jagiellonian University 1987
MS Jagiellonian University 1981
Jill Christine Isenberg, MS PSYC  Instructor in Clinical Neurology (primary appointment)
BA Wake Forest University 1998
MS PSYC Wake Forest University 2003
Sindhu Saji Jacob  Assistant Professor of Neurology (primary appointment)
Mark F Jacquin, PHD  Professor of Neurology (primary appointment)
BS Brandeis University 1975
PHD City University of New York 1980
Siddharth Vinod Jain, MD  Assistant Professor of Neurology (primary appointment)

Assistant Professor of Pediatrics
MD D.Y. Patil Medical College 2003
Yo-El S Ju, MD  Assistant Professor of Neurology (primary appointment)
MD Columbia University 2005
BS Harvard University 2001
Neringa Juknis, MD  Associate Professor of Neurology (primary appointment)
BA School Not Listed 1985
MD Kaunas Medical Institute 1989
Richard T. Katz  Professor of Clinical Neurology (primary appointment)
Salah G. Keyrouz  Associate Professor of Neurology (primary appointment)

Associate Professor of Neurological Surgery
Syed Ahmed Khader  Instructor in Clinical Neurology (primary appointment)
BS School Not Listed 1989

**Albert H Kim, MA, PHD, MD**
Assistant Professor of Neurological Surgery (primary appointment)
Assistant Professor of Neurology
Assistant Professor of Developmental Biology
BA Harvard University 1994
MA Washington Univ in St. Louis 1999
PHD New York U. School of Medicine 2002
MD New York U. School of Medicine 2003

**Joong Hee Kim, PHD, MS**
Instructor in Neurology (primary appointment)
Instructor in Radiology
PHD Washington Univ in St. Louis 2006
BS Kangwon National University 1996
PHD1 Washington Univ in St. Louis 2006
MS Kangwon National University 2000

**Kathleen Marie Kniepmann, M PH, DED**
Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Neurology
M PH Harvard University 1981
BA Washington Univ in St. Louis 1974
BS Washington Univ in St. Louis 1974
DED Harvard University 1980

**Paul Thomas Kotzbauer**
Associate Professor of Neurology (primary appointment)
Associate Professor of Developmental Biology

**Geraldine J. Kress, PHD**
Instructor in Neurology (primary appointment)
PHD Washington Univ in St. Louis 2009

**Ashok Kumar, MD**
Assistant Professor of Clinical Neurology (primary appointment)
MD Dow Medical College Karachi 1985

**Terrance T. Kummer, PHD, MD**
Assistant Professor of Neurology (primary appointment)
PHD Washington Univ in St. Louis 2006
MD Washington Univ in St. Louis 2006
BS University of Minnesota 1999

**Adam J. LaBore, MD**
Associate Professor of Orthopaedic Surgery (primary appointment)
Associate Professor of Neurology
MD Loyola University Chicago 1998
BS Louisiana College 1994

**Catherine Eckels Lang, MS, PHD**
Professor of Physical Therapy (primary appointment)
Professor of Neurology
Professor of Occupational Therapy
MS University of Vermont 1997
PHD Washington Univ in St. Louis 2001
BS University of Vermont 1993

**Douglas P. Larsen, MD**
Associate Professor of Neurology (primary appointment)
Associate Professor of Pediatrics
BA Brigham Young University 1999
MD University of Utah 2003

**Jin-Moo Lee, MD**
Professor of Neurology (primary appointment)
Professor of Radiology
MD Cornell University 1993
Walter Lemann III, MD, Associate Professor of Clinical Neurology (primary appointment)
MD Tulane University 1979
BS Yale University 1975

Alison M Leston, MD, PHD, Assistant Professor of Clinical Neurology (primary appointment)
MD Washington Univ in St. Louis 2001
BS University of Illinois 1990
PHD University of Chicago 2000

Mingjie Li, MD, PHD, Assistant Professor of Neurology (primary appointment)
MD Heilongjiang Coll of Trad Med 1983
PHD Kochi Medical School 1989

Amy K Licis, MD, Assistant Professor of Neurology (primary appointment)
MD Washington Univ in St. Louis 2004
BS Rice University 2000

Jane Loitman, MS, MD, Assistant Professor of Clinical Neurology (primary appointment)
Instructor in Clinical Medicine
MS Georgetown University 1988
MD University of Minnesota 1992
BA Tufts University 1982

Glenn Lopate, MD, Professor of Neurology (primary appointment)
BS Colorado St University 1983
MD Ohio State University 1987

Brendan Patrick Lucey, MD, Assistant Professor of Neurology (primary appointment)
BA University of Vermont 1999
MD John Hopkins University 2003

Shannon L. Macauley-Rambach, PHD, Assistant Professor of Neurology (primary appointment)
PHD Washington Univ in St. Louis 2009
BS Middlebury College 1999

Luigi Maccotta, MD, PHD, Assistant Professor of Neurology (primary appointment)
BS St Peters College 1994
MD Washington Univ in St. Louis 2005
PHD Washington Univ in St. Louis 2005

Baijayanta Maiti, Instructor in Neurology (Pending Dean's Approval) (primary appointment)

John F Mantovani, MD, Associate Professor of Clinical Neurology (primary appointment)
Assistant Professor of Clinical Pediatrics
BA University of Evansville 1971
MD University of Missouri 1974

Soe S Mar, Associate Professor of Neurology (primary appointment)

Associate Professor of Pediatrics

Robert P Margolis, MD, Assistant Professor of Clinical Neurology (primary appointment)
MD Saint Louis University 1975
BA Kent St University 1971

Pietro Mazzoni, PHD, MD, Associate Professor of Neurology (primary appointment)
PHD Mass Inst of Technology (MIT) 1994
BS University of CA San Diego 1988
MD Harvard University 1995

Eric Martin McCade, DOST, Assistant Professor of Neurology (primary appointment)
BA Canisius College 1998
DOST Chicago Coll of OsteopathicMed 2004
Bryan Edward McGill, MD
Instructor in Neurology (primary appointment)
Instructor in Pediatrics
MD Baylor University 2008
BS Denison University 1999

Marie Elizabeth McNeely, PHD
Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Neurology
BS Ohio Wesleyan University 2008
PHD Washington Univ in St. Louis 2012

John P Metzler
Associate Professor of Orthopaedic Surgery (primary appointment)
Associate Professor of Neurology
BS Texas A&M University 1991

Gretchen Ann Meyer, PHD, MS
Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Neurology
Assistant Professor of Orthopaedic Surgery
PHD University of CA San Diego 2011
BS Washington Univ in St. Louis 2004
MS Washington Univ in St. Louis 2004

Francis M Miezin, MS
Associate Professor of Neurology (primary appointment)
Associate in Psychology
Associate Professor of Radiology
MS Univ of Wisconsin Madison 1972
BS Univ of Wisconsin Madison 1969

Jeffrey D Milbrandt, PHD, MD
James S McDonnell Professor of Genetics (primary appointment)
Professor of Medicine
Professor of Neurology
Professor of Pathology and Immunology
Head of the Department of Genetics
PHD University of Virginia 1983
MD Washington Univ in St. Louis 1978
BS Univ of Nebraska at Kearney 1974

Timothy M Miller
Clayson Professor of Neurology (primary appointment)

Kerri A Morgan, PHD, MS
Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Neurology
PHD Washington Univ in St. Louis 2015
MS Washington Univ in St. Louis 1998
BA Texas Christian University 1996

John Carl Morris, MD
Harvey A and Dorismae Hacker Friedman Distinguished Professor of Neurology (primary appointment)
Professor of Physical Therapy
Professor of Pathology and Immunology
Professor of Occupational Therapy
MD University of Rochester 1974
BA Ohio Wesleyan University 1970

Stephanie Morris, MD
Instructor in Neurology (primary appointment)
MD University of Phoenix 2011
BS University of Arizona 2007

Michael Justin Morrissey, PHD
Instructor in Clinical Neurology (primary appointment)
PHD Saint Louis University 2005
Krista L Moulder, PHD
Associate Professor of Neurology (primary appointment)
PHD Washington Univ in St. Louis 2001

Erik S Musiek, MD, PHD PMCG
Assistant Professor of Neurology (primary appointment)
MD Vanderbilt University 2007
PHD PMCG Vanderbilt University 2005
BS College of William and Mary 1999

Robert T Naismith II, MD
Associate Professor of Neurology (primary appointment)
MD Case Western Reserve Univ 1998

Susan Searles Nielsen, MA, PHD
Assistant Professor of Neurology (primary appointment)
MA University of Washington 2000
PHD University of Washington 2004

Anne Fagan Niven, PHD
Professor of Neurology (primary appointment)
BA Wellesley College 1984
PHD University of CA San Diego 1992

Michael Justin Noetzel, MD
Professor of Neurology (primary appointment)
Professor of Pediatrics
Vice Chair of Pediatric and Developmental Neurology
BA Yale University 1973
MD University of Virginia 1977

Scott Norris, MD
Assistant Professor of Neurology (primary appointment)
BA Washington Univ in St. Louis 2000
MD University of MO Columbia 2008

Barbara Jean Norton, MHS
Professor of Physical Therapy (primary appointment)
Associate Director for Education Technology in Physical Therapy
Professor of Neurology
MHS Washington Univ in St. Louis 1985

Sheel Jitendra Pathak
Instructor in Clinical Neurology (primary appointment)

Robert Harris Paul, PHD, MS
Adjunct Assistant Professor of Neurology (primary appointment)
PHD Oklahoma St University 1998
BS California State Long Beach 1993
MS Oklahoma St University 1995

Katrina Paumier, PHD, PHD
Assistant Professor of Neurology (Pending Executive Faculty Approval) (primary appointment)
PHD University of Cincinnati 2015
PHD University of Cincinnati 2014

Toni Shih Pearson, B MUS, MD
Associate Professor of Neurology (primary appointment)
B MUS University of Adelaide 2000
MD University of Adelaide 1998

David M Peeples, MD
Instructor in Clinical Neurology (primary appointment)
BA Vanderbilt University 1982
MD University of Chicago 1986

Karen J Pentella, MD
Assistant Professor of Clinical Neurology (primary appointment)
MD Ohio State University 1979
BS Ohio State University 1975

Joel S Perlmutter, MD
Professor of Neurology (primary appointment)
Professor of Radiology
Professor of Occupational Therapy
Professor of Neuroscience
Professor of Physical Therapy
MD University of MO Columbia 1979
BA Princeton University 1975

Alan Pestronk, MD Professor of Neurology (primary appointment)
Professor of Pathology and Immunology
MD Johns Hopkins University Medic 1970
BA Princeton University 1966

Steven E Petersen, PHD James S McDonnell Professor of Cognitive Neuroscience in Neurology
(secondary appointment)
Professor of Neurology
Professor of Radiology
Professor of Psychology
Professor of Biomedical Engineering
Associate Professor of Neurological Surgery (Neuropsychology)

Benjamin Allen Philip Instructor in Occupational Therapy (primary appointment)
Instructor in Neurology

Chia Ling Phuah Assistant Professor of Neurology (primary appointment)
MS1 Cambridge University 2007

Laura Piccio, MD Associate Professor of Neurology (primary appointment)
MD University of Milan 1997

Jose A Pineda Soto, MD Associate Professor of Pediatrics (primary appointment)
Associate Professor of Neurology
BS Francisco Marroquin University 1988
MD Francisco Marroquin University 1993

Stephanie K Powell, PHD, MS Instructor in Clinical Neurology (primary appointment)

William John Powers, MD Adjunct Professor of Neurology (primary appointment)
BA Dartmouth College 1971
MD Cornell University 1975

Heidi Prather, DOST Professor of Orthopaedic Surgery (primary appointment)
Professor of Neurology
DOST Univ of Health Sciences KC 1991
BA Drury College 1987

Brad Alan Racette, MD Professor of Neurology (primary appointment)
Executive Vice Chair of Clinical Affairs, Department of Neurology
MD Northwestern University 1992

Marcus E Raichle, MD Professor of Radiology (primary appointment)
Professor of Neuroscience
Professor of Psychology
Alan A and Edith L Wolff Distinguished Professor of Medicine
Professor of Psychological & Brain Sciences
Professor of Biomedical Engineering
BS University of Washington 1960
MD University of Washington 1964
David Martin Reisler, M PH, MD  
Assistant Professor of Clinical Neurology (primary appointment)  
M PH Johns Hopkins University Medic 1971  
MD Washington Univ in St. Louis 1961  
BA Harvard University 1957  

Dave A Rengachary, MD  
Instructor in Clinical Neurology (primary appointment)  
MD Northwestern University 2000  

Terri L Riutcel, MD  
Associate Professor of Neurology (primary appointment)  
BS University of MO Columbia 1991  
MD Vanderbilt University 1995  

Catherine M Roe, MA  
Assistant Professor of Neurology (primary appointment)  
MA Southern Illinois University 1990  
BA Purdue University 1986  

James R Rohrbaugh, MD  
Associate Professor of Clinical Neurology (primary appointment)  
Associate Professor of Clinical Pediatrics  
MD Ohio State University 1974  
BA Yale University 1971  

Joshua Bennett Rubin, MD, PHD, MS  
Professor of Pediatrics  
Professor of Neuroscience  
Professor of Neurology  
MD Albert Einstein College of Med 1994  
BS Yale University 1982  
PHD Albert Einstein College of Med 1994  
MS Albert Einstein College of Med 1992  

Rimma Ruvinskaya, MD  
Associate Professor of Neurology (primary appointment)  
BA School Not Listed 1979  
MD Leningrad Inst of Peds Med 1985  

Robin C Ryther, PHD, MD  
Assistant Professor of Neurology (primary appointment)  
PHD Vanderbilt University 2004  
MD Vanderbilt University 2006  
BS University of MO Columbia 1998  

Chihiro Sato, PHD, MS  
Instructor in Neurology (primary appointment)  
PHD University of Tokyo 2008  
MS University of Tokyo 2005  
BS University of Tokyo 2003  

Anneliese M Schaefer, PHD, BBA  
Associate Professor of Neurology (primary appointment)  
PHD Washington Univ in St. Louis 2001  
BBA Washington Univ in St. Louis 1985  

Suzanne E. Schindler, PHD, MD  
Assistant Professor of Neurology (primary appointment)  
PHD Washington Univ in St. Louis 2008  
MD Washington Univ in St. Louis 2008  
BS Millsaps College 1999  

Bradley L Schlaggar, PHD, MD  
Ernest and Jane G Stein Professor of Neurology (primary appointment)  
Professor of Radiology  
Professor of Psychiatry  
Professor of Pediatrics  
Professor of Neuroscience  
BS Brown University 1986
PHD Washington Univ in St. Louis 1994
MD Washington Univ in St. Louis 1994

**Earl R Schultz, MD** Professor of Clinical Neurology (primary appointment)

Associate Professor of Clinical Psychiatry

MD Washington Univ in St. Louis 1955
BS University of Missouri 1953
BA Southeast Missouri St Univers 1952

**Christian T Sheline, PHD** Adjunct Research Associate Professor of Neurology (primary appointment)

BA Dartmouth College 1983
PHD University of California 1989

**Gordon L Shulman, MS, PHD** Professor of Neurology (primary appointment)

BA Yale University 1975
MS University of Oregon 1977
PHD University of Oregon 1979

**Eli R Shuter, MD** Associate Professor of Clinical Neurology (primary appointment)

MD Washington Univ in St. Louis 1960

Todd B Silverman Instructor in Clinical Neurology (primary appointment)

Barry A. Singer Assistant Professor of Clinical Neurology (primary appointment)

Christopher D Smyser Assistant Professor of Neurology (primary appointment)

**Barbara Joy Snider, MD** Professor of Neurology (primary appointment)

MD University of Texas Southwest 1989

**Abraham Z Snyder, MD, PHD** Professor of Radiology (primary appointment)

BA Columbia University 1970
MD State University of New York 1981
PHD Rockefeller University 1977

**Richard Brian Sommerville, MD** Assistant Professor of Neurology (primary appointment)

MD Columbia University 2005
BS Harvard University 1999

**Tara V. Spevack, MS, PHD** Instructor in Clinical Neurology (primary appointment)

BS McGill University 1987
MS University of Florida 1994
PHD University of Florida 1997

**Susan L Stark, PHD, MS** Assistant Professor of Occupational Therapy (primary appointment)

Assistant Professor of Neurology

PHD University of MO Columbia 1998
BS Alma College 1988

MS Washington Univ in St. Louis 1989

**Jennifer S Stith, MSW, MS, PHD** Professor of Physical Therapy (primary appointment)

Associate Director of Professional Curriculum in Physical Therapy

Division Director for Education in Physical Therapy

Professor of Neurology

BS University of California 1976
MSW Washington Univ in St. Louis 2006

MS University of Southern Calif 1979
PHD Washington Univ in St. Louis 1994
Chi-Tsai Tang
Assistant Professor of Orthopaedic Surgery (primary appointment)
Assistant Professor of Neurology

Sandra L Tate, MD
Instructor in Clinical Neurology (primary appointment)
MD Southern Illinois University 1987
BA School Not Listed

Mengesha A Teshome, MD
Instructor in Neurology (primary appointment)
MD Addis Ababa University 1989

Kwee L Thio, PHD, MD
Associate Professor of Neurology (primary appointment)
Associate Professor of Pediatrics
Associate Professor of Neuroscience
PHD Washington Univ in St. Louis 1992
MD Washington Univ in St. Louis 1992
BS Brown University 1984

Jeffrey B. Titus, MA, PHD
Assistant Professor of Clinical Neurology (primary appointment)
MA University of Northern Colora 1999
PHD Ball State University 2002

Norman Edwin Trevathan III, MS, MD
Adjunct Professor of Neurology (primary appointment)
MS Emory University 1982
BS David Lipscomb University 1977
MD Emory University 1982

Jason Daniel Ulrich
Assistant Professor of Neurology (primary appointment)

Mwiza Ushe, MD, MS
Assistant Professor of Neurology (primary appointment)
MD Washington Univ in St. Louis 2007
MS Washington Univ in St. Louis 2007

Gregory Paul Van Stavern, MD
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)
Associate Professor of Neurology

Renee Bailey Van Stavern, MD
Associate Professor of Neurology (primary appointment)
MD Univ Texas Health Science Ctr 1997

Arun S. Varadhachary
Assistant Professor of Neurology (primary appointment)

Erin Foster Voegtli, OTD
Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Neurology

Andrew M. Wayne
Instructor in Clinical Neurology (primary appointment)

Ling Wei, MD
Adjunct Research Assistant Professor of Neurology (primary appointment)
MD Beijing Medical University 1977

Conrad Christian Weihl, PHD, MD
Associate Professor of Neurology (primary appointment)
PHD University of Chicago 1998
BS University of Illinois 1993
MD University of Chicago 2001

Oksana Volshteyn, MD
Professor of Neurology (primary appointment)
Professor of Medicine
MD Minsk State Medical Institute 1976

Judith L. Weisenberg
Assistant Professor of Neurology (primary appointment)
BS Barnard College 1998
Howard I Weiss Assistant Professor of Clinical Neurology (primary appointment)
Nicole Joy Werner, PHD, MS Associate Professor of Neurology (primary appointment)
PHD Saint Louis University 2004
MS Saint Louis University 2000
BS Univ of Minnesota Twin Cities 1997
Martin B Wice, MD, MS Associate Professor of Neurology (primary appointment)
MD Northwestern University 1977
BS Grinnell College 1972
MS University of Washington 1983
Michael Wong, MD, PHD Allen P and Josephine B Green Professor of Pediatric Neurology (primary appointment)
Professor of Pediatrics
Professor of Neuroscience
MD University of Texas Southwest 1995
PHD University of Texas Southwest 1995
BA Princeton University 1987
Wing Kai Wong Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Neurology
Brenton Alan Wright, MD Assistant Professor of Neurology (primary appointment)
BS University of Virginia 2004
MD University of Louisville 2008
Stephanie Wrobel Goldberg, MD Assistant Professor of Neurology (primary appointment)
MD University of Rio de Janeiro 2007
Gregory Frederick Wu, MD, PHD Assistant Professor of Neurology (primary appointment)
Assistant Professor of Pathology and Immunology
MD University of Iowa 2001
BS Washington Univ in St. Louis 1993
PHD University of Iowa 2001
Chengjie Xiong, PHD, MS Professor of Biostatistics (primary appointment)
Professor of Neurology
Professor of Mathematics
PHD Kansas State University 1997
BS Xinjiang University 1983
MS Peking University 1989
Hiroko Yano, PHD, MS Assistant Professor of Neurological Surgery (primary appointment)
Assistant Professor of Genetics
Assistant Professor of Neurology
PHD University of Tokyo 1996
MS University of Tokyo 1993
BS Science University of Tokyo 1991
Carla Marie Yuede, PHD Assistant Professor of Neurology (primary appointment)
PHD University of MO St Louis 2006
Craig Mitchell Zaidman Associate Professor of Neurology (primary appointment)
Assistant Professor of Pediatrics
Allyson R Zazulia, MD Professor of Neurology (primary appointment)
Associate Dean for Continuing Medical Education
Professor of Radiology
Department of Neuroscience

The structure of the human body is presented in two courses: The Human Body: Anatomy, Embryology and Imaging, offered in the first semester, and Microscopic Anatomy, which extends over the first and second semesters. A third course, Neural Sciences, is taught at the end of the second semester.

The Human Body: Anatomy, Embryology, Imaging is largely a laboratory course, and lectures deal with anatomical principles and human growth and development. Instruction in Microscopic Anatomy (Histology) focuses on cell and tissue biology, with laboratory sessions paralleling the lectures in these areas. Neural Sciences is an integrated course that deals with the structure, function and development of the nervous system from molecular, cellular and systems perspectives. Throughout all three courses, attention is paid to the results of recent investigations and to major developments in each field. In addition, the departmental faculty have a lead role in many graduate courses that may be taken as electives by students in any of the four years.
The department is well-equipped for specialized work in several areas, including gross anatomy, tissue culture and all aspects of neurobiology.

Please visit the Department of Neuroscience website for more information.

**MD Courses — Neurosciences**

**First year**

Instructors: David C. Van Essen, PhD, 362-7043; Krikor Dikranian, MD, PhD, 362-3548; Timothy E. Holy, PhD, 362-0086; (Co-Coursemasters)

Neural Sciences is an intensive seven-week course that covers the structure, function and development of the nervous system as seen from molecular, cellular and systems-oriented perspectives. The emphasis is on the organization and function of the nervous system in health, but there is frequent reference to the clinical relevance of material presented. The course includes regular lectures, conference sessions and laboratories, plus a number of clinically oriented presentations. Computer-aided instructional programs, accessible from a variety of locations, provide auxiliary modes of self-paced learning and review. The midterm and final emphasize the core body of important facts and principles presented in lectures and laboratories. (SPRING ONLY).

**M05 501B THE HUMAN BODY: ANATOMY, EMBRYOLOGY AND IMAGING**

Instructor: Glenn C. Conroy, PhD, 362-3397

The course is based largely on the dissection of the human body. Lectures on functional and topographic anatomy emphasize the principles of organization of the various systems of the body. Lectures on developmental anatomy stress organogenesis as an adjunct to understanding the normal and abnormal anatomy. An extensive museum of labeled dissected specimens is housed in the dissection room.
for ready reference by students who encounter abnormalities or variations in their dissections. Frequent use of CT, MRI, and X-ray images aid in the synthesis of knowledge gained through dissection. Small group discussions emphasize radiological anatomy and clinical correlations. This course is restricted to first year medical students, but limited space is sometimes available for nonmedical students enrolled in the PhD program with instructor's permission. Cross-listed with L41 (Bio) 501.

**M05 502A01 HISTOLOGY AND CELL BIOLOGY**

Instructor: Paul C. Bridgman, PhD, 362-3449

The structures of cells, tissues, and major organ systems are studied in relationship to their functions. Lectures integrate histology with cell biology and physiology. The laboratories consist of the study of prepared slides and electron micrographs using an iBook or eBook (ePub) guide. An extensive online digital annotated atlas (Slide-Atlas.org) and a video library are used to supplement the slides and electron micrographs. Presentations of case studies provide examples of clinical relevance. A dual-view microscope and slide set will be issued for each pair of students. Limited space is available for non-medical students, who must have permission from the coursemaster to enroll. The topics in this course are timed to integrate with the physiology course and span the fall and winter semesters.

**Selectives**

**M04 552 GENETICS AND MOLECULAR BIOLOGY OF ION CHANNELS**

Instructor: Lawrence B. Salkoff, PhD, 362-3644

A functional genomics approach to studying membrane excitability. How the new DNA sequence data from genomic and EST sequencing projects can be exploited to get a comprehensive picture of gene families that contribute to membrane excitability. How DNA sequence data can contribute to understanding questions of physiology, development, regulation and structure-function relationships.

**Fourth year**
Electives

The department offers a number of graduate-level courses that may be taken as electives by medical students. The department participates in the Division of Biology and Biomedical Sciences, which also offers courses relevant to anatomy and neurobiology.

These course descriptions are presented in the section on Biology and Biomedical Sciences.

L41 (Bio) 5571 CELLULAR NEUROBIOLOGY
L41 (Bio) 5651 NEURAL SYSTEMS
L41 (Bio) 590 RESEARCH OPPORTUNITIES

Note — The number preceding the course title indicates that the course is offered by the Division of Biology and Biomedical Sciences and carries credit in the Graduate School of Arts & Sciences.

M05 810 / ADVANCED DISSECTION
Instructor(s): Staff, 314-362-3397
Location: North Building
Elective Contact: Glenn Conroy, PhD, 314-362-3397
Other Information: Self Study. High Pass/Fail. Contact Dr. Conroy one week prior to the start of the elective.
Enrollment limit per period: 20
Valid start weeks for four-week blocks are: Weeks 33 and 37.

Different regions of the body will be dissected in detail. A period of four weeks should be allowed for each region: head and neck, thorax and abdomen, and superior and inferior limbs. Surgical approaches, cross-sections, X-rays, and CT scans can be studied.

Student time distribution: A minimum of 40 hours is required
Major teaching responsibility: N/A
Research — Neuroscience

(M05 900)

Cross-listed with L41 (Bio) 590

Kari Allen, PhD
3rd Floor North Building
314-747-6572

Martha Bagnall, PhD
4th floor McDonnell Science Building
314-362-9695
Molecular, electrophysiological, and behavioral analyses of neural circuits for vestibular control of spinal function.

Amy Bauernfeind, PhD
3rd Floor North Building
314-747-6566
Biological bases of human cognition; comparative neurobiology of primates.

Azad Bonni, MD, PhD
8th floor McDonnell Science Building
314-362-3033.
Principles & mechanisms governing assembly & function of neural circuits, deregulation of mechanisms in neurological diseases.

Paul Bridgman, PhD
8th Floor McDonnell Science Building
314-362-3449
Cell biology of the developing nervous system.

Andreas Burkhalter, PhD
4th Floor North Building
314-362-4068
Organization and function of neuronal circuits in mouse visual cortex.

Harold Burton, PhD
3rd Floor East McDonnell
314-362-3556
Cortical functional reorganization in response to sensory changes due to unilateral deafness or strabismus.

Valeria Cavalli, PhD
9th Floor McDonnell Science Building
314-362-3540
Cellular, molecular and epigentice mechanisms controlling axon regeneration.

Glenn C. Conroy, PhD
3rd Floor North Building
314-362-3397
Paleoanthropology; Geographical Information Systems (GIS).
Krikor Dikranian, MD, PhD
3rd Floor North Building
314-362-3548
Development and morphology of the amyloid plaques in experimental animals, neuropathological changes after head trauma.

James Fitzpatrick, PhD
Basement, McKinley Research Building
314-747-0838
Optical and charged particle multi-scale microscopy application method development.

Harrison Gabel, PhD
8th Floor McDonnell Science Building
314-362-3531
Gene regulation in the developing nervous system; molecular mechanisms of neurodevelopmental disorders.

Edward Han, PhD
9th Floor McDonnell Science Building
314-747-2505
Learning-related hippocampal network activation.

Timothy E. Holy, PhD
4th Floor North Building
314-314-362-0086
Mammalian pheromones: neural mechanisms of action.

Arthur D. Loewy, PhD
9th Floor McDonnell Science Building
314-362-3930
Analysis of brain circuits controlling cardiovascular functions.

Ilya Monosov, MS, PhD
Neuronal mechanisms of voluntary behavior.

Michael L. Nonet, PhD
9th Floor McDonnell Science Building
314-747-1176

Molecular genetic analysis of synaptic development and function.

Karen L. O’Malley, PhD
9th Floor McDonnell Science Building
314-362-7087

Molecular mechanisms underlying neurodegenerative processes. Signaling mechanisms associated with intracellular receptors.

Jane Phillips-Conroy, PhD
3rd Floor North Building
314-362-3396

Behavior, morphology and biology of living primate populations.

Camillo Padoa Schioppa, PhD
3rd Floor East McDonnell Science Building
314-362-3530

Neuronal bases of economic choice and decision making.

Lawrence B. Salkoff, PhD
9th Floor McDonnell Science Building
314-362-3644

The roles of ion channels in neuronal long term excitability changes.

Paul J. Shaw, PhD
9th Floor McDonnell Science Building
314-362-2703
Molecular genetics of sleep and circadian rhythms.

Lawrence H. Snyder, MD, PhD
3rd Floor East McDonnell
314-747-3530
Computational and cognitive issues in cortical control of eye and arm movement: electrophysiology and imaging.

Paul H. Taghert, PhD
9th Floor McDonnell Science Building
314-362-3641

I. Neurobiology of circadian rhythms.
II. Neurobiology of peptidergic neurotransmission.

David C. Van Essen, PhD
2nd Floor East McDonnell
314-362-7043
Organization, function, and development of primate cerebral cortex, especially in humans; generation and utilization of neuroinformatics tools for data mining.

Faculty — Neuroscience

Azad Bonni, MD, PHDEdison Professor of Neurobiology (primary appointment)
Head of the Department of Neuroscience
MD Queen's University 1986
PHD Harvard University 1996
Kari Leigh Allen, MA, PHDAssistant Professor of Anatomy (primary appointment)
Assistant Professor of Anthropology (Courtesy)
MA New Mexico St University 2008
PHD Duke University 2014

Amy Lynn Bauernfeind, PHD, M PHIL
Assistant Professor of Anatomy (primary appointment)
Assistant Professor of Anthropology (Courtesy)
PHD George Washington University 2014
M PHIL George Washington University 2011

Kevin J. Black, MD
Professor of Psychiatry (primary appointment)
Professor of Radiology
Professor of Neurology
Professor of Neuroscience
MD Duke University 1990
BS Brigham Young University 1986

Paul C Bridgman, MS, PHD
Professor of Neuroscience (primary appointment)
Associate Professor of Biomedical Engineering
MS University of CA San Diego 1976
BA University of San Diego 1974
PHD Purdue University 1980

Michael Raymond Bruchas, PHD
Associate Professor of Anesthesiology (primary appointment)
Associate Professor of Neuroscience
PHD Creighton University 2004

Andreas H Burkhalter, MS, PHD
Professor of Neuroscience (primary appointment)
Associate Professor of Biomedical Engineering
Associate Professor of Neurobiology in Neurological Surgery
MS University of Zurich 1973
PHD University of Zurich 1977

Harold Burton, PHD
Professor of Neuroscience (primary appointment)
Professor of Radiology
Professor of Biomedical Engineering
Professor of Cell Biology and Physiology
PHD Univ of Wisconsin Madison 1968
BA University of Michigan 1964

Valeria Cavalli
Associate Professor of Neuroscience (primary appointment)

Theodore J Cicero, MS, PHD
John P Feighner Professor of Psychiatry (primary appointment)
Vice Chairman for Research, Department of Psychiatry
Professor of Neuroscience
MS Purdue University 1966
BS Villanova University 1964
PHD Purdue University 1969

Glenn C Conroy, M PHIL, PHD
Professor of Anatomy (primary appointment)
Professor of Anthropology
M PHIL Yale University 1972
PHD Yale University 1974
BA University of CA Berkeley 1970

Maurizio Corbetta, MD
Norman J. Stupp Professor of Neurology (primary appointment)
Professor of Radiology
Associate Professor of Psychological & Brain Sciences
Professor of Neuroscience
MD University of Pavia 1985
Krikor T Dikranian, PHD, MD Professor of Anatomy (primary appointment)

Professor of Physical Therapy
PHD Medical University - Sofia 1992
MD Medical University - Varna 1978
Gammon Marie Earhart, MS, PHD Professor of Physical Therapy (primary appointment)
Professor of Neuroscience

Professor of Neurology
Associate Director of Movement Science PhD Program in Physical Therapy
Executive Director of the Program in Physical Therapy
MS Beaver College 1996
BS Beaver College 1994
PHD Washington Univ in St. Louis 2000
James Alexander John Fitzpatrick, PHD Associate Professor of Neuroscience (primary appointment)
Associate Professor of Cell Biology and Physiology
PHD University of Bristol 2003
Susan M Fitzpatrick, PHD Adjunct Associate Professor of Neuroscience (primary appointment)
Adjunct Associate Professor of Occupational Therapy
BS St Johns University 1978
PHD Cornell University 1984
Harrison W. Gabel, PHD, AB Assistant Professor of Neuroscience (primary appointment)
PHD Harvard University 2008
AB Princeton University 2001
Robert W Gereau, PHD Dr Seymour and Rose T Brown Professor of Anesthesiology (primary appointment)
Professor of Neuroscience
PHD Emory University 1995
BS Southwest Misouri St Universi 1991
Edward B. Han, PHD Assistant Professor of Neuroscience (primary appointment)
Assistant Professor of Anesthesiology
PHD University of CA San Diego 2004
BS Cornell University 1995
Martha B. Han, PHD Assistant Professor of Neuroscience (primary appointment)
BS Yale University 2000
PHD University of CA San Diego 2008
Timothy E. Holy, MA, PHD Associate Professor of Neuroscience (primary appointment)
MA Princeton University 1992
BA Rice University 1991
PHD Princeton University 1997
Vladimir Jivkov Kefalov, PHD Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Neuroscience
PHD Boston University 1999
Daniel Kerschensteiner, PHD Associate Professor of Ophthalmology and Visual Sciences (primary appointment)
Associate Professor of Neuroscience
Associate Professor of Biomedical Engineering (Courtesy)
PHD Georg August University 2004
Robyn Sue Klein, PHD
Professor of Medicine (primary appointment)
Professor of Pathology and Immunology
Professor of Neuroscience
PHD Albert Einstein College of Med 1993

Vitaly A Klyachko, PHD, MS
Associate Professor of Cell Biology and Physiology (primary appointment)
Associate Professor of Biomedical Engineering
Associate Professor of Neuroscience
PHD Univ of Wisconsin Madison 2002
MS Moscow State University 1998
BS Moscow State University 1997

Eric Claude Leuthardt, MD
Professor of Neurological Surgery (primary appointment)
Professor of Neuroscience
Professor of Mechanical Engineering and Applied Science.
BS Saint Louis University 1995
MD University of Pennsylvania 1999

Christopher J Lingle
Professor of Anesthesiology (primary appointment)
Professor of Neuroscience
BS University of Oregon 1972

Arthur D Loewy, PHD
Professor of Anatomy and Neuroscience (primary appointment)
BA Lawrence University 1964
PHD Univ of Wisconsin Madison 1969

Peter David Lukasiewicz, PHD
Janet and Bernard Becker Professor of Ophthalmology (primary appointment)
Professor of Neuroscience
PHD University of Michigan 1984
BS Brown University 1977

Steven James Mennerick, PHD
Professor of Psychiatry (primary appointment)
Professor of Neuroscience
PHD Washington Univ in St. Louis 1995
BA Earlham College 1988

Ilya E. Monosov, MS, PHD
Assistant Professor of Neuroscience (primary appointment)
MS NewSchool Architecture Design 2005
BS University of CA San Diego 2004
PHD Brown University 2009

Joshua L. Morgan, PHD
Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
Assitant Professor of Neuroscience
BA Florida Southern College 2001
PHD Washington Univ in St. Louis 2007

Jose Moron-Concepcion, PHD
Associate Professor of Anesthesiology (primary appointment)
Associate Professor of Neuroscience
PHD University of Barcelona 1998

Bruce L Nock, PHD, MS
Associate Professor of Neurobiology in Psychiatry (primary appointment)
Associate Professor of Neuroscience
PHD Rutgers University 1981
BA Elizabethtown College 1969
MS Bucknell University 1975
Michael L Nonet, PHD Associate Professor of Neuroscience (primary appointment)
BS University of CA Davis 1984
PHD Mass Inst of Technology (MIT) 1989
Karen Laurel O'Malley, MS, PHD Professor of Neuroscience (primary appointment)
MS Portland St University 1973
BA Sonoma State University 1971
PHD University of Texas Austin 1980
Camilo Padoa-Schioppa, PHD Associate Professor of Neuroscience (primary appointment)
Associate Professor of Economics (Courtesy)
PHD Mass Inst of Technology (MIT) 2002
Tae Sung Park, MD Shi Hui Huang Professor of Neurological Surgery (primary appointment)
Professor of Neuroscience
Professor of Pediatrics
MD Yonsei University 1971
BS Yonsei University 1967
Joel S Perlmutter, MD Professor of Neurology (primary appointment)
Professor of Radiology
Professor of Occupational Therapy
Professor of Neuroscience
Professor of Physical Therapy
MD University of MO Columbia 1979
BA Princeton University 1975
Steven E Petersen, PHD James S McDonnell Professor of Cognitive Neuroscience in Neurology
(primary appointment)
Professor of Neuroscience
Professor of Radiology
Professor of Psychology
Professor of Biomedical Engineering
Associate Professor of Neurological Surgery (Neuropsychology)
PHD California Institute Technolo 1982
BA University of Montana Missoula 1974
Jane Phillips Conroy, PHD, MA Professor of Anatomy (primary appointment)
Professor of Anthropology
PHD New York University 1978
BA Brandeis University 1969
MA New York University 1973
Marcus E Raichle, MD Professor of Radiology (primary appointment)
Professor of Neuroscience
Professor of Neurology
Alan A and Edith L Wolff Distinguished Professor of Medicine
Professor of Psychological & Brain Sciences
Professor of Biomedical Engineering
BS University of Washington 1960
MD University of Washington 1964
Keith M Rich, MD Professor of Neurological Surgery (primary appointment)
Professor of Neuroscience
Professor of Radiation Oncology
BA Taylor University 1974
MD Indiana University Bloomington 1977
Joshua Bennett Rubin, MD, PHD, MS Professor of Pediatrics (primary appointment)
Professor of Neuroscience
Professor of Neurology
MD Albert Einstein College of Med 1994
BS Yale University 1982
PHD Albert Einstein College of Med 1994
MS Albert Einstein College of Med 1992

Lawrence B Salkoff, PHD Professor of Neuroscience (primary appointment)
Professor of Genetics
BA University of CA Los Angeles 1967
PHD University of CA Berkeley 1979
Bradley L Schlaggar, PHD, MD Ernest and Jane G Stein Professor of Neurology (primary appointment)
Professor of Radiology
Professor of Psychiatry
Professor of Pediatrics
Professor of Neuroscience
BS Brown University 1986
PHD Washington Univ in St. Louis 1994
MD Washington Univ in St. Louis 1994

Paul Joseph Shaw, MA, PHD Associate Professor of Neuroscience (primary appointment)
BA Niagara University 1985
MA San Jose State University 1990
PHD University of Chicago 1996

Lawrence H Snyder, AB, PHD, MD, MS Professor of Neuroscience (primary appointment)
Professor of Psychological & Brain Sciences
AB Princeton University 1982
PHD University of Rochester 1992
MD University of Rochester 1992
MS University of Rochester 1992

Paul H Taghert, PHD Professor of Neuroscience (primary appointment)
BA Reed College 1975
PHD University of Washington 1981

Kwee L Thio, PHD, MD Associate Professor of Neurology (primary appointment)
Associate Professor of Pediatrics
Associate Professor of Neuroscience
PHD Washington Univ in St. Louis 1992
MD Washington Univ in St. Louis 1992
BS Brown University 1984

Robert Lawrence Tychsen Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Neuroscience
Professor of Ophthalmology and Visual Sciences in Pediatrics
John F Hardesty MD Distinguished Professor of Ophthalmology and Visual Sciences
BS Georgetown University 1975

David C Van Essen, PHD Alumni Endowed Professor of Neurobiology (primary appointment)
Professor of Biomedical Engineering
PHD Harvard University 1971
Department of Neurosurgery

Instruction in neurological surgery begins with an introduction to the anatomy and physiology of the nervous system presented in the first-year course in neural sciences directed by the Department of Anatomy and Neurobiology with participation of the neurosurgery faculty. In the second year, the Department of Neurosurgery presents the course in Diseases of the Nervous System in conjunction with the Departments of Neurology, Pathology, Molecular Biology and Pharmacology, Medicine and Pediatrics. The course emphasizes how knowledge derived from basic or clinical investigations leads to improvements in clinical care. In the third year, students may elect to participate in a two- or four-week Neurosurgery clerkship which introduces them to the clinical care of patients with diseases of the nervous system. Neurosurgical faculty members work with the neurologists in providing lectures, demonstrations and teaching exercises in patients with neurological diagnoses as part of the Clinical Medicine course. Students may elect to fulfill their Neurology requirement by rotating on the neurosurgery service. Students may also choose neurosurgery as part of the Surgical Specialty rotations. Neurosurgical diagnosis, critical care, operative treatment
and ethical issues in patient management are emphasized. In the fourth year, students may choose from several advanced electives including clinical externships in neurosurgery and experiences in basic or clinical/translational research.

Neurosurgery divisions

Division of Pediatric Neurosurgery

Matthew D. Smyth, MD; Tae Sung Park, MD; David D. Limbrick Jr., MD, PhD, Jennifer Strahle, MD

Based in St. Louis Children’s Hospital, the Division of Pediatric Neurosurgery of the Department of Neurosurgery provides neurosurgical care for the many disorders that are unique to the developing nervous system, from the premature infant to the young adult. Subspecialty areas include pediatric neuro-oncology, spastic cerebral palsy, craniofacial disorders, obstetrical brachial plexus injuries and epilepsy surgery. Active areas of clinical and basic research include pediatric head trauma, brain tumors, epilepsy and neonatal brain injury and hydrocephalus.

Center for Innovation in Neuroscience and Technology

Eric C. Leuthardt, MD (director)

The multidisciplinary center is based in the Department of Neurosurgery with participation from multiple departments in the medical school and across the University campus. Current active participants include neurosurgery faculty members Ralph G. Dacey Jr., MD, chairman; Albert Kim, MD, David Limbrick, MD, PhD, Wilson Z. Ray, MD, Matthew Smyth, MD, Neill Wright, MD, and Gregory J. Zipfel, MD; Colin Derdeyn, MD, with the Division of Neuroradiology; Steve Peterson, MD, with the Department of Neurology/Neurobiology; Frank C-P Yin, PhD, chairman and Daniel Moran, PhD, Dennis Barbour, MD, PhD, Shelly E. Sakiyama-Elbert, PhD, and Donald L. Elbert, PhD, with the Department of Biomedical Engineering; Philip Bayly, PhD, Skrikanth Singamaneni, PhD, and Guy Genin, PhD, with the Department of Mechanical
Areas of neurosurgical specialization

Cerebrovascular Surgery
Michael R. Chicoine, MD; Ralph G. Dacey Jr., MD; Ian G. Dorward, MD; Joshua Osbun, MD, Keith M. Rich, MD; Gregory J. Zipfel, MD

Cranial Base Surgery
Michael R. Chicoine, MD; Albert H. Kim, MD, PhD; Joshua Osbun, MD, Gregory J. Zipfel, MD

Endovascular Surgery
Joshua Osbun, MD

Epilepsy Surgery
Joshua L. Dowling, MD; Eric C. Leuthardt, MD

Neuro-Oncology
Michael R. Chicoine, MD; Ralph G. Dacey Jr., MD; Gavin P. Dunn, MD, PhD; Albert Kim, MD; Keith M. Rich, MD; Eric C. Leuthardt, MD

Pediatric Neurosurgery
Matthew D. Smyth, MD; Tae Sung Park, MD; David D. Limbrick Jr., MD, PhD, Jennifer Strahle, MD

Peripheral Nerve Surgery
Wilson Z. Ray, MD

Pituitary Surgery
Michael R. Chicoine, MD; Ralph G. Dacey Jr., MD; Gregory J. Zipfel, MD
Spinal Neurosurgery
Ian G. Dorward, MD; Wilson Z. Ray, MD; Paul Santiago, MD; Neill M. Wright, MD

Stereotactic Radiosurgery
Michael R. Chicoine, MD; Ralph G. Dacey Jr., MD; Joshua L. Dowling, MD; Keith M. Rich, MD; Matthew D. Smyth, MD; Eric C. Leuthardt, MD, Gavin P. Dunn, MD, PhD, Gregory J. Zipfel, MD

Surgical Management of Pain
Joshua L. Dowling, MD

For more information
Please visit the Department of Neurosurgery website for more information.

MD Courses — Neurosurgery

First year

Selectives

MO4 5878 INTRODUCTION TO CLINICAL NEUROSURGERY
Instructor: Jennifer Strahle, MD, 454-2816
The objective for this selective course is to expose students to the field of neurosurgery and its subspecialty disciplines. There are nine sessions for the semester in which a faculty expert reviews a particular field and, along with chosen student discussion leaders, reviews key papers in the field to aid in developing critical reading of medical and neurosurgical literature. Topics span the breadth of neurosurgery and
include the management of aneurysms, cutting edge brain tumor management, brain-computer interface technologies, surgical epilepsy, and contemporary complex spine surgery. In addition, students are encouraged to attend several neurosurgical Grand Rounds and clinical case discussion conferences, which are the working seminars in the department. Near the end of the course, students participate in a cadaver lab which provides hands-on experience with neurosurgical procedures involving the brain and spine and an interactive opportunity to work with attending neurosurgeons and residents instructors.

Third year

Clerkship opportunities

Students may elect to obtain their neurology clerkship experience on the neurosurgery service, or they can choose neurosurgery as part of the surgical specialty rotations. Third-year students participate with the residents and attendings on hospital rounds, evaluate patients in the neurosurgery outpatient department and participate in the neurosurgical operating room. The main objectives of the rotation include: 1) the evaluation of comatose or head-injured patients; 2) clinical presentation, diagnostic work-up and treatment of cervical and lumbar disc disease; and 3) evaluation and treatment of patients with hemorrhagic and ischemic stroke.

Fourth year

Elective Neurosurgery Externship

Students interested in pursuing a Neurosurgery residency can elect to spend 4 weeks on the neurosurgery service as a “sub-I/extern”. Students have an opportunity to gain a more in-depth look at the Washington University Neurosurgery training program and obtain clinical skills that will be useful as students transition to residency. Students can expect to spend time on both the adult and pediatric service with exposure to all aspects of Neurosurgery.
Elective

M40 805 / NEUROSURGERY
Instructor(s): Zach Ray, MD, 314-362-3570
Location: McMillan Hospital, 5th Floor, Neurosurgery Conference Room, 8:00 a.m. first day of elective.
Elective Contact: Zack Ray, MD, 314-362-3570, Sophie Church, 314-362-3636
Other Information: Students should contact Dr. Ray prior to the first day of the elective.
Enrollment limit per period: 4
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The goal is to provide an overview of neurological surgery. The fourth year medical student will participate in patient work-ups, pre, intra- and postoperative care, and diagnostic procedures. Students will also scrub in cases with senior level and chief residents assisting with neurosurgical procedures and observing the more critical portions of these procedures. It is expected that they will learn how to perform basic neurosurgical procedures such as lumbar punctures, ICP monitor placement, and ventricular drain placement. Fourth year medical students are encouraged to participate in Grand Rounds, Neurosurgery Resident Curriculum conference, and Journal Club with the neurosurgery residents. At least one day/week is spent in an outpatient neurosurgery office setting. A week spent on the pediatric service at St. Louis Children’s Hospital is also strongly encouraged as a component of this fourth year elective.

Student time distribution: Inpatient 80%; Outpatient 20%, Conferences/Lectures 10%; Subspecialty Care 100%

Major teaching responsibility: N/A
Patients seen/weekly: 125
On call/weekend responsibility: None
Outcomes analysis for adult patients with brain tumors. Current clinical studies focus on outcomes of patients with benign and malignant brain tumors utilizing a prospective brain tumor database. Particular emphasis includes the impact of intraoperative MRI (iMRI) upon outcomes for patients with brain tumors and other diseases. We are establishing a multicenter database pooling data from multiple iMRI centers in North America.

Research interests include outcomes analysis in spinal reconstruction surgery, including the impact of age, obesity, and other clinical variables on costs, complications, and patient satisfaction. Another area of interest is the evaluation of novel techniques in spinal deformity correction and minimally invasive spinal surgery. Additional work focuses on etiologic factors in spinal deformity, both in adolescents and adults.

Studies focus on examination of molecular mechanisms in the endothelial cells and smooth muscle cells in the intracerebral microcirculation and the contribution of glial cells to their impairment after hypoxia/reoxygenation. In vitro techniques for studying isolated perfused microvessels are used to examine questions centered on endothelial smooth muscle and glial cell integration of cerebral blood flow responses.
Albert H. Kim, MD, PhD
314-747-6141
I have laboratory and clinical research interests in the cancer stem cell state and the genetics of glioblastoma using human tumor specimens. I additionally have clinical projects examining patient outcomes for two common types of brain tumors, meningiomas and pituitary tumors.

Eric C. Leuthardt, MD
747-6146
Pursuing research in the areas of neuroprosthetics, brain computer interfaces (BCIs), and advanced imaging modalities. These include opportunities in basic neurophysiology, engineering for BCIs and functional MRI imaging research for applications towards brain tumors.

David D. Limbrick, MD, PhD
314-454-4630
Clinical and translational research into newborn brain injuries, including post-hemorrhagic hydrocephalus. Main research areas include cerebrospinal fluid protein markers of disease, MRI diffusion tensor imaging, and prospective clinical trials. Also, multi-institutional clinical research opportunities exist for syringomyelia associated with Chiari I malformation.

T. S. Park, MD
314-454-2810

Wilson Z. Ray, MD
314-362-3114
Clinical and translational research on peripheral nerve and spinal cord injuries. Lab based opportunities for longer research electives investigating peripheral nerve regeneration and peripheral neuroprosthetics incorporating transient electronics.
Keith M. Rich, MD
314-747-6142
Research on neuronal and glioma cellular apoptosis after treatment with DNA-damaging agents. Techniques include growing human brain tumor cells in culture, bioassay for apoptosis with fluorescent staining, protein immunoblotting, and PCR.

Matthew Smyth, MD
314-454-4454
Clinical outcomes studies for pediatric epilepsy surgery and craniosynostosis surgery, basic and translational research in advanced clinical imaging, and translational research in the development of focal brain cooling devices for the treatment of epilepsy.

Neill M. Wright, MD
314-747-6144
Clinical outcomes studies focusing on the treatment and results of cervical spine surgery. Several active research opportunities include the evaluation of novel surgical techniques for treatment of the atlantoaxial (C1-2) segment, the use of synthetic bone in cervical spine surgery, the relationship between cervical spondylosis and dizziness, and the critical evaluation of certain intra-operative techniques and surgical practices.

Gregory J. Zipfel, MD
314-747-6141
My NIH-funded research program involves both basic and clinical research efforts focused on two main conditions: 1) Cerebral amyloid angiopathy and its contribution to ischemic stroke, vascular dementia, and Alzheimer’s Disease; and 2) Vasospasm-induced delayed cerebral ischemia and long-term cognitive deficits following aneurysmal subarachnoid hemorrhage. My work spans from basic experimental methods including cell culture and ex vivo vascular techniques to in vivo studies utilizing animal models of ischemic stroke and subarachnoid hemorrhage and live animal epifluorescent and confocal imaging to Phase I clinical trials in patients.
Faculty — Neurosurgery

**Ralph G Dacey Jr, MD**
Henry G and Edith R Schwartz Professor of Neurological Surgery (primary appointment)
Head of the Department of Neurological Surgery
BA Harvard University 1970
MD University of Virginia 1974

**Tammie Lee Smith Benzinger, MD, PHD**
Associate Professor of Radiology (primary appointment)
Associate Professor of Neurological Surgery
MD University of Chicago 2000
BA Williams College 1993
PHD University of Chicago 1998

**Keith Happ Bridwell**
J Albert Key Distinguished Professor of Orthopaedic Surgery (primary appointment)
Professor of Neurological Surgery
BA Washington Univ in St. Louis 1973

**Jacob M Buchowski, MD, MSP**
Professor of Orthopaedic Surgery (primary appointment)
Professor of Neurological Surgery
BS Yale University 1996
MD Johns Hopkins University 2000
MS Yale University 1996

**Andreas H Burkhalter, MS, PHD**
Professor of Neuroscience (primary appointment)
Associate Professor of Biomedical Engineering
Associate Professor of Neurobiology in Neurological Surgery
MS University of Zurich 1973
PHD University of Zurich 1977

**Jian Li Campian, PHD, MS, MD**
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Neurological Surgery
PHD University of Louisville 2003
MS Peking Union Medical College 2000
MD Tianjin Medical University 1997

**Michael R Chicoine, MD**
Professor of Neurological Surgery (primary appointment)
August A. Busch, Jr. Distinguished Professor
MD University of California 1990

**Dewitte T Cross III, MD**
Professor of Radiology (primary appointment)
Professor of Neurological Surgery
BA Vanderbilt University 1975
MD University of Alabama 1980

**Michael N Diringer, MA, MD**
Professor of Neurology (primary appointment)
Professor of Anesthesiology
Professor of Occupational Therapy
Professor of Neurological Surgery
MA University of Louisville 1978
MD University of Kentucky 1982
Ian G Dorward
Assistant Professor of Neurological Surgery (primary appointment)

Joshua L Dowling, MD
Professor of Neurological Surgery (primary appointment)
MD Tulane University 1989
BA Yale University 1985
Gavin P. Dunn
Assistant Professor of Neurological Surgery (primary appointment)
Assistant Professor of Pathology and Immunology

Jack R. Engsberg, PHD, MS
Professor of Occupational Therapy (primary appointment)
Professor of Neurological Surgery

Joshua L Dowling, MD
Professor of Neurological Surgery (primary appointment)

Robert L Grubb Jr, MD
Professor of Neurological Surgery (primary appointment)
Professor of Radiology
BA University of North Carolina 1961
MD University of North Carolina 1965
David H Gutmann
Donald O. Schnuck Family Professor of Neurology (primary appointment)
Professor of Genetics
Professor of Neurological Surgery
Professor of Pediatrics

Matthew A Howard
Adjunct Assistant Professor of Neurological Surgery (primary appointment)
Sarah C. Jost
Adjunct Assistant Professor of Neurological Surgery (primary appointment)
Michael Patrick Kelly, MD
Assistant Professor of Orthopaedic Surgery (primary appointment)
Assistant Professor of Neurological Surgery

Matthew R. MacEwan, PHD
Assistant Professor of Neurosurgery (Pending Executive Faculty Approval) (primary appointment)

Eric Claude Leuthardt, MD
Professor of Neurological Surgery (primary appointment)
Professor of Neuroscience
Professor of Mechanical Engineering and Applied Science.
BS Saint Louis University 1995
MD University of Pennsylvania 1999
David D Limbrick Jr
Professor of Neurological Surgery (primary appointment)
Professor of Pediatrics
BS College of William and Mary 1995
Matthew R. MacEwan, PHD
Assistant Professor of Neurosurgery (Pending Executive Faculty Approval) (primary appointment)
PHD Washington Univ in St. Louis 2015
BS Case Western Reserve Univ 2004

James Patterson McAllister, PHD Professor of Neurological Surgery (primary appointment)
PHD Purdue University 1976
BA Earlham College 1970

Christopher J Moran, MD Professor of Radiology (primary appointment)
Professor of Neurological Surgery
MD Saint Louis University 1974
BS University of Notre Dame 1970

Joshua William Osbun, MD Assistant Professor of Neurosurgery (Pending Executive Faculty Approval) (primary appointment)
BA Texas A&M University 2002
MD University of Texas Southwest 2007

Tae Sung Park, MD Shi Hui Huang Professor of Neurological Surgery (primary appointment)
Professor of Neuroscience
Professor of Pediatrics
MD Yonsei University 1971
BS Yonsei University 1967

Steven E Petersen, PHD James S McDonnell Professor of Cognitive Neuroscience in Neurology (primary appointment)
Professor of Neuroscience
Professor of Radiology
Professor of Psychology
Professor of Biomedical Engineering
Associate Professor of Neurological Surgery (Neuropsychology)
PHD California Institute Technolo 1982
BA University of Montana Missoula 1974

Wilson Z Ray Assistant Professor of Neurological Surgery (primary appointment)
Assistant Professor of Orthopaedic Surgery

Keith M Rich, MD Professor of Neurological Surgery (primary appointment)
Professor of Neuroscience
Professor of Radiation Oncology
BA Taylor University 1974
MD Indiana University Bloomington 1977

Paul Santiago, MD Professor of Neurological Surgery (primary appointment)
Professor of Orthopaedic Surgery
BS Stanford University 1990
MD Yale University 1995

Gerwin Schalk Adjunct Assistant Professor of Neurological Surgery (primary appointment)

Julie Martha Silverstein, MD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Neurological Surgery
MD Drexel University 2007
BA New York University 2004

Itender Singh, PHD Assistant Professor of Neurological Surgery (primary appointment)
PHD UNIVERSITY OF DELHI 2004

Matthew D Smyth, MD Professor of Neurological Surgery (primary appointment)
Professor of Pediatrics
MD University of CA San Francisco 1996
Jennifer Mae Strahle, MD  
**Asst Prof of Neurological Surgery** (primary appointment)  
**Asst Prof of Orthopaedic Surgery**  
**Asst Prof of Pediatrics**  
MD University of Minnesota 2008  
BS Bates College 2002  
Rene Tempelhofer, MD  
**Professor of Anesthesiology** (primary appointment)  
**Professor of Neurological Surgery**  
MD University of Lyon 1974  
Neill Marshall Wright, MD  
**Herbert Lourie Professor of Neurological Surgery** (primary appointment)  
**Professor of Orthopaedic Surgery**  
MD University of California 1993  
Hiroko Yano, PHD, MS  
**Assistant Professor of Neurological Surgery** (primary appointment)  
**Assistant Professor of Genetics**  
**Assistant Professor of Neurology**  
PHD University of Tokyo 1996  
MS University of Tokyo 1993  
BS Science University of Tokyo 1991  
Liya Yuan, PHD, MS  
**Instructor in Neurological Surgery** (primary appointment)  
PHD Tongji University 1994  
MS Tongji University 1987  
Lukas P Zebala, MD  
**Assistant Professor of Orthopaedic Surgery** (primary appointment)  
**Assistant Professor of Neurological Surgery**  
BS Northwestern University 1998  
MD University of Chicago 2004  
Gregory Joseph Zipfel, MD  
**Professor of Neurological Surgery** (primary appointment)  
**Professor of Neurology**  
BS University of Illinois 1991  
MD Northwestern University Med 1995

**Department of Obstetrics and Gynecology**

The **Department of Obstetrics and Gynecology** has clinical teaching services located at Barnes-Jewish Hospital and Missouri Baptist Medical Center under the following director:
George A. Macones, MD, MSCE, Professor and Head, Department of Obstetrics and Gynecology

In addition, for the purposes of teaching, clinical care and research, the Department of Obstetrics and Gynecology is divided into subspecialty divisions under the following directors:

**Gynecologic Oncology**
Matthew A. Powell, MD

**Maternal-Fetal Medicine**
Allison G. Cahill, MD, MSCI

**Imaging**
Jeffrey M. Dicke, MD

**Reproductive Endocrinology and Infertility**
Randall R. Odem, MD

**General Obstetrics and Gynecology**
Eric A. Strand, MD

**Female Pelvic Medicine and Reconstructive Surgery (formerly Uro-Gynecology)**
Jerry L. Lowder, MD, MS

**Pediatric and Adolescent Gynecology**
Diane F. Merritt, MD

**Minimally Invasive Gynecologic Surgery**
Scott W. Biest, MD

**Research**
Kelle H. Moley, MD (Basic Research), Methodius Tuuli, MD, MPH (Clinical Research)
Instruction in obstetrics and gynecology is provided during all four years of the medical curriculum, beginning with an introductory course in the first year as a component of Clinical Medicine. Teaching in the second year is designed to correlate basic science with the physiologic basis of normal pregnancy and parturition, reproductive biology, infertility and reproductive endocrinology and gynecologic malignancies. All third-year medical students participate in a six-week clinical clerkship in obstetrics and gynecology. This is divided into three two-week components of outpatient OB/GYN, inpatient obstetrics and inpatient gynecology. In the fourth year, students may elect a sub-internship in the listed clinical subspecialties or a research elective.

For more information

Please visit the [Department of Obstetrics and Gynecology website](#) for more information.

### MD Courses — Obstetrics and Gynecology

#### First year

As a component of the course in Clinical Medicine offered by the Department of Medicine, the student is introduced to the essentials in the medical history and examination for the gynecological evaluation of the adult woman patient.
Second year

Second-year students are introduced to obstetrics and gynecology with lectures in reproductive biology that apply and expand upon pelvic anatomy and gynecologic and obstetric physiologic principles taught in the first year.

M45 635B OBSTETRICS AND GYNECOLOGY
Instructor: Kenan R. Omurtag, MD, 314-286-1384
The obstetrical component of this course emphasizes the physiologic basis of normal pregnancy, parturition, labor and delivery, and adaptations of other organ systems to pregnancy. Pathophysiology of pregnancy, pregnancy complications and deviations from normal labor will also be introduced. The gynecologic component of the course reviews embryology and genetics of practical use for clinicians. This provides a foundation to overview adolescent gynecology, amenorrhea, abnormal uterine bleeding, reproductive endocrinology, infertility, menopause, surgical anatomy, and diagnosis and treatment of gynecologic neoplasm.

Third year

M45 730 OB/GYN CLERKSHIP
Clerkship Director: Tammy Sonn, MD
Clerkship Coordinator: Trish Werner, 314-362-3126
All third-year medical students participate in a six-week clinical clerkship in Obstetrics and Gynecology. This is divided into three two-week components of outpatient OB/GYN, inpatient obstetrics and inpatient gynecology. Comprehensive study of the reproductive health needs of women in both the office setting and the surgical setting is the focus of the curriculum. Students are actively involved in all settings of health care delivery: outpatient faculty clinics within all specialties, resident ambulatory clinics, operating rooms for all obstetric or gynecologic cases, inpatient floors of L&D and Gynecology, and the emergency department/hospital inpatient consults. Faculty, fellows, residents, and nurse practitioners provide teaching for this rotation. Student-directed didactics include the faculty and chief resident lecture series, procedural skill station session and faculty-assigned preceptor groups that meet throughout their six-
Fourth year

Fourth-year students wishing to take an externship or research elective can choose from a variety of courses.

Electives

M45 804 / OB/GYN OUTPATIENT CARE SUBINTERNSHIP
Instructor(s): Laura A. Parks, MD, parksla@wudosis.wustl.edu, 314-362-1016
Location: Room 308, Maternity Hospital, Barnes-Jewish Hospital, South Campus
Elective Contact: Casey Lindemann, 314-362-4591

Other Information: Students should contact Casey Lindemann one to two weeks before rotation for instructions of start time/location for first day of elective.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This experience is designed to primarily acquaint the student with the diagnosis and care of outpatients. Students will work one-on-one with attending staff, to focus on an overview of evaluation, diagnosis, and treatment of common obstetric and gynecologic concerns. The sub-intern will spend one to three half days weekly participating in outpatient surgery under the supervision of attendings and house staff, and five to six additional half days in clinic and private offices. Overnight OB call will be selected over a weekend to acquaint the student with the house staff and hospital, providing opportunity to participate in deliveries. A 30-45 minute presentation to attendings and house staff will culminate the rotation on a selected OB GYN topic.

Student time distribution: Outpatient 100%; Primary Care 100%
Major teaching responsibility: Attending staff
Patients seen/weekly: 5-20/day
M45 810 / OB/GYN ENDOCRINOLOGY-INFERTILITY SUB-INTERNSHIP
Instructor(s): Randall Odem, MD; Kenan Omurtag, MD; Emily Jungheim, MD; Sarah Keller, MD; Kelle Moley, MD; and Valerie Ratts, MD; 314-286-2419
Location: 4444 Forest Park Avenue, Suite 3100
Elective Contact: Sarah Keller, MD, kellers@wudosis.wustl.edu

Other Information: Students report to Dr. Keller first day of elective. Please email Dr. Keller the prior week.
Enrollment limit per period: 1 (will consider two students if faculty presence allows)
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The sub-intern will participate (in the office and hospital) in the study and treatment of women with reproductive endocrine disorders and infertility. The student will attend and present in conferences, attend surgery, observe assisted reproductive technology procedures, have assigned reading and be an integral part of the reproductive endocrine service. Opportunities for clinical research projects in reproductive endocrinology are also available.

Student time distribution: Inpatient 10%; Outpatient 75%; Conferences/ Lectures 15%; Primary Care 10%; Subspecialty Care 90%
Major teaching responsibility: Attendings, fellows, and resident
Patients seen/weekly: 75
On call/weekend responsibility: None

M45 830 / GYN ONCOLOGY SUB-INTERNSHIP
Instructor(s): David Mutch, MD, 314-362-3181
Location: Maternity Hospital, Barnes-Jewish Hospital, South Campus
Elective Contact: David Mutch, MD, 314-362-3181, Dana Schenck, 314-362-3218

Other Information: Students report to 17300 Conference Room, 6 a.m. first day of
elective to round with the Fellows.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37 and 41.

The sub-intern will take part in the work-up of tumor patients prior to surgery and/or radiotherapy, assist in pelvic operations, help render perioperative care, and review pathology specimens and slides. The student will participate in GYN Tumor Clinic sessions, make hospital rounds with house staff, accompany chief residents on consultations, and attend OB/GYN conferences. Opportunities for clinical or basic research project in gynecologic malignancy are also available.

Student time distribution: Inpatient 70%; Outpatient 20%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attendings, fellows, and residents
Patients seen/weekly: 40
On call/weekend responsibility: Weekend rounds

**M45 833 / SPECIAL TOPICS IN REPRODUCTIVE HEALTH**
Instructor(s): David Eisenberg, MD, MPH
Location: Dept of OB/GYN, Maternity Building, 3rd floor
Elective Contact: David Eisenberg, MD, MPH, 314-362-3751

Other Information: Students should contact Dr. Eisenberg (eisenbergd@wudosis.wustl.edu) and Michele Curran (curranm@wudosis.wustl.edu), who will coordinate scheduling at least two weeks prior to the beginning of the rotation.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 17, 21, 29, 33, 37, and 41.

Students will attend a variety of outpatient clinics to interact with patients seeking different reproductive health services. These clinics include family planning and abortion services at Planned Parenthood of the St. Louis Region, the St. Louis County...
STD clinic, Adolescent and Pediatric Gynecology, Child Sexual Abuse, Teen OB, The SPOT, Ultrasound and Prenatal Diagnosis, and Gynecology clinics. Clinical experiences will be ambulatory. Conferences include Obstetrics and Gynecology Grand Rounds every Wednesday at 7 am, Family Planning service meetings, and monthly Journal Club. Reading will include relevant articles and chapters. Students will be responsible for a brief (15-20 minute) presentation on a reproductive health topic at the conclusion of the course. Opportunities for clinical research in contraception are also available.

Student time distribution: Outpatient 100%; Primary Care 30%; Subspecialty Care 70%
Major teaching responsibility: Attendings and Nurse Practitioners when at Planned Parenthood
Patients seen/weekly: Varies
On call/weekend responsibility: None.

NOTE: It is important that students have access to a car for portions of this rotation as some of the clinical locations are best reached by car.

M45 843 / MATERNAL-FETAL MEDICINE OUTPATIENT CARE SUB-INTERSHIP
Instructor(s): Roxane Rampersad, MD, 314-747-0739
Location: 5th Floor, Center for Advanced Medicine, Ob/Gyn office
Elective Contact: Roxane Rampersad, MD, 314-747-0739

Other Information: Students report to the 5th Floor, Center for Advanced Medicine, Ob/Gyn office, 8:00 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Students will see a variety of high risk obstetrical patients in the outpatient setting in the Center for Advanced Medicine and the Center for Outpatient Health. The student will evaluate various types of reproductive age patients with medical or obstetrical complications, including preconception consultations, prenatal care consultations and initial prenatal visits. The student will also see return patients to experience the
continuity of prenatal care. Students will participate in antenatal testing and learn basic ultrasonography skills. The student will be responsible for one presentation to be given to the OB teams at the end of the rotation. Students are provided independent study time to put together the presentation which should be in power point and on a topic of their choice, inspired by a patient-related clinical conditioned that peaked their interest during the block. In addition, the student will have the option to take overnight call, or call in the Pregnancy Assessment Center in order to gain more hands-on experience with in-patient obstetrics. This is voluntary and not a requisite.

Student time distribution: Inpatient 5%; Outpatient 85%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Maternal-Fetal Medicine Attendings and fellows
Patients seen/weekly: 40
On call/weekday responsibility: None

M45 844 / MATERNAL-FETAL MEDICINE INPATIENT (ANTEPARTUM) SUB-INTERNSHIP
Instructor(s): D. Michael Nelson, MD, 314-747-0738
Location: Maternity Hospital, Barnes- Jewish Hospital, South Campus

Other Information: Students report to Antepartum Service (ward 5300), 7:30 a.m. first Monday of elective. If the first day is a holiday, email Dr. Nelson prior to start date for instructions.
Enrollment limit per period: 1 (unless cleared by Course Master)
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Sub-interns will participate in the antepartum and intrapartum management of high-risk hospitalized patients. There is limited interaction with outpatients through the High-Risk Obstetrics Clinics and the Center for Diabetes in Pregnancy. Examples include diabetes, hypertension, renal disease, hematologic abnormalities, preterm labor, and others. Antepartum evaluation and monitoring of the pregnant woman and
Working with the attending physicians in the Ultrasound Units at the Center for Advanced Medicine and the Center for Women's Wellness at Missouri Baptist Medical Center, the student will learn the principles and techniques of non-invasive screening for fetal disorders and observe the performance of invasive prenatal diagnostic procedures. The student will also learn the standards and guidelines for performance of the antepartum obstetrical ultrasound examination and female pelvic examination. Normal and abnormal fetal and gynecologic anatomy will be reviewed. Experience will
be gained in pedigree analysis and familial risk factor assessment by working with genetic counselors. One day is spent in the Cytogenetics Laboratory observing the preparation of prenatal specimens for karyotype analysis. Opportunities for participation in clinical research are also available.

Student time distribution: Outpatient 90%; Conferences/Lectures 10%; Primary Care 30%; Subspecialty Care 70%
Major teaching responsibility: The attendings of the ultrasound section
Patients seen/weekly: 40
On call/weekend responsibility: None

M45 861 / GYN FEMALE PELVIC MEDICINE & RECONSTRUCTIVE SURGERY (UROGYNECOLOGY) SUB-INTERNSHIP
Instructor(s): Chiara Ghetti, MD, and Jerry Lowder, MD, 314-747-1402
Location: Maternity Hospital, Barnes-Jewish Hospital, South Campus
Elective Contact: Chiara Ghetti, MD, and Jerry Lowder, MD, 314-747-1402

Other Information: Students report to Drs. Ghetti or Lowder, Center for Advanced Medicine, 13th Floor, Suite C at 8:00 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5 and 9.

The sub-intern will take part in the office evaluation of patients (with pelvic floor disorders including pelvic organ prolapse, urinary incontinence, fecal incontinence, birth injuries), assist in pelvic floor reconstructive surgical procedures, and participate in perioperative care. The Sub-I will participate in office sessions, surgical cases and will be responsible for rounding with the Urogynecology resident on service as well as participating in consultations. The Sub-I will attend FPMRS didactic educational sessions and OB-GYN conferences. The Sub-I will be required to do a 45 minute presentation on an urogynecologic topic of choice by the end of the rotation. Opportunities for clinical research projects in Urogynecology are also available.
Student time distribution: Outpatient 50-60%; Inpatient 20-30%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attendings and Residents
Patients seen/weekly: 30
On call/weekend responsibility: Weekend rounds may be necessary.

M10 823 / OBSTETRICAL ANESTHESIA
Instructor(s): Swarup Varaday, MD, 314-362-6252
Location: Barnes-Jewish Hospital, South Campus
Elective Contact: Swarup Varaday, MD, 314-362-2628
Other Information: Students should report to 5400 Labor and Delivery, 7:00 a.m. first day of elective.

Enrollment limit per period: 1
Valid start weeks for two- or four-week blocks are: Weeks 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, and 43.

The medical students will learn the different analgesia/anesthetic options for the labor patient. They will also learn how the physiological adaptations of pregnancy influence anesthetic management. They will be actively involved in the parturient’s management, i.e., starting an IV, placement of spinal, epidural or CSE (combined spinal epidural) anesthetics. They will also attend the OB anesthesia conferences and interview patients in labor (with an OB anesthesia attending).

Student time distribution: Inpatient 90%; Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attending, Senior Resident
Patients seen/weekly: 20
On call/weekend responsibility: None (optional)
In this six-week elective, students will have the opportunity to immerse themselves in bench research in reproductive science. The five PI’s willing to take students are Drs. Kelle Moley, Sarah England, Indira Mysorekar, Katherine Fuh, and Celia Santi.

- Moley's research focuses on mammalian gametes, fertilization, preimplantation development and implantation.
- England's laboratory focuses on uterine contractility and ion channels in the uterine myometrium.
- The Mysorekar lab studies the dynamics of tissue regeneration in the adult mammalian urinary bladder pathogenesis of a common infectious disease in women: namely, recurrent urinary tract infections (UTIs) and investigation of potential infectious etiology for preterm birth in pregnant women.
- Santi’s work focuses on ion channels in mouse and human sperm.
- Fuh investigates cell signaling in ovarian cancer and the biology of ovarian cancer metastasis.

The main criteria for this rotation is that the student must have prior experience as an undergraduate or postgraduate in a laboratory, not including class work. This rotation is designed for the student planning a career in academic medicine as a physician scientist and one who is interested in considering reproductive science as a field. Prior to signing up for this course, the student must contact Dr. Moley to discuss the schedule and expectations of the rotation.
Faculty — Obstetrics and Gynecology

George Andrew Macones, MD, MS Mitchell and Elaine Yanow Professor of Obstetrics and Gynecology (primary appointment)
Head of the Department of Obstetrics and Gynecology
MD Jefferson Medical College 1988
BS University of Pennsylvania 1984
MS University of Pennsylvania 2006

John K Appelbaum, MD Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD Washington Univ in St. Louis 1984
BA Saint Louis University 1980

Tomas Ismael Aquino Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)

Yasmin Asvat, MA, PHD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MA San Diego St University 2006
PHD University of South Florida 2013
BA University of Toronto 2004
BA1 University of Toronto 2004

Sangeeta Kaur Babar, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS Rensselaer Poly Institute 2001
MD Albany Medical College 2003

Margaret Elizabeth Baum, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD John Hopkins Univeresity 2001

Michael William Bebbington Professor of Obstetrics and Gynecology (Pending Executive Faculty Approval) (primary appointment)

Robert L Becker, MD Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD Washington Univ in St. Louis 1969
BA Cornell University 1965

James E Belcher, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS University of Texas Austin 1972
MD Washington Univ in St. Louis 1976

Joe E Belew, MD Associate Professor of Clinical Obstetrics and Gynecology (primary appointment)
BA Central Methodist College 1953
MD Saint Louis University 1957

Lisa Marie Bernhard, MD Instructor in Obstetrics and Gynecology (Pending Dean's Approval) (primary appointment)
MD Louisiana St University 1985
BA Vanderbilt University 1981
Scott W Biest, Associate Professor of Obstetrics and Gynecology (primary appointment)
Jeffrey D Bloss, Adjunct Associate Professor of Obstetrics and Gynecology (primary appointment)
Irving Boime, PHD, MS, Professor of Developmental Biology (primary appointment)
Professor of Reproductive Biology in Obstetrics and Gynecology
PhD Washington University in St. Louis 1970
MS Purdue University 1966
BS St. Louis College of Pharmacy 1964
Richard Gerald Bolanos, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Kathryn L Botney, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA Washington University in St. Louis 1980
Lawrence V Boveri, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD University of Missouri 1988
Jessica Naomi Bowers, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Igor Brondz, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD School Not Listed 1978
Robert J Brown, MD, Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD Washington University in St. Louis 1983
BS St. Peters College 1977
Bruce L Bryan, MD, BE, Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD School Not Listed
BE Purdue University 1973
Alison Gale Cahill, MD, Associate Professor of Obstetrics and Gynecology (primary appointment)
MD University of Connecticut 2002
Ebony Boyce Carter, MS, MD, Assistant Professor of Obstetrics and Gynecology (primary appointment)
Assistant Professor of Surgery (Public Health Sciences)
MS University of Michigan 2002
BS Stanford University 2000
MD Duke University 2006
Arthur L Casey, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD University of Missouri 1977
Michael B Chen, Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
Ronald J Chod, Adjunct Associate Professor of Obstetrics and Gynecology (primary appointment)
BA University of Texas Austin 1978
Camaryn E Chrisman Robbins, MD, MPH, Assistant Professor of Obstetrics and Gynecology (primary appointment)
MD Wake Forest University 2004
MPH University of Michigan 1998
Christine M Chu, Assistant Professor of Obstetrics and Gynecology (primary appointment)
Vicente M Colon-Alcaraz, MD, Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
BA University of Puerto Rico 1978
MD School Not Listed 1982
Eric S Colton, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS University of California Irvine 1987
MD Saint Louis University 1996
Shayna N Conner, MD  Assistant Professor of Obstetrics and Gynecology (primary appointment)  
    MD University of MO Columbia 2008  
    BA George Washington University 2003  

James P Crane, MD  Associate Vice Chancellor for Clinical Affairs (primary appointment)  
    Chief Executive Officer-Faculty Practice Plan  
    Professor of Obstetrics and Gynecology  
    Professor of Radiology  
    Associate Professor of Genetics  
    MD Indiana University Bloomington 1970  
    BS Indiana University Bloomington 1966  

Robert D Crist  Instructor in Clinical Obstetrics and Gynecology (primary appointment)  

Veronica Lynn Cross  Instructor in Clinical Obstetrics and Gynecology (primary appointment)  

David T Curiel, MD, PHD  Distinguished Professor of Radiation Oncology (primary appointment)  
    Professor of Medicine  
    Professor of Obstetrics and Gynecology  
    Professor of Radiology  
    Associate Professor of Genetics  
    MD Emory University 1982  
    BA West Georgia College 1978  
    PHD University of Groningen 2000  

Michelle R Devera, MD  Instructor in Clinical Obstetrics and Gynecology (primary appointment)  
    BA Washington Univ in St. Louis 1985  
    MD Washington Univ in St. Louis 1993  

Jeffrey M Dicke, MD  Professor of Obstetrics and Gynecology (primary appointment)  
    MD Ohio State University 1978  
    BA University of Toledo 1975  

Shelby Marie Dickison, MD  Assistant Professor of Obstetrics and Gynecology (primary appointment)  
    MD University of MO Columbia 2011  
    BS University of MO St Louis 2004  

Russell B Dieterich, MD  Instructor in Clinical Obstetrics and Gynecology (primary appointment)  
    BA Knox College 1965  
    MD University of Illinois 1970  

Lakshmi Vijaya Dundoo, MS  Instructor in Clinical Obstetrics and Gynecology (primary appointment)  
    MS School Not Listed 1992  
    BS School Not Listed 1986  
    UNKNOWN School Not Listed 1992  

David Louis Eisenberg, MD, M PHD  Associate Professor of Obstetrics and Gynecology (primary appointment)  
    BS University of Pittsburgh 1999  
    MD University of Alabama 2003  
    M PH Northwestern University 2009  

Josiah O. Ekuno  Instructor in Clinical Obstetrics and Gynecology (primary appointment)  
    BS School Not Listed 1965  

Sarah K England, PHD  Professor of Obstetrics and Gynecology (primary appointment)  
    Professor of Cell Biology and Physiology  
    Alan A and Edith L Wolff Professor of Medicine  
    PHD Medical College of Wisconsin 1993  
    BA Carleton College 1988
Prabagaran Esakky, MS, PHD, Instructor in Obstetrics and Gynecology (primary appointment)
MS Sri Paramakalyani College 1997
BS Sri Paramakalyani College 1995
PHD Natl Inst Resch Reprod Health 2007

Renee D Ewing, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Southern Illinois University 1984
BA University of MO St Louis 1979

Cathleen Rae Faris, MD, Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
BA University of Kansas 1977
MD University of Kansas 1982

Marsha Nicole Fisher, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD University of Missouri 1992
BA Washington Univ in St. Louis 1988
Shanon Alex Forseter, Instructor in Clinical Obstetrics and Gynecology (primary appointment)

Katherine C Fuh, MD, Assistant Professor of Obstetrics and Gynecology (primary appointment)
MD Georgetown University 2005

Andrew E Galakatos, MD, Professor of Clinical Obstetrics and Gynecology (primary appointment)
BS St Louis College of Pharmacy 1960
MD University of Missouri 1965

Chiara G.I. Ghetti, MD, Associate Professor of Obstetrics and Gynecology (primary appointment)
MD Indiana University Indianopoli 1997

Nicole Marie Gilbert, Instructor in Obstetrics and Gynecology (primary appointment)

Gordon Goldman, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS University of Toledo 1962
MD Saint Louis University 1966

Diana Lee Gray, Professor of Obstetrics and Gynecology (primary appointment)
Professor of Radiology
Associate Dean for Faculty Affairs
Professor of Engineering
BS University of Illinois 1977

Margaret Rosanna Gray-Swain, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Washington Univ in St. Louis 2002

Perry W Grigsby, MD, Professor of Radiation Oncology (primary appointment)
Professor of Radiology
Professor of Obstetrics and Gynecology
BS University of Kentucky 1974
MD University of Kentucky 1982

Ann Marie Gronowski, PHD, Professor of Pathology and Immunology (primary appointment)
Professor of Obstetrics and Gynecology
BS University of Illinois 1985
PHD Univ of Wisconsin Madison 1992

Andrea Ruth Hagemann, MD, Assistant Professor of Obstetrics and Gynecology (primary appointment)
MD Washington Univ in St. Louis 2004
BA Princeton University 2000

Ian Sean Hagemann, PHD, Assistant Professor of Pathology and Immunology (primary appointment)
Assistant Professor of Obstetrics and Gynecology

Hoosna Haque, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS University of Texas Arlington 1992
MD Beaufort Technical College 1996

Richard Alan Hartman, MD
Associate Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD University of Missouri 1978

Kenneth Edmond Hemba, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Jefferson Medical College 2011

Laurel D Hibbs
Instructor in Clinical Obstetrics and Gynecology (primary appointment)

John T Hoff, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS Xavier University 2002
MD Medical College of Wisconsin 2006

Kathleen M Hogan, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA Westminster College 1985
MD University of Missouri 1989

Robert Franklyn Holloway Jr
Instructor in Clinical Obstetrics and Gynecology (primary appointment)

William Edward Houck, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD University of Cincinnati 1981
BS Brown University 1977

David H Hua
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS University of California 1990

Laura Hulbert, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Washington Univ in St. Louis 1981
BA Washington Univ in St. Louis 1976

Saji Jacob, MD, MS
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD School Not Listed 1993
UNKNOWN School Not Listed 1996
MS Kerala University 1989

Michael K Johnson, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Saint Louis University 1975
BS Ohio State University 1970

Sandy Lynn Jost
Adjunct Instructor in Obstetrics and Gynecology (primary appointment)

Mark J Jostes, MD
Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
BS Rockhurst College 1976
MD University of Missouri 1981

Emily Susan Jungheim, MD
Associate Professor of Obstetrics and Gynecology (primary appointment)
BS University of Illinois 1997
MD Loyola University Chicago 2001
Elizabeth A Keegan Garrett, MD, M PH
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Oregon Health Science Unvers 2005
M PH Harvard University 2003
BA Mount Holyoke College 1998
Sarah Lynn Keller, MD
Assistant Professor of Obstetrics and Gynecology (primary appointment)
BA University of Notre Dame 1985
MD Southern Illinois University 1989
Jeannie Chen Kelly, MD
Assistant Professor of Obstetrics and Gynecology (primary appointment)
MD Columbia University 2009
Erin L King, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Washington Univ in St. Louis 2003
BA Stanford University 1997
Phillip Lee Kintner, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Southern Illinois University 1986
Laurie Klabi, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD University of Missouri 1991
BA University of Missouri 1987
Jacob Klein, MD
Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD School Not Listed 1968
BS Muhlenberg College 1964
Teresa Lee Knight, MS, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MS Saint Louis University 1994
MD Saint Louis University 1998
BA University of CA Berkeley 1992
Yosuke Komatsu
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Ramakrishna Kommagani, PhD
Assistant Professor of Obstetrics and Gynecology (Pending Executive Faculty Approval) (primary appointment)
PHD Wright State University 2009
Claudia Krasnoff, MA, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MA Johns Hopkins University 1990
MD University of Maryland 1994
Frederick Thier Kraus
Adjunct Professor of Obstetrics and Gynecology (primary appointment)
BS College of William and Mary 1951
Lindsay M Kuroki, MD
Assistant Professor of Obstetrics and Gynecology (primary appointment)
MD Brown University 2009
Christine Marie Ladd, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD University of Missouri 1990
BA Saint Louis University 1986
Tony C Lam
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Patricia Lazaroff, BN, MSN
Adjunct Instructor in Obstetrics and Gynecology (primary appointment)
BN School Not Listed 1972
MSN Saint Louis University 1974
Gary G Lee, DOST
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS School Not Listed 1970
DOST School Not Listed 1976
Fanee J Lekkas
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Edward S Levy, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Washington Univ in St. Louis 1991
BA Duke University 1987
**Amanda Lark Lewis, PHD** Assistant Professor of Molecular Microbiology (primary appointment)
Assistant Professor of Obstetrics and Gynecology
BS Cal Polytec San Luis Obispo 2001
PHD University of San Diego 2006
**Lola J Loeb, MA, MD** Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MA California State Dominguez 1992
MD KANSAS U SCHOOL OF MEDICINE 2000
BS Loyola Marymount University 1988
**Ramon Alberto Lorca** Instructor in Obstetrics and Gynecology (Pending Dean's Approval) (primary appointment)
BS Universidad Catolica Del Norte 2001
**Jerry L Lowder, MD** Associate Professor of Obstetrics and Gynecology (primary appointment)
MD East Carolina University 1999
**Tessa E Madden, MD, M PH** Associate Professor of Obstetrics and Gynecology (primary appointment)
BS Smith College 1995
MD Washington Univ in St. Louis 2001
M PH Johns Hopkns University Medic 2006
**Maria Maminta-Streiff** Instructor in Clinical Obstetrics and Gynecology (primary appointment)
**Mary Elizabeth Mani** Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA Washington Univ in St. Louis 1980
**Carolyn Marie Martin, MD** Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
BA Lindenwood College 1970
MD Washington Univ in St. Louis 1976
**Leslie Stewart Massad, MD** Professor of Obstetrics and Gynecology (primary appointment)
BS Williams College 1980
MD Duke University 1984
**Rebecca P McAlister, MD** Professor of Obstetrics and Gynecology (primary appointment)
Associate Dean for Graduate Medical Education
MD University of Kentucky 1979
BS University of Kentucky 1977
**Jennifer Ann McCabe** Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS Saint Louis University 2001
**Carolyn Kay McCourt, MD** Assistant Professor of Obstetrics and Gynecology (primary appointment)
MD Creighton University 2001
BS Creighton University 1997
**Daniel S McDonald, MD** Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS Yale University 1984
MD University of Missouri 1989
**Colleen Patricia McNicholas, DOST** Assistant Professor of Obstetrics and Gynecology (primary appointment)
DOST Kirksville College of Osteopat 2007
BS Benedictine University 2003
**Denise Andrea Meckler, MD** Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Ohio State University 1992  
**Diane F Merritt, MD** Professor of Obstetrics and Gynecology (primary appointment)  
MD New York University 1975  
BS Miami University 1971  
**Jerry N Middleton, MD** Instructor Emeritus in Clinical Obstetrics and Gynecology (primary appointment)  
Instructor Emeritus in Clinical Ob & Gyn (primary appointment)  
MD Washington Univ in St. Louis 1963  
BA Westminster College 1959  
**Jennifer Alaine Miller-Katsafanas, DPT, BBA** Assistant Professor of Physical Therapy (primary appointment)  
Assistant Professor of Obstetrics and Gynecology  
BA University of MO St Louis 1996  
DPT Washington Univ in St. Louis 2012  
BBA University of MO St Louis 1996  
**Tehmtom S Mistry, MD** Instructor in Clinical Obstetrics and Gynecology (primary appointment)  
MD University of Bombay 1968  
**Kelle Harbert Moley** James Crane Professor of Obstetrics and Gynecology (primary appointment)  
Associate Professor of Cell Biology and Physiology  
Vice Chairman for Basic Research, Department of Obstetrics and Gynecology  
BA Wellesley College 1984  
**Alvaro Mora, MD** Instructor in Clinical Obstetrics and Gynecology (primary appointment)  
MD Universidad de Antioquia  
**Jeffrey Stuart Mormol** Instructor in Clinical Obstetrics and Gynecology (primary appointment)  
BS Indiana University Bloomington 1986  
**Nathaniel H Murdock, MD** Associate Professor of Clinical Obstetrics and Gynecology (primary appointment)  
MD Meharry Med College 1963  
BS Howard University 1958  
**Helen I-Yun Mussemann, MD** Instructor in Clinical Obstetrics and Gynecology (primary appointment)  
BA Rice University 1992  
MD Beaufort Technical College 1996  
**David G Mutch, MD** Ira C and Judith Gall Professor of Obstetrics and Gynecology (primary appointment)  
BA Carleton College 1976  
MD Washington Univ in St. Louis 1980  
**Indira U Mysorekar, MS, PHD** Associate Professor of Obstetrics and Gynecology (primary appointment)  
Associate Professor of Pathology and Immunology  
MS University of Lund 1995  
BS University of Lund 1994  
PHD Washington Univ in St. Louis 2002  
**Clarice Michelle Nelson, MD** Instructor in Clinical Obstetrics and Gynecology (primary appointment)  
MD University of Kansas Medical 2011  
**Donald Michael Nelson, MD, PHD** Virginia Lang Professor of Obstetrics and Gynecology (primary appointment)
Marlynn Nunez, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA Cornell College 1971
MD Washington Univ in St. Louis 1977

Oroma Beatrice Afiong Nwanodi, Instructor in Clinical Obstetrics and Gynecology (primary appointment)

Laura James Nywening, MD, Instructor in Obstetrics and Gynecology (primary appointment)
BS University of Florida 2007
MD University of Florida 2011

Randall Odem, MD, Professor of Obstetrics and Gynecology (primary appointment)
MD University of Iowa 1981

Chukwuma Mbonu Okoroji, Instructor in Clinical Obstetrics and Gynecology (primary appointment)

Kenan Rifat Omurtag, MD, Assistant Professor of Obstetrics and Gynecology (primary appointment)
MD University of MO Kansas City 2006
BA University of MO Kansas City 2006

Margaret McCarthy Ormonde, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS University of Missouri 1983

Allen S Palmer, DOST, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
DOST School Not Listed 1972
BS Ohio Northern University 1963

Laura Anne Parks, MD, Associate Professor of Obstetrics and Gynecology (primary appointment)
BA University of Kansas 1998
BS University of Kansas 1998
MD University of Kansas 2004

Meera Raman Patel, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD University of MO Kansas City 1996

Anthony Craig Pearlstone, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA Washington Univ in St. Louis 1981
MD Washington Univ in St. Louis 1985

John David Pfeifer, MD, PHD, Professor of Pathology and Immunology (primary appointment)
Professor of Obstetrics and Gynecology
Vice Chairman for Clinical Affairs of Pathology and Immunology
MD University of California 1988
PHD University of California 1987
BA University of California 1981

Timothy Charles Philpott, MD, Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD Washington Univ in St. Louis 1994

Aaron Juan Pile, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD School Not Listed 1983
BA Norfolk State University 1980

Jorge Pineda, MD, Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD School Not Listed 1972
Matthew A Powell, MDAssociate Professor of Obstetrics and Gynecology (primary appointment)
MD Michigan State University 1995
BS Washington St University 1990
Jodie Rai, MDAssociate Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD University of Illinois 1988
BA Harvard University 1983
Roxane M. Rampersad, MDAssociate Professor of Obstetrics and Gynecology (primary appointment)
MD Emory University 1998
BS Emory University 1994
Valerie RattsProfessor of Obstetrics and Gynecology (primary appointment)
MD School Not Listed 1972
Amy J. Ravin, MDAssistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD University of Chicago 1996
Jonathan R Reed, MDAssistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
BA Fisk University 1956
MD Meharry Med College 1965
Angela Mary ReiningInstructor in Clinical Obstetrics and Gynecology (primary appointment)
Lee A Rigg, PHD, MDAssociate Professor of Clinical Obstetrics and Gynecology (primary appointment)
BA Arizona State University 1961
PHD University of Colorado Boulder 1965
MD Washington Univ in St. Louis 1971
Joan K. Riley, PHDAssistant Professor of Obstetrics and Gynecology (primary appointment)
Assistant Professor of Pediatrics
Instructor in Medicine
PHD Washington Univ in St. Louis 1998
Ann Marie RockamannInstructor in Clinical Obstetrics and Gynecology (primary appointment)
Chinda Vanasin Rojanasathit, MDAssistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD School Not Listed 1967
Sharman M Russell, MDAssistant Professor in Obstetrics and Gynecology (primary appointment)
MD CHICAGO MEDICAL SCHOOL 2010
Bridget Scheve RutledgeInstructor in Clinical Obstetrics and Gynecology (primary appointment)
Jerome D Sachar, MDAssistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
BA Amherst College 2000
MD University of Missouri 1979
Sudha Saha, MDInstructor in Clinical Obstetrics and Gynecology (primary appointment)
MD School Not Listed 1963
BA Balurghat College 1957
Celia Maria Santi Grau Perez, MDPHDAssociate Professor of Obstetrics and Gynecology (primary appointment)
MD Instituto de Montevideo 1992
BS Instituto de Montevideo 1979
PHD National Autonomous U of Mex 1998
Leslie A Scott, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Anne R Seyer, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
  BA Saint Louis University 2002
  MD Saint Louis University 2006
Clayton D. Skaggs, Adjunct Instructor in Obstetrics and Gynecology (primary appointment)
  BS Southwest Missouri State University 1984
Jennifer H. Smith, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
  BS University of California 1995
Tammy Shim Sonn, MD, Associate Professor of Obstetrics and Gynecology (primary appointment)
  BS University of Missouri 2004
  MD Rush University 2006
Clayton D. Skaggs, Adjunct Instructor in Obstetrics and Gynecology (primary appointment)
  BS Southwest Missouri State University 1984
Jennifer H. Smith, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
  BS University of California 1995
Tammy Shim Sonn, MD, Associate Professor of Obstetrics and Gynecology (primary appointment)
  BS University of Missouri 2004
  MD Rush University 2006
  MD University of Chicago 1999
Theresa M Spitznagle, DPT, MHS, Associate Professor of Physical Therapy (primary appointment)
  DPT Washington University in St. Louis 2006
  MHS Washington University in St. Louis 1994
  BS Marquette University 1986
Chotchai Srisuro, MD, Associate Professor of Clinical Obstetrics and Gynecology (primary appointment)
  MD School Not Listed 1967
Holly L Steiner, Assistant Professor of Obstetrics and Gynecology (primary appointment)
  BS Southern Illinois University Edwardsville 2005
John A Stopple, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
  BA Grinnell College 1962
  MD University of Wisconsin Madison 1969
Molly Jean Stout, MD, Assistant Professor of Obstetrics and Gynecology (primary appointment)
  BA Bryn Mawr College 2002
  MD Loyola University Chicago 2007
Eric A Strand, MD, Associate Professor of Obstetrics and Gynecology (primary appointment)
  MD Johns Hopkins University Medicine 1995
Abbe L Sudvarg, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Melissa Dawn Tepe, MD, MS, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
  BS Yale University 1999
  MD Albert Einstein College of Medicine 2005
  MS Columbia University 2004
Premal H Thaker, MD, MS, Associate Professor of Obstetrics and Gynecology (primary appointment)
  MD Allegheny College 1997
  BA Villanova University 1995
  MS University of Texas Houston 2004
Jean Alfred Thomas Sr., MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
  MD School Not Listed 1972
Jeffrey Bryant Thompson, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
  BS Vanderbilt University 1989
  MD University of Missouri 1994
M. Bryant Thompson, Associate Professor of Clinical Obstetrics and Gynecology (primary appointment)
Albro C Tobey, MD  Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
BS Butler University 1965
MD School Not Listed 1972
Randall W Tobler  Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
BS Butler University 1965
MD School Not Listed 1972
Yvonne Perle Treece, AA  Instructor in Clinical Obstetrics and Gynecology (primary appointment)
AA Pellissippi St Technical Coll 1997
Jacqueline Sue Turner, MD  Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Tulane University 1983
BA Mass Inst of Technology (MIT) 1979
Methodius Gamuo Tuuli, M PH  Associate Professor of Obstetrics and Gynecology (primary appointment)
M PH University of California 2003
BS University of Ghana 1997
Stacy Lynne Tylka, DPT, MS  Associate Professor of Physical Therapy (primary appointment)
BS Saint Louis University 2000
DPT Washington Univ in St. Louis 2009
MS Saint Louis University 2002
Zevidad Vickery, MD  Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Ben-Gurion Univ of the Negev 2005
Daniel G Wagner  Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA1 Holy Cross College 1985
Leonard Lewis Wall, MD, MS, PHD  Selina Okin Kim Conner Professor in Arts & Sciences and Professor of Anthropology (primary appointment)
MD University of Kansas 1983
BA University of Kansas 1972
MS Monash University 2001
PHD Oxford University 1983
BS Oxford University 1974
Caihong Wang, PHD  Instructor in Obstetrics and Gynecology (primary appointment)
BS Laiyang Agricultural College 1993
PHD China Agriculture University 1998
Yong Wang  Assistant Professor of Obstetrics and Gynecology (primary appointment)
BS University of Missouri 1980
Mark S Wasserman, MD  Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA University of Missouri 1980
MD University of Missouri 1984
BS University of Missouri
Department of Ophthalmology and Visual Sciences

Instruction begins in the first year with examination of the eye and a lecture on various aspects of ocular disease. During the second year, students will receive a refresher lecture and lab on direct ophthalmoscopy as well as a lecture on ophthalmic manifestations of systemic disease and primary ocular disease. During the third year, students are given the opportunity during the surgery clerkship to spend four weeks on the ophthalmology services. In addition, during the third year there are lectures given to students during the Internal Medicine rotations. In the fourth year, a four-week intensive clinical rotation is tailored to students interested in pursuing ophthalmology as a career. Also, research electives are available under the guidance
of numerous different ophthalmology faculty members for fourth year students.

Please visit the Department of Ophthalmology website for more information about the department.

MD Courses — Ophthalmology and Visual Sciences

First year

Introduction to clinical ophthalmology begins in the first year with a lecture and practicum (peer exam) on taking an ocular history and performing an ocular exam. Emphasis is on ophthalmoscopy. Lectures and practicum session will be led by Dr. John Lind and Dr. Morton Smith.

Second year

During the second year, students will receive a refresher lecture and lab on direct ophthalmoscopy as well as a lecture on ophthalmic manifestations of systemic disease and primary ocular diseases.

Third year

Third-Year Clerkship Opportunities

In the third year, students are given the opportunity to spend four weeks of their surgery rotation on the ophthalmology service. The students work closely with the ophthalmology residents and review the differential diagnosis of the “red eye,” how to
interpret an ophthalmologic consult note, and how to handle ocular emergencies. During this rotation, there is again emphasis on the use of the ophthalmoscope. Additional clinical skills introduced to student rotators include the use of the slit lamp and indirect ophthalmoscopy. All third-year students must complete the “Case Studies in Ophthalmology for Medical Students” and attend the periodic “feedback/oral exam” session with Dr. John Lind and/or Dr. Morton Smith.

Third year/fourth year

Ophthalmology Sub-Internship Rotation (“The Sub-eye”). During the month of June prior to fourth year, students interested in pursuing a career in ophthalmology are encouraged to rotate on this intensive four week rotation. Students will have personal indirect ophthalmoscopy lenses available for use on the rotation. Formal didactics and workshops will be used to teach students how to perform a detailed ophthalmic history and exam including mastery of advanced slit lamp techniques and indirect fundoscopy. There will be an intense schedule of both live and recorded lectures delivered by ophthalmology faculty members with post-lecture quizzes. Students will be expected to perform daily required reading. Retention and understanding of reading materials will be gauged by frequent quizzes. Students are strongly encouraged to present a case at the Department’s Grand Rounds. By the end of the rotation, students will be expected to function at the level of a first year ophthalmology resident.

Fourth year

Electives

M50 – OPHTHALMOLOGY

M50 801 / OPHTHALMOLOGY

Instructor(s): John T. Lind, MD, MS, lindj@vision.wustl.edu, and Morton E. Smith, MD, 314-747-5559 or 314-362-5722
Location: McMillan Hospital, Room 114, Barnes-Jewish Hospital, South Campus
This elective is for senior students who plan to apply for a residency in ophthalmology. In accordance with any sub-internship, medical students will be expected to function at the level of a beginning first-year ophthalmology resident on this rotation. The students will rotate through the resident eye clinic and the subspecialty clinics of the full time faculty of the Washington University Medical School Department of Ophthalmology and Visual Sciences (e.g., neuro-ophthalmology service, cornea/external disease service, etc.).

The first day of the rotation will consist of an orientation day in which students will receive extensive didactics and participate in workshops to learn the basics of a complete ophthalmic history and examination. Students may opt to check-out indirect ophthalmoscopy lenses that may be used for the month to facilitate the acquisition of fundoscopy skills. During the rotation, the student’s responsibilities range from observation (including observing surgery) to working at a resident level and completing full eye examinations.

There will be a rigorous academic curriculum for the rotation including a weekly case presentation to Dr. John Lind or Dr. Morton Smith, bi-monthly wet lab sessions with a resident, weekly attendance at grand rounds, and a mix of medical student-oriented and resident-oriented conferences.

On day one, students will receive a rotating call schedule for the entire month. A medical student is expected to be present at all times to assist the primary call ophthalmology resident during the rotation. By the end of the four-week rotation, the student is expected to be proficient in taking an ocular history and performing a complete eye exam including slit lamp biomicroscopy and indirect ophthalmoscopy.
All students interested in this senior elective must meet with Dr. John Lind or Dr. Morton Smith in March of year WUMS III. The final grade of the student is determined by input from the director of the particular service(s) through which the student rotated, plus the case presentations, plus scores on quizzes over required reading. The grades at Washington University are Honors, High Pass, Pass, Fail.

Student time distribution: Inpatient 5%; Outpatient 80%; Conferences/ Lectures 15%; Subspecialty Care 100%
Major teaching responsibility: Attendings, fellows and residents
Patients seen/weekly: At least 25, usually more
On call/weekend responsibility: yes / yes- call schedule will be finalized on day one of the rotation.

M50 816 / AWAY ROTATION IN OPHTHALMOLOGY
Instructor(s): John T. Lind, MD, MS, lindj@vision.wustl.edu, and Morton E. Smith, MD
Location: McMillan Hospital, Room 114, Barnes-Jewish Hospital, South Campus
Elective Contact: Mary Carnoali, 314-362-4418

Other Information: All students interested in this away elective must apply through VSAS and then be formally invited to enroll.
Enrollment limit per period: 6
Valid start weeks: September 2016

This four-week elective is for senior students from medical schools across the United States who are in good standing at their home institution and who are planning to apply for a residency in ophthalmology. To enroll in this elective students must first apply online for the elective via the visiting student application service (VSAS). These applications will be reviewed and invitations will then be sent to individuals to enroll in the elective. Due to large demand, not all eligible away students will be accepted for the rotation. The dates for this elective are not flexible.

The students will rotate through the resident eye clinic and the subspecialty clinics of the full time faculty of the Washington University Medical School Department of
Ophthalmology and Visual Sciences (e.g., neuro-ophthalmology service, cornea/external disease service, etc.). In exchange for a refundable deposit, students may opt to check-out indirect ophthalmoscopy lenses that may be used for the month to facilitate the acquisition of fundoscopy skills.

During the rotation the student’s responsibilities range from observation (including observing surgery) to working at a resident level and completing full eye examinations. Didactics will include weekly case presentation sessions to Dr. John Lind or Dr. Morton Smith, weekly attendance at grand rounds, and a mix of medical student-oriented and resident-oriented conferences. Also, there will be medical student-oriented workshops to learn the basics of the slit lamp and indirect ophthalmoscopy.

On day one, students will receive a schedule of conferences that they are expected to attend during the month. By the end of the four-week rotation, the student is expected to be proficient in taking an ocular history and performing a complete eye exam including slit lamp biomicroscopy and indirect ophthalmoscopy.

The final grade of the student is determined by the course director with input from the residents, fellows, and faculty members of the particular service(s) through which the student rotated.

Student time distribution: Inpatient 15%; Outpatient 70%; Conferences/ Lectures 15%; Subspecialty Care 100%
Major teaching responsibility: Attendings, fellows, and residents
Patients seen/weekly: At least 25, usually more
On call/weekend responsibility: No call responsibility. Very rare weekend responsibility.
Research — Ophthalmology and Visual Sciences

OPHTHALMOLOGY RESEARCH OPPORTUNITIES (M50 900)

Usha P. Andley, PhD
1114-C McMillan
314-362-7167
Molecular basis of cataract; the function of molecular chaperones in cataract; proteomics, imaging and biochemical studies on cell culture and mouse models for crystallin gene mutations linked with cataract; testing drugs to inhibit cataract.

Rajendra S. Apte, MD, PhD
apte@vision.wustl.edu
Innate immunity and immune effector mechanisms in the retina, oxidative stress and cell death, models of developmental angiogenesis and neovascularization, inflammation and photoreceptor survival, macular degeneration.

Steven Bassnett, PhD
1114 McMillan
314-362-1604
Eye development, stochastic models of lens growth, stem cell biology, age-related cataract, UV-induced somatic mutation, ocular manifestations of Marfan syndrome, cell death suppression on the optic axis, cell biology of transparent tissues.

Anjali Bhorade, MD
314-362-5343
Evaluating the effect of glaucoma on visual function in older adults in the home. Understanding the relationship between vision and driving in older adults with glaucoma.
Shiming Chen, PhD
618 McMillan
314-747-4350
The molecular mechanisms regulating photoreceptor gene expression and the implications in understanding photoreceptor development and disease. We are focusing on three transcription factors, CRX, NRL and NR2E3, linked to photoreceptor degenerative diseases. Molecular genetics and biochemical approaches are used to identify the regulatory pathways associated with each factor. Mouse models are used to understand why mutations in these factors cause disease and develop therapeutic strategies, including AAV-gene therapy.

Steven M. Couch, MD
couch@vision.wustl.edu
Orbital inflammatory diseases, surgical techniques and novel treatments of periocular/orbital disease.

Susan M. Culican, MD, PhD
1104 McMillan
314-362-9278
Clinical: development of a low cost, simple visual function task for screening for macular disorders in the primary care setting. Education: examination of the utility of assessment tools for evaluating resident clinical progression during residency training. Development of new metrics to gauge resident progress.

Philip L. Custer, MD
custer@vision.wustl.edu

Thomas A. Ferguson, PhD
1207 McMillan
314-362-3745
Molecular basis of immune tolerance and how apoptotic cells tolerize the immune
response. The role of immune privilege in the pathogenesis of eye diseases such as age-related macular degeneration (AMD). The role of basal autophagy in the cells of the eye by using the cre-loxP system to delete essential autophagy genes from specific cell types in the eye.

Mae Gordon, PhD
1125 Old Shriners
314-362-3716
Ocular hypertension, glaucoma, keratoconus, adenoviral conjunctivitis, randomized clinical trial methodology, patient-reported outcome measures and measurement reliability.

George J. Harocopos, MD
harocopos@vision.wustl.edu
Age-related cataract, ophthalmic pathology.

Didier Hodzic, PhD
hodzicd@vision.wustl.edu
620 McMillan
314-362-7037
Cell biology of retinal development and homeostasis in mice, cone and rods cytoarchitecture.

Andrew Huang, MD, MPH
106 McMillan Building
314-362-0403
Ocular surface stem cell biology, molecular therapy for corneal dystrophies and corneal neovascularization, oxidative stress of corneal endothelium, clinical research on dry eye and ocular surface disease.

Humeyra Karacal, MD
karacal@vision.wustl.edu
Treatment of uveitis, prevention of cataracts with anti-oxidants, anti-oxidants in age
related macular degeneration, retinal imaging and analysis using data mining techniques, designing OR equipment to facilitate ophthalmic surgery

Michael A. Kass, MD
kass@vision.wustl.edu
Principal Investigator of the Ocular Hypertension Treatment Study (OHTS). Diagnosis, treatment and public health aspects of glaucoma.

Vladimir Kefalov, PhD
625 McMillan
314-362-4376
Photoreceptor Neurobiology and Retinal Degeneration. We are a sensory neurobiology lab interested in the function of mammalian rod and cone photoreceptors. In addition, we are interested in the mechanisms of neurodegeneration in the retina and are working on developing pharmacological and gene-therapy tools for preventing photoreceptor cell death.

Daniel Kerschensteiner, MD
kerschensteinerd@vision.wustl.edu
To understand the principles that guide the assembly of neural circuits and to decipher the way they process information. We would like to understand the principles that guide the assembly of neural circuits in the retina and to decipher the way they process information and hope to identify features of the retinal circuit architecture that perform particular computations and characterize how they arise during development. We then probe underlying mechanisms of circuit assembly and function through genetically targeted manipulations of specific cells in the retina.

John T. Lind, MD, MS
lindj@vision.wustl.edu
Glaucoma education, resident education, pharmacologic and surgical treatment of glaucoma, ophthalmic microbiology.

Gregg T. Lueder, MD
Retinoblastoma, eye misalignment (strabismus), retinopathy of prematurity, abnormal tearing, nasolacrinal disorders, cataracts, glaucoma.

Peter Lukasiewicz, PhD
1003C McMillan
314-362-4284
Neurotransmitters, synapses, retinal function in health and disease, retinal information processing.

Todd P. Margolis, MD, PhD
margolist@vision.wustl.edu

1. Cellular and molecular mechanisms that regulate herpes simplex infection neurons.
2. Inexpensive telemedicine for reducing blindness in underserved populations.

John R. Pruett, Jr., MD, PhD
1153K East Building
314-747-6769
Visual Systems and Cognitive Neuroscience Studies of Autism. Two active areas of research in my lab include: 1) behavioral and imaging studies of visual attention to and processing of eyes and faces in autistic and non-autistic subjects, and 2) developmental studies of large-scale brain networks in autistic and non-autistic subjects using functional connectivity magnetic resonance imaging (fcMRI). Example research rotation projects might include: pilot visual psychophysical studies of intermediate visual processes supporting face perception, or – for trainees with computational and/or imaging skills and interests – graph theory-based analyses of visual system sub-network structure across various groups in fcMRI data we have acquired from on-going projects.

Kumar Rao, MD
rao@vision.wustl.edu
Surgical and medical therapies for disorders of retina and choroid.

Nathan Ravi, MD, PhD, MS, FAAO
ravi@vision.wustl.edu
Directed toward understanding the pathophysiology of presbyopia and developing medical or surgical treatments for this condition.

Alan Shiels, PhD
1128 McMillan
314-362-1637
shiels@vision.wustl.edu
Molecular genetic mechanisms underlying cataract, glaucoma and associated eye disorders: (1) genome-wide linkage analysis and targeted (exome, amplicon) sequencing for discovery of causative or susceptibility genes, and (2) genotype-phenotype and functional expression studies of naturally occurring and gene-targeted mouse models to characterize pathogenic mechanisms.

Carla J. Siegfried, MD
siegfried@vision.wustl.edu
My research is focused on ocular oxygen metabolism and the development of open angle glaucoma. We are studying how the oxygen gradient in the eye is altered in disease states as well as non-invasive methods of measuring corneal oxygen consumption.

Florentina Soto, PhD
sotolucASF@vision.wustl.edu
Studies in my laboratory aim to identify the molecular basis of dendrites and axons lamination and synapse formation during development and in the adult retina. In addition, we investigate how these molecules could be involved in the development of retinal pathologies including retinal degeneration.

Larry Tychsen, MD
2S89 Eye Clinic, St. Louis Children’s Hospital
Principal investigator on NIH-funded studies of visual brain maldevelopment and repair in infant primates, as well as clinical studies of visuomotor abnormalities in cerebral palsy and pediatric refractive surgery.

Gregory P. Van Stavern, MD
vanstaverng@vision.wustl.edu

Neuroimaging of the visual pathways, Idiopathic Intracranial Hypertension, evidence-based medicine and clinical decision making; using the visual system as a model to study neurologic disorders. A further description of research labs can be found at http://vrcore.wustl.edu/residentstudentresearchopportunities/RSROHome

Faculty — Ophthalmology and Visual Sciences

Todd P Margolis, PHD, MDA Alan A and Edith L Wolff Distinguished Professor (primary appointment)
Head of the Department of Ophthalmology and Visual Sciences
PHD University of CA San Francisco 1983
BS Stanford University 1977
MD University of CA San Francisco 1984

Henry W Allhoff, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BA University of Missouri 1976
OD Illinois College of Optometry 1981

Navinkumar J Amin, MSA ssociate Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MS University of Bombay 1966
Shilpa S Amin, Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA University of MO Kansas City 1994

Usha P Andley, MS, Professor of Ophthalmology and Visual Sciences (primary appointment)
Assistant Professor of Biochemistry and Molecular Biophysics
BS Delhi University 1970
MS Delhi University 1972

Rajendra Apte, PHD, MD, Paul A. Cibis Distinguished Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Developmental Biology
Professor of Medicine
PHD University of Texas Southwest 1997
MD University of Bombay 1993

Sonya Bamba, MD, Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
MD Saint Louis University 2007

Steven Bassnett, PHD, Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Cell Biology and Physiology
BS University of Wales 1982
PHD University of East Anglia 1987

Paul Douglas Becherer, OD, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BA Southern Illinois University 1971
OD School Not Listed 1975

Stanley C Becker, PHD, MD, MA, Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Washington Univ in St. Louis 1948
PHD Washington Univ in St. Louis 1951
MD University of Chicago 1955
MA Washington Univ in St. Louis 1950

William L Becker, MD, MA, Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Earlham College 1982
MD Washington Univ in St. Louis 1987
MA Washington Univ in St. Louis 1987

Gregg Jonathan Berdy, MD, Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Duke University 1979
MD Saint Louis University 1983

Paul M Bernier, OD, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BS Indiana State University 1983
OD University of Missouri 1987

Anjali Maruti Bhorade, MD, Associate Professor of Ophthalmology and Visual Sciences (primary appointment)

Associate Professor of Occupational Therapy
MD University of Chicago 1999

Frank Joseph Bier, OD, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
Ronald C Bilchik, MD
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BS University of Missouri 1979
OD University of MO St Louis 1984

Mark Gerald Birkmann
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BA University of Missouri 1988
BS University of Toledo 1963
MD Washington Univ in St. Louis 1967

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Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Duke University 1987
MA Washington Univ in St. Louis 1991
MD Washington Univ in St. Louis 1992

Kevin Jay Blinder, MD
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BA Yale University 1966
MD Johns Hopkns University Medic 1970

George M Bohigian, MD
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MD Saint Louis University 1965

Isaac Boniuk
Professor Emeritus of Clinical Ophthalmology and Visual Sciences (primary appointment)
Prof Emeritus of Clin Ophthalmol & Vis SCI (primary appointment)
BS Dalhousie University 1958

Bernita Born-Wolf, OD, BN
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD University of MO St Louis 1987
BN Saint Louis University 1978

Paul J Botelho, MD
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
MD Boston University 1992
BA Holy Cross College 1988

Bryan R Bowen, OD
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OD University of MO St Louis 2001
BS University of MO Columbia 1994

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BS Stanford University 1981
MD Yale University 1987

Sean Michael Breit, MD
Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
MD Ohio State University 2002

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Marc Richard Brown, OD
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OD School Not Listed 1980

Dean B Burgess, MD
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Prof Emeritus of Clin Ophthalmol & Vis Sci (primary appointment)
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BA Occidental College 1963

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BS Illinois College of Optometry 1980

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Professor of Developmental Biology
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BA Harvard University 1976
MD Johns Hopkins University 1980

Nicholas J Colosi, MD
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MD Saint Louis University 1968
BA La Salle University 1964

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Associate Professor of Genetics
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MD University of California 1999
PHD University of California 1997
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AB Stanford University 1990

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Susan Margaret Culican, PhD, MD
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Philip L Custer, MD
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BS Vanderbilt University 1974
MD Vanderbilt University 1978
David L Davidson
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BS Vanderbilt University 1974
MD Vanderbilt University 1978
James Allen Declue, OD
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Illinois College of Optometry 1949
John James Deguire, MD
Instructor in Ophthalmology and Visual Sciences (primary appointment)
BA Washington Univ in St. Louis 1983
MD University of Illinois 1988
Paul E Diehl, OD
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Illinois College of Optometry 1959
John Robert Eigenbrodt, OD
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD University of Missouri 1988
BS Southern Illinois University Edwardsville 1985
Nicholas Earl Engelbrecht
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Lawrence W Ernst, OD
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD University of Missouri 1990
Raymond F Fada Jr, OD
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD University of Missouri 1989
BS University of Michigan 1984
Adam Ross Fedyk
Instructor in Clinical of Ophthalmology & Visual Sciences (primary appointment)
Robert M Feibel
Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
Thomas A Ferguson
Professor of Ophthalmology and Visual Sciences (primary appointment)
Associate Professor of Pathology and Immunology
BA Kent State University 1974
Kurt W Finklang, OD
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BS University of Missouri 1977
OD State University of New York 1981
Frank Donald Fontana, OD
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Illinois College of Optometry 1950
Bruce S Frank, MD
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BS Massachusetts Institute of Technology (MIT) 1972
MD Washington University in St. Louis 1976
Carrie S Gaines, OD
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BA Columbia University 1972
MD Case Western Reserve Univ 1977
Stephen M Garnett, OD  Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Indiana University Bloomington 1980
BS Indiana University Bloomington 1978
N. Rex Ghormley  Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
James M Gordon, MD  Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MD University of Minnesota 1966
BA University of Minnesota 1962
Mae Etsuko Gordon, MS, PHD  Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Biostatistics
MS Univ of Wisconsin Madison 1970
PHD Univ of Wisconsin Madison 1979
BA Portland St University 1967
Mark Gilbert Grand, MD  Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BS Tufts University 1964
MD Yale University 1968
Kenneth O Green, MD  Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MD University of Missouri 1960
Kevin William Greuloch, MD  Instructor in Ophthalmology and Visual Sciences (primary appointment)
MD University of Michigan 1999
BS University of Notre Dame 1995
Steven J Grondalski, OD  Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Penn College of Optometry 1987
George J Harycopos, MD  Associate Professor of Ophthalmology and Visual Sciences (primary appointment)
Assistant Professor of Pathology and Immunology
MD University of Virginia 2000
BA Harvard University 1995
Alexander D Harris, OD, MA  Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BA University of Evansville 1969
OD University of Missouri 1986
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UNKNOWN University of Missouri 1971
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Jack Hartstein, MD
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BA University of Missouri 1953
MD University of Cincinnati 1955

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OD School Not Listed 1967
BS School Not Listed 1967

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Assistant Professor of Cell Biology and Physiology

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MD National Taiwan University 1981

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BS School Not Listed 1980

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OD So Cal College of Optometry 1980
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MD Robert Wood Johnson Medical Sc 2012
BS Rutgers University 2008

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MD Hacettepe University 1994
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Senior Associate Dean for Human Research Protection
MD Washington Univ in St. Louis 1970
MD Northwestern University 1966
MS Northwestern University Med 1966
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Prof Emeritus of Clin Ophthalmol & Vis Sci (primary appointment)
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BA Yale University 1953
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Professor of Neuroscience
PHD Boston University 1999
Deborah Lynn Kerber, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BS Southeast Missouri St Univers 1986
Daniel Kerschensteiner, PHD, Associate Professor of Ophthalmology and Visual Sciences (primary appointment)
Associate Professor of Neuroscience
Associate Professor of Biomedical Engineering (Courtesy)
PHD Georg August University 2004
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William F Kiefer Jr, OD, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Illinois College of Optometry 1975
BA Princeton University 1967
BS Illinois College of Optometry 1973
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BS Indiana University Bloomington 1977
Vivian Marie Kloke, OD, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
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Harry L Knopf, Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Harvard University 1963
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OD School Not Listed 1956
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OD Indiana University Bloomington 1972
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BA Millikin University 1968
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BS Wayne State University 1976
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Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
BS Indiana University Indianopoli 1999
MS Purdue University 2000
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Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Ophthalmology and Visual Sciences
PHD Chinese Academy of Sciences 2004
BS Wuhan University 1998
Anthony J Lubniewski, MD
Professor of Ophthalmology and Visual Sciences (primary appointment)
BS University of Florida 1980
MD University of Florida 1985
Gregg T Lueder, MD
Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Pediatrics
MD University of Iowa 1985
BS Iowa State University 1981
Peter David Lukasiewicz, PHD
Janet and Bernard Becker Professor of Ophthalmology (primary appointment)
Professor of Neuroscience
PHD University of Michigan 1984
BS Brown University 1977
Lisa Marie Mackey
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BA University of Kansas 1989
Ranjan P Malhotra, MD
Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
Mary Kay Migneco, OD
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BS University of Missouri 1986
OD University of MO St Louis 1991
BS1 University of Missouri 1986

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BS University of California 2000
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Robert L Mobley, OD
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BA Florida Southern College 2001
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OD Indiana University Bloomington 1970
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Matthew Newman, MD
Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Vanderbilt University 1956
MD Columbia University 1959

Paul F Nichols III
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Judith Mosinger Ogilvie, PHD, MA
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PHD Harvard University 1983
MA Harvard University 1978
BS Brown University 1976
PHD1 Harvard University 1983

Jeffrey Robert Padousis, MD
Instructor in Clinical Ophthalmology and Visual Science (primary appointment)
MD Saint Louis University 2000

Anjali K Pathak, MD
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)
MD West Virginia University 1997
BA West Virginia University 1993
BS West Virginia University 1993
MD West Virginia University 1997

Jay S Pepose, PHD, MA, MD Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Brandeis University 1975
PHD University of California 1980
MA Brandeis University 1975
MD University of CA Los Angeles 1982

John Craig Perlmutter, MD Associate Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MD Cornell University 1971
BA Queens College 1967

Monica S Perlmutter, OTD, MA, BSOT Associate Professor of Occupational Therapy (primary appointment)

Mujtaba A Qazi Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)

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BS Saint Louis University 1986

Prabakar Kumar Rao, MD Professor of Ophthalmology and Visual Sciences (primary appointment)
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BA University of CA San Diego 1991

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Professor of Energy, Environmental and Chemical Engineering
PHD Virginia Tech 1980
MS University of Bombay 1975
BS University of Bombay 1972

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Mark A Rothstein, MD Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
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MD University of Utah 1991

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Asst Prof Emer of Clinical Ophthal & Vis Sci (primary appointment)

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BS1 Washington Univ in St. Louis 2000
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BA University of Missouri 1971
OD University of MO St Louis 1984
David Brian Seibel, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
Gaurav Kirit Shah, MD, Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
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James Banks Shepherd III, MD, Associate Professor of Ophthalmology and Visual Sciences (primary appointment)
BA Amherst College 1992
MD Columbia University 1997
Priya Saigal Shetty, MD, Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
MD University of Michigan 2007
Arsham Sheybani, MD, Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
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MD Washington Univ in St. Louis 1986
Alan Shiel, PHD, Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Genetics
PHD University of London 1983
BS School Not Listed 1979
Howard Newton Short, MD, Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
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BA Washington Univ in St. Louis 1974
Carla J Siegfried, MD, Jacquelyn E and Allan E Kolker M.D. Distinguished Professor of Ophthalmology (primary appointment)
BA University of MO Kansas City 1989
MD University of MO Kansas City 1989
Charles D Signorelli, OD, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
Nicholas James Silvestros  
**Instructor in Ophthalmology and Visual Sciences** (primary appointment)

Bradley Thomas Smith, MD  
**Instructor in Clinical Ophthalmology and Visual Sciences** (primary appointment)

Morton Edward Smith, MD  
**Professor Emeritus of Ophthalmology and Visual Sciences** (primary appointment)

Prof Emeritus of Ophthalmol & Vis Sci (primary appointment)

Nicholas James Silvestros  
**Instructor in Ophthalmology and Visual Sciences** (primary appointment)

Bradley Thomas Smith, MD  
**Instructor in Clinical Ophthalmology and Visual Sciences** (primary appointment)

Morton Edward Smith, MD  
**Professor Emeritus of Ophthalmology and Visual Sciences** (primary appointment)

Prof Emeritus of Ophthalmol & Vis Sci (primary appointment)

Claud Randall Snowden, OD  
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OD Illinois College of Optometry 1974

BS Illinois College of Optometry 1972

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**Adjunct Instructor in Ophthalmology and Visual Sciences** (primary appointment)

OD University of Missouri 1992

BA Southern Illinois University 1988

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MD Washington Univ in St. Louis 1980

BA Kansas State University 1976

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MBA Southern Ill Univ Edwardsville 1988

BS School Not Listed 1953

OD School Not Listed 1954

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Paul M Tesser  
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Matthew A Thomas, MD  
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MD Harvard University 1991

BS Harvard University 1977

Linda Mei-Lin Tsai, MD  
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Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Neuroscience
Professor of Ophthalmology and Visual Sciences in Pediatrics
John F Hardesty MD Distinguished Professor of Ophthalmology and Visual Sciences
BS Georgetown University 1975

Gregory Paul Van Stavern, MD
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Associate Professor of Neurology
MD Pennsylvania State University 1993
BS La Salle University 1989

Gary Lee Vogel, OD
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OD Ohio State University 1977
BA University of Iowa 1970

David Edward Vollman, MD
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MD Ohio State University 2006

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BS Illinois College of Optometry 1990

William Lee Walter, MD
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MD Ohio State University 1954
BA De Paul University 1950

Donald E Walter Jr, OD
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BS University of Houston 1971
OD University of Houston 1972

Stephen R Waltman, MD, MBA
Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BS Massachusetts Institute of Technology (MIT) 1961
MD Yale University 1964
MBA Washington University in St. Louis

Stephen Alan Wexler
Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BS University of Michigan 1977

Richard Harris Wieder, MD
Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
MD University of Illinois 1986
BS University of Illinois 1982

Michael L Wolf, OD
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD University of Missouri 1987
BS University of Missouri 1979

Ming-Fong Agnes Wong, MD, PhD
Adjunct Professor of Ophthalmology and Visual Sciences (primary appointment)
BA Boston University 1990
Department of Orthopaedic Surgery

Orthopaedic surgery is a discipline of surgery that is concerned with the musculoskeletal system. A medical student rotation exposes one to various aspects of orthopaedic surgery. This rotation should provide a variety of experiences ranging from operative, office and clinical practice and emergency room care of patients.

Please visit the Department of Orthopaedic Surgery website for more information.

MD Courses — Orthopaedic Surgery

Third year

THE MUSCULOSKELETAL CLERKSHIP: A PART OF THE COMPREHENSIVE SURGICAL CLERKSHIP

The objective of this rotation is to convey to the student appropriate knowledge, skills and attitudes for the recognition, diagnosis, investigation and treatment of conditions affecting the musculoskeletal system.

Most students at Washington University School of Medicine are not entering specialties that devote themselves to the treatment of diseases of the musculoskeletal system. It is noteworthy, though, that greater than one-third of complaints directed
toward primary caregivers and general internists are related to the musculoskeletal system: the actual volume of these complaints presented to primary care physicians, general internists and pediatricians is second only to complaints related to the cardiovascular system (and for pediatricians, presentations related to infectious diseases).

Musculoskeletal signs and symptoms are encountered commonly in emergency medicine, trauma surgery, internal medicine, oncology, neurology, pediatrics and endocrinology as well as many other surgical and medical specialties. Since students who enter postgraduate training in these subspecialties as well as in general primary care will be required to evaluate, diagnose and treat these conditions, it is important for the undergraduate curriculum to have these topics addressed in an organized and consistent way. It is for this reason that we developed a comprehensive integrated exposure to musculoskeletal surgery and medicine during the third-year comprehensive surgical clerkship. This is a key component of the integrated third-year curriculum.

To accomplish these goals, there will be a balance between clinical, operative, emergency room and didactic (lecture and small group) experiences. Didactic sessions will be in several formats: lectures, physical examination demonstrations and small group discussions. Only instructor or assistant-, associate- or professor-level members of the full-time Washington University School of Medicine staff will deliver formal lectures to the students. Lecturers will be from the Department of Orthopedic Surgery's full-time faculty.

The following lecture topics will be scheduled monthly:
- Spinal Disorders
- Musculoskeletal Emergencies
- Common Fractures
- Adult Disorders of the Hip and Knee
- Adult Disorders of the Shoulder and Elbow
- Sports Injuries and Conditions in Adults and Children
- Adult Conditions of the Foot and Ankle
The clinical experience is one month in duration, and takes place during the comprehensive surgical clerkship for all Washington University medical students during either the first, second or third months of the 12-week clerkship. The one-month block is divided into two two-week sessions wherein the students would spend time with staff from the following specialties: orthopaedic surgery, rheumatology, physical medicine and rehabilitation, sports medicine, neurosurgery, and bone and mineral physiology.

The experience can be combined inpatient and outpatient, clinic and operating room, emergent and non-emergent care as well as both surgical and nonsurgical, based upon the student's own choosing. The following rotations are offered:

Hand (2 weeks)
Joint Reconstruction (2 weeks)
Shoulder and Elbow (2 weeks)
Oncology (2 weeks)
Physical Medicine and Rehabilitation (2 weeks)
Spine (2 weeks)
Rheumatology/Bone (2 weeks)
Pediatric Orthopaedic Surgery (2 weeks)
VA Orthopaedic Service (2 weeks)
Sports Medicine (2 weeks)
Sports Surgery (2 weeks)
Trauma (2 weeks)
Foot and Ankle/ (2 weeks)

The following Washington University School of Medicine full-time attending staff mentors are available to have students rotate with them during the rotation:

- Martin Boyer (Hand)
- Charles Goldfarb (Hand)
- Ryan Calfee (Hand)
- Daniel Osei (Hand)
- Christopher Dy (Hand)
- Lindley Wall (Hand)
- Matthew Matava (Sports Surgery)
- Mark Halstead (Sports Medicine)
- Robert Brophy (Sports Surgery)
- Matt Smith (Sports Surgery)
- Heidi Prather and Devyani Hunt (Physical Medicine and Rehabilitation)
- John Metzler and Adam Labore (Physical Medicine and Rehabilitation)
- Eric Gordon (Pediatric Orthopaedic Surgery)
- Jeff Nepple (Pediatric Orthopaedic Surgery)
- Mark Miller (Pediatric Orthopaedic Surgery)
- Gary Miller (VA Orthopaedic Surgery Service)
- Ryan Nunley (Joint Reconstruction)
- Denis Nam (Joint Reconstruction)
- Richard Brasington and Kathy Diemer (Rheumatology, Bone and Mineral)
- Jacob Buchowski (Spine)
- Luke Zebala (Spine)
- Mike Kelly (Spine)
- Munish Gupta (Spine)
- Paul Santiago (Neurosurgery Spine)
- Zach Ray (Neurosurgery Spine)
- Douglas McDonald (Orthopaedic Oncology)
- Cara Cipriano (Orthopedic Oncology)
- Regis O'Keefe (Orthopedic Oncology)
- Jay Keener (Shoulder and Elbow)
- Jeremy McCormick (Foot and Ankle)
- Sandra Klein (Foot and Ankle)
- William Ricci (Trauma)
- Chris McAndrew (Trauma)
There should only be ONE student per attending staff in order to promote one-on-one teaching; however, exceptions can be made in the event of vacations, illness, conference travel, etc. on the part of the attending staff.

The learning of physical examination skills by the students is a critical part of the musculoskeletal block. The Coursemaster and other attendings will meet weekly with the students to demonstrate physical examination of the neck and spine, shoulder and elbow, hip and knee, and the hand and foot. The normal examination will be covered, and relevant common conditions and provocative tests will be covered as well.

**Fourth year**

**Electives**

**M95 – ORTHOPAEDIC SURGERY**

M95 838 / PEDIATRIC ORTHOPAEDIC SPINE & SPORTS SURGERY
Instructor(s): Scott J. Luhmann, MD, 314-454-2045
Location: Washington University Orthopedics– Center for Advanced Medicine and Chesterfield; St. Louis Children's Hospital; Shriners Hospital for Children.
Elective Contact: Tracy Line, linet@wudosis.wustl.edu, 314-454-5219, or Kathy Jones, jones.k@wustl.edu, 314-747-2813 for questions.

Other Information: Students should contact either Tracy Line or Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 25, 29, 33, 37, and 41.

Clinical elective available for four weeks during which time the student will work with attending surgeon primarily at St. Louis Children's Hospital observing and assisting in outpatient and inpatient care. To be included are activities in the OR, ER, and outpatient clinics. In addition to general pediatric orthopaedics, Dr. Luhmann has
special interests in the treatment of pediatric spinal injuries and disorders as well as pediatric sports medicine. Attendance at and participation in the weekly pediatric orthopaedic conference activities required.

Student time distribution: Inpatient 48%; Outpatient 47%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Faculty attendings and resident mentors
Patients seen/weekly: Varies
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

M95 839 / ORTHOPAEDIC SPORTS MEDICINE
Instructor(s): Matthew Smith, MD, 314-514-3584
Location: Washington University/ Barnes-Jewish Hospital; VA Hospital; Washington University Orthopedics – Chesterfield
Elective Contact: Denise Andre, andred@wudosis.wustl.edu, 314-514-3584 or Kathy Jones, jones.k@wustl.edu, 314-747-2813.
Other Information: Students should contact Denise Andre or Kathy Jones prior to the first day of the elective.

Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This clinical elective is available for four weeks during which the student participates in orthopaedic conferences, outpatient clinics, surgical cases, and patient rounds on the Sports Medicine service.

Student time distribution: Inpatient 5%; Outpatient 90%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Faculty attending and fellow/resident mentors
Patients seen/weekly: Varies
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.
calls during the rotation.

**M95 840A / ORTHOPAEDIC SURGERY – FOOT/ANKLE**

Instructor(s): Jeremy J. McCormick, MD, 314-514-3569  
Location: Washington University Orthopedics – Chesterfield and Center for Advanced Medicine.  
Elective Contact: Karen Jaboor, jaboork@wudosis.wustl.edu, 314-514-3569, or Kathy Jones, jones.k@wustl.edu, 747-2813.

Other Information: Students should contact Karen Jaboor or Kathy Jones prior to the first day of the elective.  
Enrollment limit per period: 1  
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This four week clinical elective is available to medical students looking to further their knowledge/experience in orthopaedics, specifically foot and ankle surgery. Students will participate in surgical cases, outpatient clinics, inpatient care and weekly didactic sessions/conferences. At the completion of the elective students should have gained a basic knowledge of foot and ankle problems as well as their operative and non-operative care.

Student time distribution: Inpatient 20%; Outpatient 75%; Conferences/ Lectures 5%; Subspecialty Care 100%  
Major teaching responsibility: Faculty attendings and fellow/resident mentors  
Patients seen/weekly: 80  
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

**M95 840B / ORTHOPAEDIC SURGERY – FOOT/ANKLE**

Instructor(s): Sandra Klein, MD, 314-514-2535  
Location: Washington University Orthopedics – Chesterfield and Center for Advanced Medicine.
Elective Contact: Vicki Goldman, goldmanv@wudosis.wustl.edu, 314-514-2535 or Kathy Jones, jones.k@wustl.edu, 314-747-2813.

Other Information: Students should contact Vicki Goldman or Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 25, 29, 33, 37, and 41.

This four week clinical elective is available to medical students looking to further their knowledge/experience in orthopaedics, specifically foot and ankle surgery. Students will participate in surgical cases, outpatient clinics, inpatient care and weekly didactic sessions/conferences. At the completion of the elective students should have gained a basic knowledge of foot and ankle problems as well as their operative and non-operative care.

Student time distribution: Inpatient 20%; Outpatient 75%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Faculty attendings and fellow/resident mentors
Patients seen/weekly: 80
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

M95 842C / ORTHOPAEDIC SHOULDER/ELBOW SURGERY
Instructor(s): Jay D. Keener, MD, 314-747-2639
Location: Washington University/ Barnes-Jewish Hospital; Washington University Orthopedics – Chesterfield and Center for Advanced Medicine.
Elective Contact: Linda Burnworth, burnworthl@wudosis.wustl.edu, 314-747-2639 or Kathy Jones, jones.k@wustl.edu, 314-747-2813.

Other Information: Students should contact Linda Burnworth or Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 25, 29, 33, 37, and 41.
Clinical elective available, during which time the student will work with attending surgeons primarily at Barnes-Jewish Hospital. Activities will include participation in the care of hospitalized inpatients, participation in inpatient and outpatient procedures, attendance at designated attending office hours, attendance at designated orthopaedic conferences, and dissection of upper-extremity anatomical specimens.

Student time distribution: Inpatient 48%; Outpatient 47%; Conferences/Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Faculty attendings and resident mentors
Patients seen/weekly: Varies
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

M95 845A / ORTHOPAEDIC HAND AND UPPER EXTREMITY SURGERY
Instructor(s): Ryan P. Calfee, MD, 314-747-4705
Location: Washington University/ Barnes-Jewish Hospital; Shriners Hospital for Children; and St. Louis Children's Hospital; Washington University Orthopedics – Chesterfield and Center for Advanced Medicine.
Elective Contact: Emily Camden, camdene@wudosis.wustl.edu, 314-362-9369, or Kathy Jones, jones.k@wustl.edu, 314-747-2813.

Other Information: Students should contact Emily Camden or Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 25, 29, 33, 37, and 41.

Clinical elective available, during which time the student will work with attending surgeons primarily at Barnes-Jewish Hospital, St Louis Children’s Hospital, and Shriners’ Hospital. The service includes care of adult and pediatric patients with traumatic, sports (arthroscopy), nerve, and degenerative disease. Activities will include participation in outpatient procedures, attendance at faculty clinic office hours, and attendance at orthopaedic conferences.
Student time distribution: Inpatient 5%; Outpatient 85%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Faculty attendings, fellow and resident mentors
Patients seen/weekly: 70+
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

**M95 845B / ORTHOPAEDIC HAND AND UPPER EXTREMITY SURGERY**

Instructor(s): Charles Goldfarb, MD, 314-747-4705
Location: Washington University/ Barnes-Jewish Hospital; Shriners Hospital for Children; St. Louis Children's Hospital; Washington University Orthopedics – Chesterfield and Center for Advanced Medicine, St. Louis Children's Specialty Care Center
Elective Contact: Karen Addison, addisonk@wudosis.wustl.edu, 314-747-4705 or Kathy Jones, jones.k@wustl.edu, 314-747-2813.

Other Information: Students should contact Karen Addison or Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 25, 29, 33, 37, and 41.

Clinical elective available, during which time the student will work with attending surgeons primarily at Barnes-Jewish Hospital, St Louis Children's Hospital, and Shriner's Hospital. The service includes care of adult and pediatric patients with congenital, traumatic, sports (arthroscopy), nerve, and degenerative disease. Activities will include participation in outpatient procedures, attendance at faculty clinic office hours, attendance at orthopaedic conferences, and dissection of upper-extremity anatomical specimens.

Student time distribution: Inpatient 5%; Outpatient 85%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Faculty attendings, fellow and resident mentors
Patients seen/weekly: 100+
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

**M95 845C / ORTHOPAEDIC HAND AND UPPER EXTREMITY SURGERY**

Instructor(s): Richard H. Gelberman, MD, 314-747-2531  
Location: Washington University/ Barnes-Jewish Hospital; Washington University Orthopedics – Chesterfield and Center for Advanced Medicine.  
Elective Contact: Kally Coleman, colemank@wudosis.wustl.edu, 314-747-2531 or Kathy Jones, jones.k@wustl.edu, 314-747-2813.

Other Information: Students should contact Kally Coleman or Kathy Jones prior to the first day of the elective.  
Enrollment limit per period: 1  
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Clinical elective available, during which time the student will work with attending surgeon primarily at Barnes-Jewish Hospital. Activities will include participation in the care of hospitalized inpatients, participation in inpatient and outpatient procedures, attendance at designated attending office hours, attendance at designated orthopaedic conferences, and dissection of upper-extremity anatomical specimens.

Student time distribution: Inpatient 48%; Outpatient 47%; Conferences/ Lectures 5%; Subspecialty Care 100%  
Major teaching responsibility: Richard Gelberman, MD  
Patients seen/weekly: Varies  
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

**M95 845D / ORTHOPAEDIC HAND AND UPPER EXTREMITY SURGERY**

Instructor(s): Daniel A. Osei, MD, 314-747-2813  
Location: Washington University/ Barnes-Jewish Hospital; Shriners Hospital for
Children; and St. Louis Children's Hospital; Washington University Orthopedics – Chesterfield and Center for Advanced Medicine.

Elective Contact: Kathy Jones, 314-747-2813, jones.k@wustl.edu

Other Information: Contact Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Clinical elective available, during which time the student will work with attending surgeons primarily at Barnes-Jewish Hospital and St. Louis Children's Hospital. The service includes care of adult and pediatric patients with traumatic, sports (arthroscopy), nerve, and degenerative disease. Activities will include participation in outpatient procedures, attendance at faculty clinic office hours, and attendance at orthopaedic conferences.

Student time distribution: Inpatient 5%; Outpatient 85%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Faculty attending and resident mentors
Patients seen/weekly: Varies
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

M95 845E / ORTHOPAEDIC HAND AND UPPER EXTREMITY SURGERY
Instructor(s): Lindley B. Wall, MD, 314-362-9369
Location: Washington University/ Barnes-Jewish Hospital; Shriners Hospital for Children; and St. Louis Children’s Hospital, Center for Advanced Medicine.
Elective Contact: Emily Camden, camdene@wudosis.wustl.edu, 314-362-9369, or Kathy Jones, jones.k@wustl.edu, 314-747-2813.

Other Information: Students should contact Emily Camden or Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Clinical elective available, during which time the student will work with attending surgeons primarily at Barnes-Jewish Hospital, St Louis Children’s Hospital, and Shriner’s Hospital. The service includes care of adult and pediatric patients with congenital, traumatic, sports (arthroscopy), nerve, and degenerative disease. Activities will include participation in outpatient procedures, attendance at faculty clinic office hours, attendance at orthopaedic conferences, and dissection of upper-extremity anatomical specimens.

Student time distribution: Inpatient 5%; Outpatient 85%; Conferences/ Lectures 10%; Subspecialty Care 100%

Major teaching responsibility: Faculty attendings, fellow and resident mentors

Patients seen/weekly: 60+

On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

**M95 846 / ORTHOPAEDIC TRAUMA**

Instructor(s): William Ricci, MD and Christopher McAndrew, MD; 314-747-2811

Location: Washington University/ Barnes-Jewish Hospital; Washington University Orthopedics – Center for Advanced Medicine.

Elective Contact: Karen O’Dell, odellk@wudosis.wustl.edu, 314-747-2811 or Kathy Jones, jones.k@wustl.edu, 314-747-2813.

Other Information: Students should contact Karen O’Dell or Kathy Jones prior to the first day of the elective.

Enrollment limit per period: 2

Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Clinical elective available for a four-week period, during which time the student will work in orthopaedic trauma at Barnes-Jewish Hospital. The student will work with a
team of attendings, residents, PA’s, and NP’s to provide care for orthopaedic trauma patients. Activities include participation in the care of hospitalized inpatients, inpatient surgical procedures, outpatient office visits and daily conferences.

Student time distribution: Inpatient 60%; Outpatient 35%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Faculty attendings and resident mentors
Patients seen/weekly: Varies
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

M95 848A / ORTHOPAEDIC PEDIATRIC SURGERY
Instructor(s): Eric Gordon, MD, 314-454-2045
Location: Washington University/St. Louis Children's Hospital; Shriners Hospital for Children; Washington University Orthopedics – Chesterfield and Center for Advanced Medicine, St. Louis Children’s Specialty Care Center
Elective Contact: Barb Haegele, haegele.b@wudosis.wustl.edu, 314-454-2045 or Kathy Jones, jones.k@wustl.edu, 314-747-2813.

Other Information: Students should contact Barb Haegele or Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 25, 29, 33, 37, and 41.

Clinical elective available for four weeks during which time the student will work with attending surgeon primarily at St. Louis Children's Hospital observing and assisting in outpatient and inpatient care. To be included are activities in the OR, ER, and outpatient clinics. Attendance at and participation in the weekly pediatric orthopaedic conference activities required.

Student time distribution: Inpatient 48%; Outpatient 47%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Faculty attendings and resident mentors
Patients seen/weekly: Varies
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

M95 849A / ORTHOPAEDIC SPINE SURGERY IN ADULT PATIENTS
Instructor(s): Michael Kelly, MD, 314-747-2535
Location: Washington University/ Barnes-Jewish Hospital; Washington University Orthopedics – Chesterfield and Center for Advanced Medicine.
Elective Contact: Tricia Nester, nestert@wudosis.wustl.edu, 314-362-7140, or Kathy Jones, jones.k@wustl.edu, 747-2813.

Other Information: Students should contact Tricia Nester or Kathy Jones, 314-747-2813, jones.k@wustl.edu, prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This clinical elective is available for four weeks during which time the student will work with the attending surgeon primarily at Barnes-Jewish Hospital observing and assisting when appropriate in outpatient and inpatient care. To be included are activities in the OR, ER, and outpatient clinics. Attendance at and participation in the weekly orthopaedic conference activities is required. The spine fellow assigned to this service will serve as a primary contributor to the student’s education experience on this rotation.

Student time distribution: Inpatient 48%; Outpatient 47%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Faculty attending, spine fellow assigned to this service and resident mentors
Patients seen/weekly: Varies
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.
M95 849B / ORTHOPAEDIC SPINE SURGERY IN ADULT PATIENTS
Instructor(s): Jacob Buchowski, MD, MS, 314-747-4950
Location: Washington University/ Barnes-Jewish Hospital; Washington University Orthopedics – Chester and Center for Advanced Medicine.
Elective Contact: Amy Akers, akersa@wudosis.wustl.edu, 314-747-4950 or Kathy Jones, jones.k@wustl.edu, 314-747-2813.

Other Information: Students should contact Amy Akers or Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 25, 29, 33, 37, and 41.

This clinical elective is available for four weeks during which time the student will work with the attending surgeon primarily at Barnes-Jewish Hospital observing and assisting when appropriate in outpatient and inpatient care. To be included are activities in the OR, ER, and outpatient clinics. Attendance at and participation in the weekly orthopaedic conference activities is required. The spine fellow assigned to this service will serve as a primary contributor to the student’s education experience on this rotation.

Student time distribution: Inpatient 48%; Outpatient 47%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Faculty attending, spine fellow assigned to this service and resident mentors
Patients seen/weekly: Varies
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

M95 855A / RECONSTRUCTIVE AND JOINT PRESERVATION SURGERY
Instructor(s): Robert L. Barrack, MD, 314-747-2562
Location: Washington University/ Barnes-Jewish Hospital; Washington University Orthopedics – Chesterfield and Center for Advanced Medicine.
Elective Contact: Christine Cucchi, cucchic@wudosis.wustl.edu, 314-747-2562 or Kathy
Other Information: Students should contact Christine Cucchi or Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Clinical elective available, during which time the student will work with the attending physician on the Adult Reconstruction and Joint Preservation/Replacement service. This rotation is primarily centered at Barnes-Jewish Hospital and includes care of hospitalized inpatients, participant in inpatient and outpatient procedures, attendance at designated office hours, and attendance at and participation in orthopaedic educational conferences and anatomy sessions.

Student time distribution: Inpatient 48%; Outpatient 47%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Faculty attendings, fellow and resident mentors
Patients seen/weekly: Varies
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

M95 855B / RECONSTRUCTIVE AND JOINT PRESERVATION SURGERY
Instructor(s): John C. Clohisy, MD, 314-747-2566
Location: Washington University/ Barnes-Jewish Hospital; Shriners Hospital for Children; Washington University Orthopedics – Chesterfield and Center for Advanced Medicine.
Elective Contact: Debbie Long, longd@wudosis.wustl.edu, 314-747-2566 or Kathy Jones, jones.k@wustl.edu, 314-747-2813.

Other Information: Students should contact Debbie Long or Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 25, 29, 33, 37, and 41.

Clinical elective available, during which time the student will work with the attending physician on the Adult Reconstruction and Joint Preservation/Replacement service. This rotation is primarily centered at Barnes-Jewish Hospital and includes care of hospitalized inpatients, participant in inpatient and outpatient procedures, attendance at designated office hours, and attendance at and participation in orthopaedic educational conferences and anatomy sessions.

Student time distribution: Inpatient 48%; Outpatient 47%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Faculty attendings, fellow and resident mentors
Patients seen/weekly: Varies
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

**M95 855C / RECONSTRUCTIVE AND JOINT PRESERVATION SURGERY**
Instructor(s): Ryan M. Nunley, MD, 314-747-2523
Location: Washington University/ Barnes-Jewish Hospital; VA Hospital; Washington University Orthopedics – Chesterfield
Elective Contact: Melissa Stanley, stanleym@wudosis.wustl.edu, 314-747-2523 or Kathy Jones, jones.k@wustl.edu, 314-747-2813.

Other Information: Students should contact Melissa Stanley or Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 25, 29, 33, 37, and 41.

Clinical elective available, during which time the student will work with the attending physician on the Adult Reconstruction and Joint Preservation/Replacement service. This rotation is primarily centered at Barnes-Jewish Hospital and includes care of young patients with hip impingement pathology and older patients with end stage joint arthritis, hospitalized inpatients, participant in inpatient and outpatient
procedures, attendance at designated office hours, and attendance at and participation in orthopaedic educational conferences and anatomy sessions.

Student time distribution: Surgical 60%; Clinics 30%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Faculty attendings, fellow and resident mentors
Patients seen/weekly: 40-60 patients in clinic, 8-12 surgeries
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

M95 855D / RECONSTRUCTIVE AND JOINT PRESERVATION SURGERY
Instructor(s): Denis Nam, MD, MSc
Location: Washington University/Barnes-Jewish Hospital; Washington University Orthopedics – Chesterfield
Elective Contact: Kelly Barriger, barrigerk@wudosis.wustl.edu, or Kathy Jones, jones.k@wustl.edu

Other Information: Student should contact either Kelly Barriger or Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 25, 29, 33, 37, and 41.

This clinical elective is available for four weeks during which the student participates in orthopaedic conferences, outpatient clinics, surgical cases, and patient rounds on the Reconstructive and Joint Preservation Surgery service.

Student time distribution: Inpatient 45%; Outpatient 45%; Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Faculty attendings, fellows, and resident mentors
Patients seen/weekly: 120
On call/weekend responsibility: Varies – generally one weekend call and two weekday calls during each rotation.
M95 859 / ORTHOPAEDIC ONCOLOGY
Instructor(s): Douglas J. McDonald, MD, 314-747-2563
Location: Washington University/ Barnes-Jewish Hospital; Center for Advanced Medicine.
Elective Contact: Carrie Heineman, heinemanc@wudosis.wustl.edu, 314-747-2563 or Kathy Jones, jones.k@wustl.edu, 314-747-2813.

Other Information: Students should contact Carrie Heineman or Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 25, 29, 33, 37, and 41.

This clinical elective, centered primarily at Barnes-Jewish Hospital, is available for four weeks during which the student participates in orthopaedic conferences, outpatient clinics, surgical cases, and patient rounds on the Musculoskeletal Oncology service.

Student time distribution: Inpatient 48%; Outpatient 47%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Douglas J. McDonald, MD
Patients seen/weekly: Varies
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

M95 8991 / ORTHOPAEDIC SURGERY EXTERNSHIP (Visiting Students Only)
Instructor(s): Rick Wright, MD; Martin I. Boyer, MD; Jacob Buchowski, MD; Charles A. Goldfarb, MD; Ryan P. Calfee, MD; Eric Gordon, MD; Jay Keener, MD; Douglas McDonald, MD; Ryan Nunley, MD; Sandra Klein, MD; John C. Clohisy, MD; Scott Luhmann, MD; and Denis Nam, MD
Location: Washington University/ Barnes-Jewish Hospital; Washington University Orthopedics – Chesterfield and Center for Advanced Medicine.
Elective Contact: Heather Robinson, robinsonh@wudosis.wustl.edu,314-747-2996.

Other Information: Students meet in the Education Office, 8:30 a.m. first day of the
Students rotate on Orthopaedic Services in four-week blocks. During their rotations students are assigned to two different services for two weeks each. Some subspecialties that students may rotate on include sports medicine, hand and upper extremity, foot and ankle, musculoskeletal oncology, adult reconstructive surgery, pediatric orthopaedics, shoulder and elbow, and spine.

Student time distribution: Inpatient 48%; Outpatient 47%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Faculty attendings and resident mentors
Patients seen/weekly: Varies
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

Research — Orthopaedic Surgery

ORTHOPAEDIC SURGERY RESEARCH OPPORTUNITIES (M95 900)

Various orthopaedic surgery research opportunities are available with the following faculty attendings. If interested, please contact the Education Office at 314-747-2543, orthsurg@wudosis.wustl.edu or contact the faculty member directly.

Yousef Abu-Amer, PhD
Robert L. Barrack, MD
Robert Brophy, MD
Faculty — Orthopaedic Surgery

Regis James O'Keefe, MD, PHD Fred C Reynolds Professor of Orthopaedic Surgery (primary
Head of the Department of Orthopaedic Surgery
MD Harvard University 1985
BA Yale University 1981
PHD University of Rochester 2000
Yousef Abu-Amer, MS Professor of Orthopaedic Surgery (primary appointment)
Professor of Cell Biology and Physiology
BS Hebrew University 1985
MS Hebrew University 1987
Muyibat A Adelani Assistant Professor of Orthopaedic Surgery (primary appointment)
Alexander William Aleem, MD Assistant Professor of Orthopaedic Surgery (Pending Executive Faculty Approval) (primary appointment)
MD Washington Univ in St. Louis 2010
BS Johns Hopkins University 2006
Robert L Barrack, MD Charles F and Joanne Knight Distinguished Professor of Orthopaedic Surgery (primary appointment)
MD Vanderbilt University 1980
Donald R Bassman, MD Instructor in Clinical Orthopaedic Surgery (primary appointment)
BA Washington Univ in St. Louis 1971
MD Washington Univ in St. Louis 1975
Terra Rupert Blatnik, MD Assistant Professor of Orthopaedic Surgery (primary appointment)
MD Case Western Reserve Univ 2007
BS Allegheny College 2003
Ljiljana Bogunovic, MD Assistant Professor of Orthopaedic Surgery (primary appointment)
MD Cornell University 2009
Martin I Boyer, MS Carol B and Jerome T Loeb Professor of Orthopaedic Surgery (primary appointment)
MS University of Toronto 1993
Keith Happ Bridwell Albert Key Distinguished Professor of Orthopaedic Surgery (primary appointment)
Professor of Neurological Surgery
BA Washington Univ in St. Louis 1973
Robert Henry Brophy IV, MS, MD Associate Professor of Orthopaedic Surgery (primary appointment)
BS Stanford University 1994
MS Stanford University 1995
MD Washington Univ in St. Louis 2001
BA Stanford University 1994
Jacob M Buchowski, MD, MS Professor of Orthopaedic Surgery (primary appointment)
Professor of Neurological Surgery
BS Yale University 1996
MD Johns Hopkins University 2000
MS Yale University 1996
Cheryl Ann Caldwell, DPT, MHS Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
BS University of Colorado Boulder 1976
DPT Washington Univ in St. Louis 2002
MHS Washington Univ in St. Louis 1988
Ryan Patrick Calfee, MD  
Associate Professor of Orthopaedic Surgery (primary appointment)  
BS University of Virginia 1997  
MD Washington Univ in St. Louis 2001  

Aaron Mark Chamberlain, BMUS  
Assistant Professor of Orthopaedic Surgery (primary appointment)  
B MUS University of Utah 2002  

Cara Alessandra Cipriano, MD  
Assistant Professor of Orthopaedic Surgery (primary appointment)  
MD University of Pennsylvania 2007  
BS Williams College 2003  

Roberto Civitelli, MDS  
Sydney M and Stella H Schoenberg Professor of Medicine (primary appointment)  

Professor of Orthopaedic Surgery  
Professor of Cell Biology and Physiology  
BS University of Siena 1980  
MD University of Siena 1980  

John C Clohisy, MDD  
Daniel C. and Betty B. Viehmann Distinguished Professor of Orthopaedic Surgery (primary appointment)  
MD Northwestern University 1989  

Berdale S. Colorado, MS, DOST  
Assistant Professor of Orthopaedic Surgery (primary appointment)  
Assistant Professor of Neurology  
MS Des Moines Universtiy 2009  
DOST Des Moines Universtiy 2009  
BS University of Iowa 2004  

Suzanne Marie Cornbleet, MA, DPT  
Associate Professor of Physical Therapy (primary appointment)  
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MA Washington Univ in St. Louis 1987  
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Dr Asa C and Mrs Dorothy W Jones Professorship in Orthopaedic Surgery (primary appointment)  
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BS Univ of Wisconsin La Crosse 1973  
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Asst Prof of Orthopaedic Surgery  
Asst Prof of Pediatrics  
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BS Bates College 2002  

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Visiting Professor of Orthopaedic Surgery  
BS Indiana University Bloomington 1958  
MD Indiana University 1962  

Chi-Tsai Tang  
Assistant Professor of Orthopaedic Surgery  
Assistant Professor of Neurology  

Simon Tang, PHD, MS  
Assistant Professor of Orthopaedic Surgery  

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Associate Professor of Orthopaedic Surgery  
Associate Professor of Obstetrics and Gynecology  

Linda R Van Dillen, MS, PHD  
Professor of Physical Therapy  
Associate Director of Musculoskeletal Research in Physical Therapy  

Harry John Visser  
Instructor in Clinical Orthopaedic Surgery  

Lindley Bevelle Wall, MD  
Assistant Professor of Orthopaedic Surgery  

Pamela M. Wendl, DPT  
Assistant Professor of Physical Therapy  

Neill Marshall Wright, MD  
Herbert Lourie Professor of Neurological Surgery  

Ken Yamaguchi, MD, MS  
Professor of Orthopaedic Surgery  

Lukas P Zebala, MD  
Assistant Professor of Orthopaedic Surgery  
Assistant Professor of Neurological Surgery
Otolaryngology is presented to students in the first-, second-, third- and fourth-year classes. Physical diagnosis skills are taught in the first year. Clinically oriented lectures and a physical diagnosis workshop are presented to second-year students. In the third year of the medical curriculum, four-week elective rotations on one of the services in East Pavilion, the St. Louis VA Medical Center — John Cochran Division or St. Louis Children’s Hospital are offered. During this period, there is teaching at the bedside, in the operating room and in the clinic, supplemented by daily afternoon lectures, Grand Rounds on Wednesdays and an introduction to audiology.

Fourth-year students interested in ENT as a specialty may take a two- to four-week elective designed to give them exposure to patient care, both in the outpatient clinic and the operating room and postoperative setting. An additional four-week elective that provides comprehensive ambulatory experience is offered to students headed for primary care.

CID at Washington University School of Medicine

The consortium of graduate-education, research and clinical programs known today as CID at Washington University School of Medicine was born out of the pioneering efforts of St. Louis physician Max Goldstein, MD. In 1914, he founded the Central Institute for the Deaf (CID), where doctors and teachers worked together to help deaf people. When CID’s school building opened two years later, its auditory/oral methods for instructing deaf children were groundbreaking.
Washington University and CID first joined forces in 1931, when CID's established teacher training program became the first deaf education undergraduate program to affiliate with a university. Graduate programs in deaf education, audiology, and speech and hearing sciences soon followed.

CID's research efforts began in the 1930s to study the anatomy and science of hearing. During World War II, CID's research on hearing loss in military personnel laid the foundation for the field of audiology. CID also pioneered hearing testing and hearing aids and opened the country's first hearing aid clinic in 1941. In September 2003, a new affiliation transferred CID's graduate degree programs, research programs and adult audiology clinic, along with its building, to Washington University School of Medicine. The CID school continues to operate on the School of Medicine campus as CID — Central Institute for the Deaf.

Today, these programs continue to work together to fulfill a shared mission to serve people with hearing loss.

For more information

Please visit the Department of Otolaryngology website for more information.

MD Courses — Otolaryngology

First year

OTOLARYNGOLOGY CLINICAL SKILLS
Instructor: Joseph P. Bradley, MD, 996-3869
This course consists of nine introductory lectures on common diseases of the head and neck, including voice disorders, head and neck cancer, hearing loss, management
of vertigo, pediatric otolaryngology, salivary gland disorders, sinusitis, otolaryngologic emergencies and facial trauma. Additionally, there is a case-based roundtable focusing on otolaryngology disorders affecting the geriatric population and the involvement of allied health care disciplines in the evaluation and management of these patients. Each lecture is highlighted by case presentations and treatment options in addition to pathophysiology. This course follows the physical examination practicum given earlier in the academic year.

Second year

M55 660B CLINICAL TOPICS IN OTOLARYNGOLOGY
Instructor: Joseph Bradley, MD, 362-6599
This course consists of eight introductory lectures on common diseases of the head and neck, including head and neck carcinoma, hearing loss, vertigo, neck masses, pediatric otolaryngology, salivary gland disorders, sinusitis, otolaryngologic emergencies and facial fractures. Each lecture is highlighted by case presentations and treatment options in addition to pathophysiology. This course follows the physical examination practicum given earlier in the academic year.

Fourth year

Electives

M55 801 / OTOLARYNGOLOGY
Instructor(s): Andrew Drescher, MD, 314-747-3742
Location: 805 F
Elective Contact: Carmen Horn, 314-747-3742, horn_c@ent.wustl.edu

Other Information: Students considering a career in otolaryngology should speak to Dr. Drescher prior to scheduling this elective. Prior to first day of elective student should contact Dr. Drescher to discuss options of elective and to ascertain starting time and location.
Enrollment limit per period: Limit 3/period for Weeks: 1, 5; Limit 2/period for Weeks: 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Four-week rotation includes evaluation of ENT problems presented to specialist for diagnosis and treatment. The student participates in the clinic, hospital, and operating room. This also includes time on the Pediatric ENT Service, Audiology, Voice Laboratory, and Vestibular Evaluation Laboratory. Option of rotation on the ENT Service at VAMC is available.

Student time distribution: Inpatient 40%; Outpatient 40%; Conferences/Lectures 20%; Primary Care 20%; Subspecialty Care 80%
Major teaching responsibility: Attendings and residents
Patients seen/weekly: 50
On call/weekend responsibility: Every fourth day

**M55 802 / GENERAL OTOLARYNGOLOGY**
Instructor(s): Andrew Drescher, MD, 314-747-3742
Location: 805 F
Elective Contact: Carmen Horn, 314-747-3742, horn_c@ent.wustl.edu

Other Information: Students considering a career in otolaryngology should speak to Dr. Drescher prior to scheduling this elective. Prior to first day of elective student should contact Dr. Drescher to discuss options of elective and to ascertain starting time and location.
Enrollment limit per period: 1
Valid start weeks for two-week blocks are: Weeks 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, and 43.

This two-week elective is an extremely flexible program consisting of several options:

- General Ear, Nose and Throat Service: Student functions as a junior resident at either Barnes-Jewish Hospital or John Cochran VA Medical Center. At Barnes-
Jewish Hospital participation in clinic, hospital inpatient, and operating room settings would expose student to a broad spectrum of patients. At the VA Hospital the emphasis would be on head and neck tumors.

- **Head and Neck Service—Barnes-Jewish Hospital:** Student functions as junior resident on ENT hospital floor with great deal of exposure to head and neck surgery.

- **Pediatric Otolaryngology—St. Louis Children's Hospital:** Student participates as a junior resident, involved in pre- and postoperative surgical care as well as outpatient medical care.

- **Preceptorships:** Student is assigned to a private practitioner's office functioning in his/her office as well as hospital service.

Other options can be entertained and formulated according to the student's particular needs. Students participating in this elective will be required to spend an afternoon or morning in the Audiology/Vestibular Laboratory learning fundamentals of audiological and vestibular evaluation. Attendance at Monday afternoon conferences as well as Grand Rounds on Wednesday mornings is expected.

**Student time distribution:**
- Inpatient 20%
- Outpatient 70%
- Conferences/Lectures 10%
- Primary Care 40%
- Subspecialty Care 60%

**Major teaching responsibility:** Attendings and residents

**Patients seen/weekly:** 60

**On call/weekend responsibility:** None

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**M55 803 / PEDIATRIC OTOLARYNGOLOGY**

Instructor(s): David W. Molter, MD, 314-454-2136

Location: 3S35 St. Louis Children's Hospital

Elective Contact: Patty Tampow, 314-454-2136

**Other Information:** Students should report to 3S35, St. Louis Children’s Hospital, 8:00 a.m. first day of elective.

**Enrollment limit per period:** 2
This course is offered as either a two- or four-week rotation.
Valid start weeks for two-week or four-week blocks are: Weeks 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41 and 43.

The student will actively participate in the clinical office, inpatient consultations, and surgery with the attending staff at St. Louis Children's Hospital. Care would be taken to provide experience in the common problems one would see in primary care pediatrics or family practice. Participation in sub-specialty/multidisciplinary clinics such as the Cleft and Craniofacial clinic is encouraged. Opportunity will be provided to learn the fundamentals of audiological evaluation. Students participating in this elective will attend academic conferences in both the pediatric and adult divisions.

Student time distribution: Inpatient 50%; Outpatient 40%; Conferences/ Lectures 10%; Primary Care 30%; Subspecialty care 70%
Major teaching responsibility: Attending physician and residents
Patients seen/weekly: 100
On call/weekend responsibility: At student’s discretion

**M55 820 / PRACTICUM IN ADULT CLINICAL AUDIOLOGY**

Instructor(s): Michael Valente, PhD, 314-362-7489
Location: 11th Floor, Center for Advanced Medicine (CAM)
Elective Contact: Michael Valente, PhD, 314-362-7489

Other Information: Students should contact Dr. Valente to schedule this elective.
Enrollment limit per period: 8
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Guidance provided in the administration and interpretation of audiometric tests. Emphasis on defining the severity of auditory dysfunction in addition to identifying sites of pathological processes. Theoretical bases of acoustics, anatomy and physiology, and electronics reviewed as they relate to auditory assessment. Modification of conventional test paradigms and hearing aid procedures covered
according to each student’s interests and needs.

Student time distribution: Inpatient 10%; Outpatient 80%; Conferences/ Lectures 10%; Primary Care 50%; Subspecialty Care 50%
Major teaching responsibility: Audiology staff
Patients seen/weekly: 120
On call/weekend responsibility: None

**M55 831 / NEUROTOLOGY**
Instructor(s): Joel Goebel, MD, FACS, 314-747-0553
Location: 9th Floor McMillan
Elective Contact: Maria Harrington, 314-747-0553

Other Information: Students should contact Dr. Goebel if interested in this elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Active student participation in the physical exam, advanced testing, and management of patients with balance dysfunction. Attend patient clinic two days a week and test patients on ENG, rotary chair, and computerized platform three days a week. Research participation welcome with prior arrangements.

Student time distribution: Outpatient 80%; Conferences/Lectures 20%; Primary Care 10%; Subspecialty Care 90%
Major teaching responsibility: Attending
Patients seen/weekly: 40
On call/weekend responsibility: None

**M55 833 / AMBULATORY OTOLARYNGOLOGY FOR THE PRIMARY CARE PHYSICIAN**
Instructor(s): Andrew Drescher, MD, 314-747-3742
Location: Barnes-Jewish Hospital and St. Louis Children’s Hospital clinics
Elective Contact: Carmen Horn, 314-747-3742, hornc@ent.wustl.edu
Other Information: Students should contact Carmen, 314-747-3742, prior to the start of this elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This course offers a four-week exposure to ambulatory care of patients with diseases of the head and neck. Eight half-day sessions per week will be offered in attending clinics for general otolaryngology, head and neck cancer, otology, and pediatric otolaryngology. Two half-day sessions are reserved for audiology, vestibular lab, and voice lab experience. Surgical exposure is available for selected cases as identified by the student and attending physician, but the main goal of this rotation is outpatient diagnosis and management.

Student time distribution: Outpatient 100%; Primary Care 50%; Subspecialty Care 50%
Major teaching responsibility: Attendings and residents
Patients seen/weekly: >100
On call/weekend responsibility: None

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Research — Otolaryngology

OTOLARYNGOLOGY RESEARCH OPPORTUNITIES (M55 900)

The type of research will depend upon the current phase of the research program in each laboratory. Students should contact the director of each laboratory to negotiate.

Pablo M Blazquez, PhD
4566 Scott Avenue, East McDonnell Science Building
314-362-1013
Role of the vestibulo-cerebellum and its target nuclei in eye movement control and spatial orientation. We used a range of methodologies: single and multiunit recordings, electrical brain stimulation, computational methods, pharmacology and behavioral studies. Our main lines of research are: 1-Signal transformations carried out by the the vestibulo-cerebellum during visual and vestibular stimulation. 2-Physiology of the vestibular nuclei 3-Role of the cerebellum-brainstem loop in motor learning in the vestibulo-ocular reflex.

Students will be instructed in one or several techniques and are expected to contribute significantly to the development of specific lab projects.

Joel A. Goebel, MD, FACS
8th Floor McMillan
314-747-0553
Clinical research testing of posture and ocular motor control. Projects include measurement of gaze stabilization during head movement, otolith input into dynamic subjective visual vertical measurements, computerized historical data screening for dizziness, and head-mounted vibrotactile balance prosthesis (BalCap). We welcome students to join these projects at any stage.

Judith E. C. Lieu, MD, MSPH
3S35 Children’s Hospital and 8th Floor McMillan
314-747-8205
Clinical Outcomes Research in Pediatric Otolaryngology. The Clinical Outcomes Research office performs clinical epidemiology and health services research. (Please reference the research elective offered by Dr. Jay Piccirillo in otolaryngology for more details.) These techniques and methodologies are used to investigate clinical problems seen in pediatric otolaryngology. Projects currently underway include the evaluation of quality of life of children with hearing loss, progression of hearing loss in children, and evaluation of unilateral hearing loss, use of functional connectivity MRI to investigate effects of hearing loss in children, and quality of life of parents whose young children with recurrent otitus media. Other projects of the student’s choosing that would utilize these research techniques may also be pursued.
Gene/environment interactions in cochlear injury. We study the interaction of genes and environment that increase cochlear injury due to noise and ototoxic exposure, with an emphasis on how these may yield apparent presbycusis. Because cochlear function and injury is the same in mice and humans, and governed by the same genes, we use mostly mouse models. Methods employed include standard ABR assessment and intra-cochlear recording, quantitative light microscopy, immunohistochemistry, and western blots. We also collaborate to map, and perform expression profiling of genes that underlie traits we have discovered. We and our collaborators have identified specific genes and inbred strains of mice that mimic the three major forms of human presbycusis (sensory, neural, and strial). Sensory presbycusis appears promoted by alleles and mutations that impair protective factors such as antioxidant enzymes, or that impair ion homeostasis. Neural presbycusis can be modeled by mutations that alter the function of cholinergic receptors. While we are not sure what types of genes and mutations can lead to strial presbycusis, we have discovered four mouse strains that show the key feature of this disease (age-related endocochlear potential reduction), and also show distinct types of strial pathology.

We have shown that some of the same gene alleles and mutations that promote presbycusis also promote cochlear noise injury. Such findings point to an interpretation of sensory presbycusis as principally cumulative injury. We have also published evidence for one or more QTLs that impact the qualitative character of noise injury. Important implications of our findings are (1) that there exists no single ‘mammalian’ archetype of cochlear noise injury, and (2) that injury to the organ of Corti and lateral wall are mechanistically and genetically independent.

Our research is eminently adaptable in difficulty and scale to students’ schedules and other requirements. Students may expect to learn the full range of methods we employ, including physiology, immunohistochemistry, histopathology, and cellular/molecular techniques.
The Clinical Outcomes Research Office of the Division of Research performs basic and applied clinical epidemiology and health services research. Clinical epidemiology is the study of the diagnosis, prognosis, and evaluation of treatment. Health service research is the study of the delivery of health care. The scientific methodology of clinical epidemiology is based on the architecture of clinical research, biostatistics, and data processing. Current projects include studying the impact of comorbidities on treatment and outcome for patients with cancer and the impact of a web-based cancer patient-specific prognostic information (Prognostigram) on treatment choices, outcomes, and satisfaction with care. We also conduct research into treatment and outcomes for patients with tinnitus. Using clinical epidemiology methodology, we can also study a variety of other diseases.

Faculty — Otolaryngology

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BA University of Georgia 1986
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Director of the Program in Audiology and Communication Sciences
Professor of Audiology and Communication Sciences

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BS Washington Univ in St. Louis 1973
DDENT Southern Illinois University 1976
William Mark Cohen, MS, DDENT
Instructor in Clinical Otolaryngology (DMD) (primary appointment)
MS University of North Carolina 1991
DDENT Washington Univ in St. Louis 1988

John Michael Conoyer, MD
Instructor in Clinical Otolaryngology (primary appointment)
BS Southeast Missouri St Univers 1971
MD Vanderbilt University 1975

Lisa S. Davidson, MS, PHD
Associate Professor of Otolaryngology (primary appointment)
Associate Professor of Audiology and Communication Sciences
BS East Tennessee State Univers 1985
MS Washington Univ in St. Louis 1987
PHD Washington Univ in St. Louis 2003

Richard Davidson, DDENT, MS
Instructor in Clinical Otolaryngology (DMD) (primary appointment)
BA Washington Univ in St. Louis 1966
DDENT Washington Univ in St. Louis 1970
MS University of Missouri 1979

Sheldon L Davis
Assistant Professor of Clinical Otolaryngology (primary appointment)

Andrew J. Drescher, MD
Assistant Professor of Otolaryngology (primary appointment)
MD University of Michigan 2002
BS Yale University 1998

Norman Steven Druck, MD
Assistant Professor of Clinical Otolaryngology (primary appointment)
BA Washington Univ in St. Louis 1967
MD University of Illinois 1970

Katherine Dunsky
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Julia D Edgar
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Tamara Kay Ehlert, MD
Instructor in Clinical Otolaryngology (primary appointment)
BA Northwestern University 1979
MD Univ of Wisconsin Madison 1983

Samir Khattab El-Mofty, MS, PHD
Professor of Oral Pathology (primary appointment)
Professor of Pathology and Immunology
Professor of Otolaryngology
UNKNOWN School Not Listed 1955
DDENT Washington Univ in St. Louis 1987
MS University of Pennsylvania 1966
PHD Temple University 1976

Mohamed Elsaifi
Assistant Professor of Clinical Otolaryngology (primary appointment)

Brian T Faddis, MS, PHD
Assistant Professor of Otolaryngology (primary appointment)
Assistant Professor of Audiology and Communication Sciences
MS University of California 1989
BS University of California 1982
PHD University of California 1994

James A Fernandez
Instructor in Clinical Otolaryngology (primary appointment)
BS University of Notre Dame 1977

Jeffrey T Fierstein, MD
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MD School Not Listed 1971
BA Dartmouth College 1968

Debra Fink, MS, DDENT
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MS University of Scranton 1981
DDENT Washington Univ in St. Louis 1988
BA Barnard College 1971
Charles Coleman Finley Adjunct Research Associate Professor of Otolaryngology (primary appointment)

Jill B Firszt, MS, PHD Professor of Otolaryngology (primary appointment)
Professor of Audiology and Communication Sciences
MS University of Illinois 1982
BS University of Illinois 1978
PHD University of Illinois 1998

Joel Goebel, MD Professor of Otolaryngology (primary appointment)
Vice Chairman of Otolaryngology
MD Washington Univ in St. Louis 1980
BS University of Notre Dame 1976

Richard I Goldberg, DDENT Instructor in Clinical Otolaryngology (DMD) (primary appointment)
DDENT Washington Univ in St. Louis 1988
BA Washington Univ in St. Louis 1981

Barry Steven Goldenberg, DDENT, MS Instructor in Clinical Otolaryngology (DMD) (primary appointment)
BA Fairleigh Dickinson University 1975
DDENT Washington Univ in St. Louis 1982
MS University of Missouri 1987

Debra Ann Gonzalez, MD Assistant Professor of Otolaryngology (primary appointment)
MD Cornell University 1987
BS Wellesley College 1982

James Dean Gould, MD Instructor in Clinical Otolaryngology (primary appointment)
BA University of Virginia 1989
MD University of Virginia 1993

Michael Anne Gratton Professor of Otolaryngology (Pending Executive Faculty Approval) (primary appointment)

Christine Hillery Gustus, MS Instructor in Otolaryngology (primary appointment)
Instructor in Audiology and Communication Sciences
MS Washington Univ in St. Louis 1975

Jason M. Hanson, MD Instructor in Clinical Otolaryngology (primary appointment)
MD Northwestern University 1992

Archie B Harmon Jr, MA, PHD Instructor in Otolaryngology (primary appointment)
MA University of Central Florida 2006
BA University of Florida 2002
PHD Florida State University 2010

William Hartel Instructor in Clinical Otolaryngology (primary appointment)

Alan A Harvey Assistant Professor of Clinical Otolaryngology (primary appointment)

Jay Fredrick Hauser, DDENT Instructor in Clinical Otolaryngology (primary appointment)
DDENT University of Iowa 1988
BA University of Tulsa 1983

Heather Hayes, M ED, PHD Associate Professor of Otolaryngology (primary appointment)
Associate Professor of Audiology and Communication Sciences
Director of Deaf Education Studies in Audiology and Communication Sciences
M ED Smith College 2005
Jacques A Herzog, MD
Assistant Professor of Clinical Otolaryngology (primary appointment)
BA University of Missouri 1980
MD University of MO Kansas City 1980

Keiko Hirose, MD
Associate Professor of Otolaryngology (primary appointment)
Associate Professor of Audiology and Communication Sciences
Associate Professor of Pediatrics
Vice Chairman of Otolaryngology

Lawrence M Hoffman, DDENT
Instructor in Clinical Otolaryngology (DMD) (primary appointment)
BA Indiana University Bloomington 1972
DDENT Washington Univ in St. Louis 1976

Dee Jay Hubbard, MA, PHD
Adjunct Assistant Professor of Otolaryngology (Speech Pathology)
(primary appointment)
MA University of Iowa 1965
BS Kansas State University 1962
PHD University of Iowa 1967

Timothy Everett Hullar, MD
Adjunct Professor of Otolaryngology (primary appointment)
BS Stanford University 1990
MD Harvard University 1996

Ryan Scott Jackson, MD
Assistant Professor of Otolaryngology (primary appointment)
MD Saint Louis University 2009
BA Saint Louis University 2004

Arnold Scott Jacobson, DDENT, MS
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DDENT Washington Univ in St. Louis 1976
BA University of Missouri 1970
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Susan Jerger
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Timothy N Kaiser
Assistant Professor of Clinical Otolaryngology (primary appointment)
Eugenia Kardaris
Instructor in Clinical Otolaryngology (DDS) (primary appointment)
Roanne Kay Karzon, MS, PHD
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Adjunct Assistant Professor of Otolaryngology
MS University of Virginia 1976
PHD Washington Univ in St. Louis 1982
BA University of Connecticut 1974

Tejbeer Kaur, PHD, BAS, PHARMD
Instructor in Otolaryngology (primary appointment)
PHD Southern Illinois University 2012
BAS Delhi University 2005
PHARMD Delhi University 2007

Andrew M Kim, MS, DDENT
Assistant Professor of Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)
Instructor in Clinical Otolaryngology
MS Ohio State University 1987
BA California State University 1978
DDENT Washington Univ in St. Louis 1984
June Leslie Kleinfeld, DDENT
Instructor in Clinical Otolaryngology (DMD) (primary appointment)
DDENT Washington Univ in St. Louis 1985

George R Kletzker, MD
Assistant Professor of Clinical Otolaryngology (primary appointment)
BA University of Missouri 1980
MD University of Missouri 1984

David Seamus Leonard, MBCHB, MHA
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MBCHB National University of Irelan 2000
BA Dartmouth College 1995
MHA Harvard University 2012

Laurence A Levine, DDENT, MD, MA
Associate Professor of Clinical Otolaryngology (primary appointment)
DDENT New York University 1967
MD Albany Medical College 1971
MA Hofstra University 1963

Jeffery Lichtenhan, BAS
Assistant Professor of Otolaryngology (primary appointment)
BAS University of Kansas 2000

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BS University of CA Davis 1988
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Michael Lillmars, DDENT
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DDENT Northwestern University 1984
BA Drury College 1979

Robert Douglas Lowe, DDENT
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DDENT Washington Univ in St. Louis 1982
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Richard W Maack, MD
Instructor in Clinical Otolaryngology (primary appointment)
BS Muhlenberg College 1981
MD University of Maryland 1985

Robert R Mac Donald III, MD
Instructor in Clinical Otolaryngology (primary appointment)
MD Washington Univ in St. Louis 1993
BA Duke University 1989

Susan E Mackinnon, MD
Sydney M., Jr. and Robert H. Shoenberg Professor of Surgery (Plastic and
Reconstructive Surgery) (primary appointment)
Professor of Otolaryngology
Professor of Occupational Therapy
BA Queens College 1971
MD Queen's University 1975

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DDENT Washington Univ in St. Louis 1960
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MS Indiana University Bloomington 1964

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PHD University of Kansas 1980

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BS University of Illinois 1982

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PHD Indiana University Bloomington 1957
MA Indiana University Bloomington 1953
BS Univ of Wisconsin Madison 1951

Elizabeth Tracy Mishler, MA, AUD Instructor in Audiology and Communication Sciences (primary appointment)
Instructor in Otolaryngology
MA Northwestern University 1981
BS Northwestern University 1980
AUD A.T. Still U of Health Science 2007

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BS Duke University 1980
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DDENT Washington Univ in St. Louis 1983

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Professor of Audiology and Communication Sciences

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BS University of Central Oklahom 1962
MD University of Oklahoma 1965

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Associate Professor of Audiology and Communication Sciences
MA University of Northern Colorado 1982
PHD Washington Univ in St. Louis 1990
BA University of Northern Colorado 1978

**Brian Nussenbaum, MD**
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(primary appointment)
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MD New York University 1994
BA State Univ of NY Binghampton 1990

**Margaret A Ogden, MD**
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BA Amherst College 1997
MD Washington Univ in St. Louis 2002

**Kevin Kenneth Ohlemiller, PHD**
Associate Professor of Otolaryngology
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BS Indiana University Bloomington 1983
MD Washington University 2002

**Randal C Paniello, MSP**
Professor of Otolaryngology
(primary appointment)
BS1 University of Illinois 1979
MS University of Illinois 1980
BS University of Illinois 1979

**Margaret Grace Peak, MA, PHD**
Adjunct Assistant Professor of Otolaryngology (Audiology)
(primary appointment)
BS Maryville University 1959
MA Saint Louis University 1961
PHD Columbia University 1975

**Jonathan Erik Peelle, BAS, PHD, MS PSYC**
Assistant Professor of Otolaryngology
(primary appointment)
BAS Houghton College 1999
PHD Brandeis University 2005
MS PSYC Brandeis University 2002

**Michael James Pernoud, DDENT**
Instructor in Clinical Otolaryngology
(primary appointment)
DDENT University of Missouri 1975
BA Saint Louis University 1971

**Supote Phipatanakul, MD**
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MD Chulalongkorn University 1965

**Jay Francis Piccirillo**
Professor of Otolaryngology
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Vice Chairman for Research, Dept of Otolaryngology

Professor of Medicine
Professor of Occupational Therapy
Professor of Biostatistics
BA University of Vermont 1979

**Patrik Pipkorn, MD**
Instructor in Otolaryngology (Pending Dean's Approval)
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**Gerald Raymond Popelka**
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**Lisa Gayle Potts, PHD, MS**
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Assistant Professor of Audiology and Communication Sciences
BS Southern Illinois University 1988
PHD Washington Univ in St. Louis 2006
MS Washington Univ in St. Louis 1991

Jason T. Rich, MD Assistant Professor of Otolaryngology (primary appointment)
MD Ohio State University 2004
BS Brigham Young University 2000

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DDENT University of MO Kansas City 1998

Robert V Rivlin, MS, DDENT Instructor in Clinical Otolaryngology (DMD) (primary appointment)
MS Fairleigh Dickinson University 1975
DDENT Washington Univ in St. Louis 1979
BA Rutgers University 1972

Albert F Ruehl, MS, MD Assistant Professor of Clinical Otolaryngology (primary appointment)
BS Washington Univ in St. Louis 1961
MS Washington Univ in St. Louis 1964
MD Saint Louis University 1973

Mark A Rutherford, PHD Assistant Professor of Otolaryngology (primary appointment)
BS University of MO St Louis 1999
PHD University of Oregon 2005

Alec N Salt, PHD, MS Professor of Otolaryngology (primary appointment)
PHD University of Birmingham 1977
MS University of Birmingham 1974
BS University of East Anglia 1973

John Stone Schneider, MD, BBA, M PP Assistant Professor of Otolaryngology (primary appointment)
MD University of Chicago 2007
BBA University of Chicago 1997
M PP University of Chicago 2007

Richard E Schrick, MD Instructor in Clinical Otolaryngology (primary appointment)
BS University of Missouri 1968
MD University of Missouri 1977

Allen Sclaroff, DDENT Professor of Clinical Otolaryngology (Oral Surgery) (primary appointment)
BA University of Colorado Boulder 1968
DDENT Temple University 1972

Karl Shanker, DDENT Instructor in Clinical Otolaryngology (DDS) (primary appointment)
DDENT University of Missouri 1978
BA Washington Univ in St. Louis 1975

Peter Gaillard Smith, ME, PHD Assistant Professor of Clinical Otolaryngology (primary appointment)
BS Clemson University 1967
ME Purdue University 1970
PHD Purdue University 1972

Jules M Snitzer, DDENT Instructor in Clinical Otolaryngology (DDS) (primary appointment)
DDENT Washington Univ in St. Louis 1955

Isolde E Thalmann, PHD Professor Emeritus of Otolaryngology (primary appointment)
Prof Emeritus of Otolaryngology (primary appointment)
Resrch Prof Emeritus of Otolaryngology (primary appointment)
BS Washington Univ in St. Louis 1968
PHD California Western 1982
Ruediger Thalmann Professor Emeritus of Otolaryngology (primary appointment)
Prof Emeritus of Otolaryngology
Lecturer in Otolaryngology
Stanley E Thawley, MD
Associate Professor of Otolaryngology (primary appointment)
MD University of Texas Galveston 1967
BA University of Texas Austin 1963
Rosalie May Uchanski, MS, PHD
Assistant Professor of Otolaryngology (primary appointment)
Assistant Professor of Audiology and Communication Sciences
BS University of Illinois Chicago 1978
MS Mass Inst of Technology (MIT) 1981
PHD Mass Inst of Technology (MIT) 1988
Lora Maureen Valente
Associate Professor of Otolaryngology (primary appointment)
Associate Professor of Audiology and Communication Sciences
Director of Audiology Studies in Audiology and Communication Sciences
BS University of Illinois 1974
Michael Valente, MS, PHD
Professor of Otolaryngology (Audiology) (primary appointment)
Professor of Audiology and Communication Sciences
MS Adelphi Univ 1972
PHD University of Illinois 1975
BA Adelphi Univ 1970
Thomas J Veraldi, MS
Instructor in Clinical Otolaryngology (primary appointment)
MS Washington Univ in St. Louis 1988
BS Moravian College 1976
Wayne A Viers
Associate Professor of Clinical Otolaryngology (primary appointment)
BS Phillips University 1952
Mark Edward Warchol, PHD
Professor of Otolaryngology (primary appointment)
Professor of Audiology and Communication Sciences
Professor of Neuroscience
PHD Northwestern University 1989
Calvin H Weiss, DDENT
Instructor in Clinical Otolaryngology (DDS) (primary appointment)
DDENT Saint Louis University 1946
BA University of Missouri 1943
Tatyana Aleksandrovna Yakusheva, PHD, MS
Assistant Professor of Otolaryngology (primary appointment)
PHD Russian U of Friendship of Ppl 2002
MS Saratov State University 1997
No entries found

Department of Pathology and Immunology
The **Department of Pathology and Immunology** is involved in the clinical diagnosis and monitoring of disease, in the teaching of Pathology and Immunology, and in research on the molecular basis of disease and immunology.

The Department is responsible through its divisions for studying the pathogenesis and the biochemical and anatomical basis of diseases. Pathologists do research on disease processes using molecular, genetic and structural analysis. Pathologists have the responsibility for the cytological and anatomical diagnosis of diseases and for developing novel structural and molecular approaches for the analysis of them, particularly cancers and infectious diseases. The divisions of **Anatomic and Molecular Pathology**, **Anatomic and Molecular Pathology** (headed by Steven L. Teitelbaum, MD), **Laboratory and Genomic Medicine** (headed by Charles Eby, MD and Thaddeus Stappenbeck, MD, PhD) and **Neuropathology** (headed by Robert E. Schmidt, MD, PhD) have faculty involved in teaching, clinical service and research. Prominent areas of research include experimental diabetes, hematology, bone pathophysiology, cancer and gastrointestinal and vascular pathology.

The department teaches an extensive course in the second year of the curriculum and presents a number of conferences that third- and fourth-year students can attend. The department also offers a number of clerkships. The coursemaster of the second-year Pathology course is Erika C. Crouch, PhD, MD. Students can take clerkships in Autopsy Pathology, Surgical Pathology or Laboratory Medicine, or participate in the research activities of the faculty.

The **Division of Immunobiology** integrates immunobiology activities in the School. It is responsible for the teaching of immunology in the first year of the curriculum (Brian T. Edelson, MD, PhD is the coursemaster) and for conducting basic research in immunobiology and in the immunological basis of disease.

Many faculty in the department are involved in graduate teaching and participate in the various programs offered by the **Division of Biology and Biomedical Sciences**. The department has strong participation in the Immunology Graduate Program.
MD Courses — Pathology and Immunology

First year

M30 523 IMMUNOLOGY
Coursemaster: Brian T. Edelson, MD, PhD, 362-4427
This course consists of lectures, laboratory exercises and small group clinical discussions. It covers all aspects of the immune response, general properties of the immune system, effector molecules, cells and their function, cellular interactions and immunological diseases. The Immunology course requires a strong background in biochemistry, genetics and cell biology. Some of the basic concepts from these fields should be reviewed during the course. There are two laboratory sessions. These will cover the areas of blood typing/blood banking and allergy. In these laboratories, students will type blood and be tested for allergies. POPS (Patient Oriented Problem-Solving System in Immunology) will also be used during each laboratory sessions and contain a clinical problem that is analyzed and solved by small groups of three to four students. There are five hours of small group clinical discussion sessions. In these sessions, students meet with physicians to discuss the role of immunology and a particular human disease. The Immune System (latest edition) by Peter Parham is used. For the small group clinical sessions, the latest edition of the textbook Case Studies in Immunology: A Clinical Companion by Rosen and Geha is used. There will be an online self-assessment (multiple-choice and true/false), a take-home exam (essay
questions) and a formal final exam (multiple choice and short answer) on the topics described in the lectures and in the laboratory sessions. This course is restricted to medical students only.

Second year

M60 665 PATHOLOGY
Coursemaster: Erika C. Crouch, PhD, MD, 454-8462
This course provides a comprehensive survey of the biology and morphology of human disease through a combination of lectures and laboratory/case study sessions. The year begins with a review of basic disease mechanisms at the cellular and molecular level. Subsequently, the pathogenesis and characteristics of important diseases involving each organ system of the body are presented. Considerable emphasis is placed on learning the “language” of human disease. During the year, students become familiar with the methods of contemporary pathologic analysis. They also learn how the results of pathologic studies are used in the clinical setting to establish diagnoses, to assess prognosis and response to therapy, and to evaluate the quality of patient care.

Third year

Conferences — Tumor Conference
One hour each week for 12 weeks during the Surgery and Obstetrics and Gynecology clerkships. Problem cases are presented for illustration and discussion of all aspects of neoplastic disease.
Instructors: Staff

Fourth year

Electives

M60 805 / AUTOPSY PATHOLOGY
Instructor(s): Louis P. Dehner, MD, 314-362-0150
Location: West Building
Elective Contact: Louis P. Dehner, MD, 314-362-0150; Julie Gutierrez, 314-362-0143; Linda Hankins 314-362-8750

Other Information: Students should contact Dr. Dehner prior to scheduling this elective.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 13, 17, 21, 25, 29, 33, 37, and 41.

This full-time elective is designed to introduce students to autopsy pathology. Students will assist in performing autopsies, and together with the first-year pathology residents, will participate in all of the activities of the Autopsy Service including brain cutting, specialty microscopic conferences, and weekly autopsy case conferences. Students will be under the direction of senior pathology faculty.

Student time distribution: Autopsy Activities 75%; Conferences/Lectures 25%
Major teaching responsibility: Attendings and residents
Patients seen/weekly: N/A
On call/weekend responsibility: None

M60 807 / DERMATOPATHOLOGY
Instructor(s): Andras Schaffer, MD, PhD, and Ilana Rosman, MD
Location: Dermatopathology Center
Elective Contact: Andras Schaffer, 314-362-5757

Other Information: Students will meet at the Dermatopathology Center Signout Room, CORTEX building, 4320 Forest Park Avenue, Room 212M at 8:00 a.m. on the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 9, 13, 17, 21, 25, 29, 33, 37, and 41

The student will be involved in all activities of the dermatopathology service. These
include review, discussion and signout of gross and microscopic skin specimens. Signout occurs each day with a team that includes an attending, fellow, and residents from both dermatology and pathology. The medical student will work closely with the residents and fellow to preview cases prior to signout.

Dermatology Grand Rounds and dermatopathology lectures are held on Thursday mornings and are mandatory. In addition, dermatopathology slide review conferences are held on Friday mornings and are mandatory. Other learning opportunities include daily Consensus Conference, informal unknown slide sessions, weekly Dermatology Consult Clinicopathologic Conference and monthly Cutaneous Lymphoma Conference and Journal Club.

The primary goal of this elective is to acquire basic competence in the diagnosis of skin diseases at the microscopic level. A secondary goal is to acquire understanding of the structure and function of the laboratory at the technical, administrative and medical professional level as it pertains to skin specimens.

Student time distribution: Inpatient 5%; Outpatient 80%; Conferences/Lectures 15%; Subspecialty Care 100%
Major teaching responsibility: Drs. Andras Schaffer and Ilana Rosman
Patients seen/weekly: Average number of specimens per week is 300; percentages above reflect specimens not patients.
On call/weekend responsibility: None

**M60 812 / GENERAL CYTOPATHOLOGY**
Instructor(s): Brian Collins, MD, 314-747-1397
Location: BJC Institute of Health, 3rd Floor, Room 3430
Elective Contact: Kim Green, 314-747-8159, greenk@path.wustl.edu

Other Information: Please call or e-mail Kim Green at greenk@path.wustl.edu one week before the rotation to receive clerkship information and password access forms. Students report to the Cytopathology fellow in the Resident’s Room, 3rd Floor IOH Building, Room 3202, 9:00 a.m. first day of elective.
Enrollment limit per period: 2
Valid start weeks for two- or four-week blocks are: Weeks 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, and 43.

This elective is designed to familiarize students with the discipline of cytopathology and to encourage the development of basic skills. Cytopathology impacts many different areas of patient care and medical practice. The cytopathology laboratory at Barnes-Jewish Hospital receives a broad range of medical cytology material involving fine needle aspiration biopsies (FNA), body fluids and Pap tests. As a result, the elective is beneficial for students considering a career in pathology and for students planning careers in internal medicine, surgery, OB-GYN, ENT, and radiology. The focus of the experience can be customized based on the interest of the student. Desk space and a microscope are provided.

Students on the elective will (1) learn how patient specimens are received and processed (2) acquire skills in the microscopic diagnosis of disease through active participation and (3) learn the role of the cytopathologist in the care and management of patients. Students will have the opportunity to function as junior house staff managing their own cases with supervision from residents, fellows, and attending cytopathologist. There are text books and extensive study sets to permit students to focus on specific areas of interest.

The daily schedule for student begins previewing the cytology cases at 8:00 a.m. The student will attend the cytology conference on Wednesday and Thursday. In general, the student will be able to complete sign-out activities by 4:30p.m.

Student time distribution: Clinical Duties 85%; Conferences/Lectures 15%; Subspecialty Care 100%
Major teaching responsibility: Attending staff, residents and fellows
Patients seen/weekly: N/A
On call/weekend responsibility: None

M60 813 / MOLECULAR PATHOLOGY
Instructor(s): Jacqueline Payton, MD, PhD
Location: BJC Institute of Health, 5th Floor
Elective Contact: Jacqueline Payton, MD, PhD, 314-362-5935, jpayton@wustl.edu

Other Information: Students should contact Dr. Payton at least two weeks prior to beginning this elective to learn the details of their schedule.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This elective is designed to introduce students to the field of molecular pathology, including established molecular diagnostics and Next Generation Sequencing clinical assays. Students will learn through observation in the laboratory, didactic sessions, resident and fellow presentations, sign out with attending pathologists, and clinical informatics workshops. Students will work with residents/fellows on the rotation and participate as part of the team.

Student time distribution: Preview/Signout 25%; Conferences/Lectures 25%; Lab Observation and Informatics Training 50%
Major teaching responsibility: Attendings and residents/fellows
Patients seen/weekly: 200 assays
On call/weekend responsibility: None

M60 815 / OB/GYN PATHOLOGY SUB-INTERNSHIP
Instructor(s): Hannah Krigman, MD
Location: Barnes-Jewish Hospital, South Campus
Elective Contact: Hannah Krigman, MD, Julie Gutierrez, 314-362-0143

Other Information: Students report to Julie Gutierrez’s office, 3405 BJCIH, Barnes-Jewish Hospital, South Campus, 9:00 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.
The elective stresses the principles of anatomic pathology when applied to operative material in obstetrics and gynecology. The subintern will examine gross and microscopic specimens in the Ob-Gyn Pathology Lab and review pertinent literature with a senior pathologist. Ample time will be available for attending regular conferences in ob-gyn and pathology.

Student time distribution: Inpatient 90%; Conferences/Lectures 10%; Subspecialty Care 100%

Major teaching responsibility: Attendings and residents

Patients seen/weekly: N/A

On call/weekend responsibility: None

M60 820 / SURGICAL PATHOLOGY – BARNES-JEWISH HOSPITAL

Instructor(s): Samir El-Mofty, DMD PhD, and staff, 314-362-2681

Location: Division of Surgical Pathology, 3rd Floor, BJC Institute of Health, Barnes-Jewish Hospital, South Campus

Elective Contact: Samir El-Mofty, DMD, PhD, 314-362-2681, elmofty@wustl.edu or Julie Gutierrez, 314-362-0143, jgutierrez@path.wustl.edu.

Other Information: See the pathology website for detailed orientation and introductory information (http://pathimm.wustl.edu/). If you need to discuss individual goals and interests, please call or e-mail Dr. Samir El-Mofty at least one week prior to the elective.

Enrollment limit per period: In order to permit maximum interaction with the surgical pathology staff and house staff, the elective is limited to four students per four-week block. For the initial round of scheduling the available slots are allotted to accommodate two 4th year students and two 3rd year students. Any open slots after the original scheduling period are then made available to either 3rd and 4th year students on a first-come, first-serve basis. Contact your scheduling office for details.

This elective is designed to familiarize students with the discipline of surgical pathology and to encourage the development of basic skills in gross pathology and histopathological interpretation. The Laboratory of Surgical Pathology at Barnes-Jewish
Hospital receives a broad range of medical biopsy material in addition to specimens derived from the busy surgical subspecialty practices. As a result, this elective is beneficial not only for students considering a career in pathology, but also for students planning careers in internal medicine, surgery, obstetrics-gynecology, pediatrics, radiology, radiation oncology and dermatology. Students on this elective will (1) Learn how patient specimens are received and processed, (2) Acquire skills in the gross examination and microscopic diagnosis of disease through active participation and (3) Learn the role of the pathologist in the preoperative, intraoperative, and postoperative care and management of patients. Students will function as junior house staff managing their own cases with supervision from residents, fellows and attending pathologists. Students may also wish to participate in ongoing research projects within the Department as time, and interest, allows. At the end of the rotation the students are required to do a formal case presentation for the residents, fellows and attending staff.

The daily schedule for students begins at 8:00 a.m. with morning conference. In general, the student will be able to complete all gross examination and sign-out activities by 4:30 p.m. Students are welcome to stay beyond 4:30 p.m. to participate in any of the academic or other working activities of the Division.

Student time distribution: Clinical duties 85%; Conference/Lectures 15%
Major teaching responsibility: Attending staff, residents and fellows
Patients seen/weekly: N/A
On call/weekend responsibility: None

**M60 825 / INTRODUCTION TO NEUROPATHOLOGY**
Instructor(s): Robert E. Schmidt, MD, PhD, 314-362-7426
Location: West Building
Elective Contact: Robert E. Schmidt, MD, PhD, 314-362-7426

Other Information: Students report to BJC Institute of Health, Room 3407, 9:00 a.m. first day of elective.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 13, 17, 21, 29, 33, 37, and 41.

The course is structured to give the student a full-time immersion in the specialty of neuropathology including both neurosurgical and neuroautopsy derived material. There are daily didactic sessions that cover the spectrum of neurological diseases, review gross and microscopic neuro-anatomy, discuss approaches to the diagnosis of nervous system disease, and point out the interrelationships of research to clinical problems. Multiple clinical conferences and diagnostic working sessions complement reading, use of a large microscopic Divisional study set and project work. Time: 35 to 40 hours per week.

Student time distribution: Conferences/Lectures 100%; Subspecialty Care 100%
Major teaching responsibility: Attendings and fellows
Patients seen/weekly: N/A
On call/weekend responsibility: None

M60 855 / DIAGNOSTIC HEMATOPATHOLOGY
Instructor(s): Anjum Hassan, MD, 314-362-1329
Location: BJC Institute of Health, Room 3436
Elective Contact: Kevin Hutchinson, Heme Path Division Secretary, 314-362-1329, khutchinson@path.wustl.edu

Other Information: Students will meet on the 2nd Floor, Kingshighway Building Room 2303, 10:00 a.m. first day of elective.
Enrollment limit per period: 2
Valid start weeks for two- or four-week blocks are: Weeks 9, 11, 13, 15, 17, 19, 29, 31, 33, and 35.

Student electives in diagnostics of diseases of hematopoietic cells aims to foster understanding of acute and chronic leukemias, reactive conditions mimicking malignancies, and lymphomas affecting adults and pediatric populations. This diverse field involves multiple ancillary diagnostic tests such as immunohistochemistry, flow
cytometry and genetic testing. This elective will offer medical students an in-depth insight into what goes behind the final pathologic diagnoses in hematologic malignancies before a treatment plan can be executed. This insight is crucial to understand the importance of correct diagnosis (the answer to the usual “what’s taking pathology so long” comment) and accurate, timely communication of preliminary and final diagnosis to the clinicians. Under general faculty and fellow supervision, the students will be primarily responsible for handling of their own cases such as bone marrow biopsies, simple lymph node biopsies, ordering the required tests, dictating the final reports and communicating with the clinicians. They will also participate in several conferences per week including Hematopathology consensus conference, weekly cytogenetic/molecular correlation conferences, journal club and interdepartmental bone marrow transplant and lymphoma conferences.

Student time distribution: Bench Signouts 60%; Conference/Lectures 40%
Major teaching responsibility: Anjum Hassan, MD
Patients seen/weekly: 60-70 bone marrow biopsies; 50 consults and in-house cases
On call/weekend responsibility: None

M60 860 / CLINICAL LABORATORY MEDICINE – BARNES-JEWISH HOSPITAL
Instructor(s): Mitchell Scott, PhD, 314-362-1503
Location: Barnes-Jewish Hospital, South Campus
Elective Contact: Mitchell Scott, PhD, 314-362-1503

Other Information: Students meet in chief resident’s office, BJC Institute of Health, 3rd floor, 8:30 a.m. first day of elective.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: 13, 17, 21, 29, 33, 37, and 41.

This elective is designed to teach the student how clinical laboratory assays are used in the diagnosis of disease and to understand the quality assurance tools the laboratory utilizes to assure the reliability of tests. The four-week elective includes rotations through laboratories in clinical chemistry, clinical microbiology, transfusion medicine and hematopathology. During the elective the student will have a daily schedule,
which includes didactic sessions with senior staff and house staff. Particularly useful clinical skills to be acquired include: morphology of peripheral blood smears and bone marrow biopsies; interpretation of coagulation tests, biomarkers of cardiac damage and serum protein electrophoresis patterns; appropriate use of blood component therapy and therapeutic apheresis; and identification of infectious organisms.

Students will attend quality assurance meetings with senior staff, participate in microbiology rounds and present case discussions during this elective.

Student time distribution: Inpatient 25%; Conferences/Lectures 75%

Major teaching responsibility: Attendings and residents

Patients seen/weekly: 5

On call/weekend responsibility: None

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Research — Pathology and Immunology

Paul M. Allen, PhD
8th Floor, BJC Institute of Health
314-362-8758

Research in immunology. The recognition of antigen by T cells. We are investigating how the T cell receptor functions developmentally, biochemically and structurally. We utilize in vivo models to study the role of T cells in alloreactivity/graft rejection and inflammatory bowel disease.

Jacques U. Baenziger, MD, PhD
2nd Floor, Kingshighway Building, Room 2423
314-362-8730

Glycobiology, informational role of carbohydrates in protein targeting and reproductive endocrinology.
Genomic and metabolic foundations of symbiotic host-microbial interactions in the human gut; impact on obesity and malnutrition.

The focus of this laboratory is to study the function and growth of pancreatic islets in Types 1 and 2 diabetes. Mammalian target of rapamycin (mTOR) is a protein kinase that integrates signals from growth factors and nutrients to regulate DNA and protein synthesis. G protein-coupled receptor agonists, such as GLP-1, have been shown to enhance proinsulin biosynthesis and secretion, and stimulate cellular growth and proliferation. Our objective is to further explore the mechanisms of action of GLP-1 to enhance DNA and protein synthesis via mTOR in rodent and human islets. These studies are of fundamental interest in optimizing mTOR to induce cellular growth and proliferation to: (1) enhance pre- and post- islet transplantation in Type 1 diabetes and (2) prolong b-cell compensation in response to insulin resistance in Type 2 diabetes. b-cell failure in obesity-associated Type 2 diabetes is believed to correlate with the intracellular accumulation of lipids that contribute to defects in insulin secretion and maintenance of b-cell mass. Our studies have identified lipoprotein lipase in b-cells, a key enzyme for catalyzing the hydrolysis of lipoprotein-associated TAG, to produce free fatty acids (FFA) for local cellular uptake. We are also characterizing the effects of enhanced FFA uptake through fatty acid transporters and determining the regulation of lipid droplet synthesis and breakdown by lipid droplet associated proteins. Recent studies suggest that FFA up-regulate mitochondrial uncoupling proteins proposed to dissipate the proton gradient across the mitochondrial inner membrane. The objective of this study is to delineate the link between FFA and b-cell mitochondrial dysfunction in Type 2 diabetes.
Function of dendritic cells in T cell responses and anti-tumor vaccines.

Robert D. Schreiber, PhD
8th Floor, BJC Institute of Health
314-362-8747
Tumor Immunology and Cancer Immunoeediting. Research on natural and therapeutically induced responses to tumors and definition of the molecular roles of interferon-gamma and interferon-alpha/beta in these processes.

Carl H. Smith, MD
St. Louis Children's Hospital
314-454-6029
Placental transport and surface membrane structure and function.

Thaddeus S. Stappenbeck, MD, PhD
Room 1020 Clinical Sciences Research Building – North Tower
314-362-4214
My lab studies the cause of inflammatory bowel disease, a condition that leads to spontaneous inflammation of the intestine. We study the mechanisms of host gene mutations as well as abnormalities in host-microbial interactions that drive this disease.

Steven Teitelbaum, MD
Barnes-Jewish Hospital
314-454-8463
Cellular and molecular mechanisms of bone remodeling with particular emphasis on osteoclast biology as relates to pathogenesis and prevention of diseases, such as osteoporosis. We focus on integrin and cytokine biology utilizing a variety of genetically-manipulated mice.

John Turk, MD, PhD
Phospholipase A2 (PLA2) enzymes in regulating insulin secretion from pancreatic islet cells, e.g. a novel iPLA2 that does not require Ca2+ cloned from rat and human islets that is involved in-cell secretion and proliferation. Studies of iPLA2, its post translational modifications, and its interactions with other proteins involve mice that are iPLA2-deficient globally or in selected tissues, transgenic mice that overexpress iPL2 in -cells, and insulinoma cells with genetically manipulated iPLA2 expression. Mass spectrometric characterization of proteins and complex lipids is an important tool in these studies.

Emil R. Unanue, MD
8414 at BJCIH
314-362-8748
Research in immunobiology/immunopathology. Examination of cellular interactions resulting in immune induction and cellular immunity. These cellular interactions are examined in normal immune responses and in autoimmune diseases. The focus is to identify the proteins responsible for activation of lymphocytes in Type 1 diabetes.

Herbert Virgin, MD, PhD
Clinical Sciences Research Building, Room 8849
314-362-9223
We work on issues at the interface of virology and immunology by analyzing aspects of viral immunity, viral pathogenesis, and viral genetics that contribute to virulence and disease.

Mark A. Watson, MD, PhD
Room 1029, Clinical Sciences Research Building – North Tower
314-454-7919
Our laboratory is interested in defining patterns of somatic gene mutation, gene expression, and quantitative tumor clonality that can be used to predict distant site metastases and therapeutic vulnerability in patients with lung and breast cancer. Experimental approaches use histopathological review, and next generation DNA
exome and RNA sequencing (NGS) of primary cancer patient tissues, coupled with bioinformatics and statistical modeling to identify candidate biomarker patterns that may be useful for the clinical management of cancer patients.

Faculty — Pathology and Immunology

Herbert W Virgin IV, PhD
Mallinckrodt Professor of Pathology and Immunology (primary appointment)
Professor of Medicine
Head of the Department of Pathology and Immunology
Professor of Molecular Microbiology
PHD Harvard University 1985

Philip Patrick Ahern, PhD
Instructor in Pathology and Immunology (primary appointment)
PHD Oxford University 2010

Jennifer Marie Alexander-Brett, MD, PhD
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
MD Washington Univ in St. Louis 2007
PHD Washington Univ in St. Louis 2007
BS University of Nebraska 1999

Paul M Allen, PhD, MS
Robert L. Kroc Professor of Pathology and Immunology (primary appointment)
PHD University of Michigan 1981
BS University of Michigan 1974
MS University of Michigan 1977

Gaya K Amarasinghe, PhD
Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Biochemistry and Molecular Biophysics
Associate Professor of Molecular Microbiology
PHD University of Maryland 2001

Ferdinand Enginco Amarillo, PhD
Assistant Professor of Pathology and Immunology (primary appointment)
PHD Florida State University 2010

Neil William Anderson, MD
Assistant Professor of Pathology and Immunology (primary appointment)
MD University of Wisconsin-Madiso 2009
BS1 University of Wisconsin-Madiso 2005

Maksym Artomov, MS, PhD
Assistant Professor of Pathology and Immunology (primary appointment)
Michael James Barratt, PHD  Instructor in Pathology and Immunology (primary appointment)

Melissa Anne Barrow, PHD  Instructor in Pathology and Immunology (primary appointment)

Cory Thomas Bernadt, PHD, MD  Assistant Professor of Pathology and Immunology (primary appointment)

Deepta Bhattacharya, PHD  Assistant Professor of Pathology and Immunology (primary appointment)

Morey A Blinder, MD  Professor of Medicine (primary appointment)

Morey A Blinder, MD  Professor of Pathology and Immunology

Adrianus C Boon, PHD, MS  Assistant Professor of Medicine (primary appointment)

George John Broze Jr, MD  Professor of Medicine (primary appointment)

Carey-Ann Dawn Burnham, PHD  Associate Professor of Pathology and Immunology (primary appointment)

Minji Byun, PHD  Assistant Professor of Medicine (primary appointment)

Nigel John Cairns, PHD  Professor of Neurology (primary appointment)

Dengfeng Cao, MD  Associate Professor of Pathology and Immunology (primary appointment)

Danielle Marie Ho Carpenter, MD  Assistant Professor of Pathology and Immunology (primary appointment)
Javier A Carrero-Brewer, PHD, MA
Assistant Professor of Pathology and Immunology (primary appointment)

PHD Washington Univ in St. Louis 2005
MA University of Puerto Rico 2000
BS Emory University 1996

Marina Cella, MD
Associate Professor of Pathology and Immunology (primary appointment)

MD University of Genova 1989

Chih-Hao Chang, MS, PHD, MS
Instructor in Pathology and Immunology (primary appointment)

MS National Taiwan University 2015
BS National Taiwan University 2015
PHD Oxford University 2015
MS Oxford University 2015

Rebecca D Chernock
Assistant Professor of Pathology and Immunology (primary appointment)
Assistant Professor of Otolaryngology
BS Brown University 1999

Kyunghae Choi
Associate Professor of Pathology and Immunology (primary appointment)

Brian Tyler Collins, MD
Assistant Professor of Pathology and Immunology (primary appointment)

MD University of MO Columbia 1988

Marco Colonna
Robert Rock Belliveau MD Professor of Pathology (primary appointment)
Professor of Medicine

Donald Franklin Conrad
Assistant Professor of Genetics (primary appointment)

Assistant Professor of Pathology and Immunology

Megan A Cooper, PHD, MD
Assistant Professor of Pathology and Immunology (primary appointment)

Assistant Professor of Genetics
Assistant Professor of Ophthalmology and Visual Sciences

MD University of California 1999
PHD University of California 1997
BS Stanford University 1990
AB Stanford University 1990

Catherine E Cottrell, PHD
Assistant Professor of Pathology and Immunology (primary appointment)

Assistant Professor of Genetics

BA College of Wooster 1995
PHD Ohio State University 2002
MD Ohio State University 2004

Joseph C. Corbo, MD, PHD, AB
Associate Professor of Pathology and Immunology (primary appointment)

Associate Professor of Genetics
Associate Professor of Ophthalmology and Visual Sciences

MD University of California 1999
PHD University of California 1997
BS Stanford University 1990
AB Stanford University 1990

Erika C Crouch, MD, PHD
Professor of Pathology and Immunology (primary appointment)

MD University of Washington 1979
PHD University of Washington 1978

Sonika M Dahiya, MD
Assistant Professor of Pathology and Immunology (primary appointment)

MD Kasturba Medical College 2000

Gautam Dantas
Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Biomedical Engineering
Associate Professor of Molecular Microbiology
BS Macalester College 2000

Louis P Dehner, MD Professor of Pathology and Immunology (primary appointment)
Professor of Pathology in Pediatrics
MD Washington Univ in St. Louis 1966
BA Washington Univ in St. Louis 1962

David G. DeNardo, PHD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
BS Willamette University 1999
PHD Baylor University 2005

George J Despotis Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Anesthesiology
BA Greenville College 1981

Michael Diamond, MD Professor of Medicine (primary appointment)
Professor of Molecular Microbiology
Professor of Pathology and Immunology

Herbert S Gasser Professor
BA Columbia College 1985
MD Harvard University 1994

Dennis J. Dietzen, PHD Professor of Pediatrics (primary appointment)
Professor of Pathology and Immunology
PHD Indiana University Bloomington 1992

Mary C Dinauer, MD, PHD Professor of Pediatrics (primary appointment)
Professor of Pathology and Immunology
BA Lawrence University 1975
MD University of Chicago 1981
PHD University of Chicago 1979

John F Dipersio, MD, PHD Virginia E and Sam J Golman Professor of Medicine (primary appointment)
Professor of Pediatrics
Professor of Pathology and Immunology
MD University of Rochester 1980
PHD University of Rochester 1980
BA Williams College 1973

Eric James Duncavage Assistant Professor of Pathology and Immunology (primary appointment)
BS Vanderbilt University 1998

Gavin P. Dunn Assistant Professor of Neurological Surgery (primary appointment)
Assistant Professor of Pathology and Immunology

William Michael Dunne Jr, PHD Adjunct Professor of Pathology and Immunology (primary appointment)
BS Univ of Wisconsin Madison 1975
PHD Univ of Wisconsin Madison 1981

Timothy J Eberlein, MD, MA Bixby Professor of Surgery (General Surgery) (primary appointment)
Head of the Department of Surgery
Director of The Alvin J. Siteman Cancer Center
Professor of Pathology and Immunology
Spencer T. and Ann W. Olin Distinguished Professor
Charles S Eby
Professor of Pathology and Immunology (primary appointment)
Professor of Medicine
BS Duke University 1977

Brian T. Edelson, MD, PHD
Assistant Professor of Pathology and Immunology (primary appointment)
UNKNOWN Brown University 1995
MD Washington Univ in St. Louis 2004
PHD Washington Univ in St. Louis 1995

Takeshi Egawa, PHD, MD
Assistant Professor of Pathology and Immunology (primary appointment)
PHD Osaka University 2002
MD Osaka University 1994

Samir Khattab El-Mofty, MS, PHD
Professor of Oral Pathology (primary appointment)
Professor of Pathology and Immunology
Professor of Otolaryngology
UNKNOWN School Not Listed 1955
DDENT1 Washington Univ in St. Louis 1987
MS University of Pennsylvania 1966
PHD Temple University 1976

Thomas A Ferguson
Professor of Ophthalmology and Visual Sciences (primary appointment)
Associate Professor of Pathology and Immunology
BA Kent St University 1974

John Lawrence Frater, MD
Associate Professor of Pathology and Immunology (primary appointment)
MD Medical College of Ohio 1996
BS University of Notre Dame 1992

Daved H Fremont, PHD
Professor of Pathology and Immunology (primary appointment)
Professor of Biochemistry and Molecular Biophysics
BS Univ of Wisconsin Madison 1986
PHD University of CA San Diego 1993

Anthony Raymond French, PHD
Associate Professor of Pediatrics (primary appointment)
Associate Professor of Pathology and Immunology
Associate Professor of Biomedical Engineering
PHD University of Illinois 1995

Joseph P. Gaut, PHD, MD
Assistant Professor of Pathology and Immunology (primary appointment)
Assistant Professor of Medicine
BA Washington Univ in St. Louis 1996
PHD Washington Univ in St. Louis 2004
MD Washington Univ in St. Louis 2004

Andrew E. Gelman, PHD
Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Professor of Pathology and Immunology
PHD University of Pennsylvania 2006
BS University of CA Los Angeles 1996

Susan Gilfillan, PHD
Assistant Professor of Pathology and Immunology (primary appointment)
BA University of Denver 1982
PHD Stanford University 1990

Jeffrey I Gordon, MD Professor of Pathology and Immunology (primary appointment)
Dr Robert J Glaser Distinguished University Professor
Director of the Center for Genome Sciences
Professor of Medicine
Professor of Developmental Biology
BA Oberlin College 1969
MD University of Chicago 1973
Bella Goyal Instructor in Pathology and Immunology (Pending Dean's Approval) (primary appointment)

Jonathan M Green, MD Professor of Medicine (primary appointment)
Associate Dean for Human Studies
Professor of Pathology and Immunology
BS University of Michigan 1982
MD Wayne State University 1986
Nicholas Wayne Griffin, PHD Instructor in Pathology and Immunology (primary appointment)
PHD Washington Univ in St. Louis 2010
Ann Marie Gronowski, PHD Professor of Pathology and Immunology (primary appointment)
Professor of Obstetrics and Gynecology
BS University of Illinois 1985
PHD Univ of Wisconsin Madison 1992
Brenda Jean Grossman, MS, MD Professor of Pathology and Immunology (primary appointment)
Professor of Medicine
MS Saint Louis University 2003
MD Medical College Georgia 1980
BS Ohio University 1976
Ian Sean Hagemann, PHD, MD Assistant Professor of Pathology and Immunology (primary appointment)
Assistant Professor of Obstetrics and Gynecology
PHD Washington Univ in St. Louis 2008
MD Washington Univ in St. Louis 2008
BA Princeton University 2000
Dennis E Hallahan, MD Professor of Radiation Oncology (primary appointment)
Professor of Cell Biology and Physiology
Professor of Pathology and Immunology
Elizabeth H and James S McDonnell III Distinguished Professor of Medicine
Head of the Department of Radiation Oncology
Professor of Molecular Microbiology
MD Rush University 1984
BS University of Illinois 1980
Scott A Handley, PHD Assistant Professor of Pathology and Immunology (primary appointment)
PHD Washington Univ in St. Louis 2006
BS Southwest Misouri St Universi 1998
Thomas Joseph Hannan, DVM Instructor in Pathology and Immunology (primary appointment)
BA Georgetown University 1989
BA1 Georgetown University 1989
DVM Tufts University 1995
George J Harocopos, MD Associate Professor of Ophthalmology and Visual Sciences (primary appointment)

Assistant Professor of Pathology and Immunology
MD University of Virginia 2000
BA Harvard University 1995

Anjum Hassan, MD Associate Professor of Pathology and Immunology (primary appointment)
MD Aga Khan University 1989
MD1 School Not Listed 1989

Mai He Associate Professor of Pathology and Immunology (Pending Executive Faculty Approval) (primary appointment)

Richard D Head Associate Professor of Genetics (primary appointment)

Associate Professor of Pathology and Immunology

Jonathan W Heusel, MD, PHD Associate Professor of Pathology and Immunology (primary appointment)
MD Washington Univ in St. Louis 1995
PHD Washington Univ in St. Louis 1995

Chyi-Song Hsieh Associate Professor of Medicine (primary appointment)

Associate Professor of Pathology and Immunology

Alan A and Edith L Wolff Distinguished Professor

Ronald R Jackups Jr. Assistant Professor of Pathology and Immunology (primary appointment)

Assistant Professor of Pediatrics
BS Washington Univ in St. Louis 2000

Sanjay Jain Associate Professor of Medicine (primary appointment)

Associate Professor of Pathology and Immunology
BA University of California 1990

Charles Kilo, MD Professor of Medicine (primary appointment)
Professor of Pathology and Immunology
MD Washington Univ in St. Louis 1959

Alfred Kim Assistant Professor of Medicine (primary appointment)

Assistant Professor of Pathology and Immunology

Brian Kim, MD Assistant Professor of Medicine (Dermatology) (primary appointment)

Assistant Professor of Anesthesiology
Assistant Professor of Pathology and Immunology
MD University of Washington 2007
BS Haverford College 2001

John M Kissane Retiree - Professor of Pathology and Immunology (primary appointment)

Eynav Yafit Klechevsky, PHD Assistant Professor of Pathology and Immunology (primary appointment)
PHD Baylor University 2007

Robyn Sue Klein, PHD Professor of Medicine (primary appointment)
Professor of Pathology and Immunology

Professor of Neuroscience
PHD Albert Einstein College of Med 1993

Daniel Kreisel, MD, PHD Professor of Surgery (Cardiothoracic Surgery) (primary appointment)

Professor of Pathology and Immunology
MD Mount Sinai School of Medicine 1995
PHD University of Pennsylvania 2002

Friederike H. Kreisel, MD Associate Professor of Pathology and Immunology (primary appointment)
Hannah Rachel Krigman, MD, Associate Professor of Pathology and Immunology (primary appointment)
BA Amherst College 1983
MD University of North Carolina 1988
Michael Kyriakos, MD, Professor of Pathology and Immunology (primary appointment)
MD Albert Einstein College of Med 1962
Jack H Ladenson, PHD, Oree M Carroll and Lillian B Ladenson Professor of Clinical Chemistry in Pathology and Immunology (primary appointment)
Professor of Clinical Chemistry in Medicine
PHD University of Maryland 1971
BS Pennsylvania State University 1964
Yi-Shan Lee, MD, PHD, Asst Professor of Pathology and Immunology (primary appointment)
MD National Taiwan University 2000
PHD Duke University 2008
Deborah J. Lenschow, MD, PHD, Associate Professor of Pathology and Immunology
MD National Taiwan University 1998
PHD Duke University 2008
Daisy W Leung, PHD, Assistant Professor of Pathology and Immunology (primary appointment)
Assistant Professor of Biochemistry and Molecular Biophysics
PHD University of Texas Southwest 2005
BS Amherst College 1997
Daniel C Link, MD, Alan A and Edith L Wolff Distinguished Professor of Medicine (primary appointment)
Professor of Pathology and Immunology
MD Univ of Wisconsin Milwaukee 1985
Chang Liu, PHD, MD, Assistant Professor of Pathology and Immunology (primary appointment)
PHD Oregon Health Science Univers 2010
MD Peking Union Medical College 2004
Ta-Chiang Liu, MD, PHD, Assistant Professor of Pathology and Immunology (primary appointment)
MD National Yang-Ming University 1997
PHD Imperial College 2003
Olga Y. Lubman, PHD, Instructor in Pathology and Immunology (primary appointment)
BA Goucher College 1998
PHD Washington Univ in St. Louis 2002
BS Goucher College 1998
Donna Alexandra MacDuff, PHD, Instructor in Pathology and Immunology (primary appointment)
PHD University of Minnesota 2008
Horacio M Maluf, Associate Professor of Pathology and Immunology (primary appointment)
Leslie Denise McIntosh, PHD, MA, Assistant Professor of Pathology and Immunology (primary appointment)
PHD Saint Louis University 2008
BA Texas A&M University 1993
MA Saint Louis University 2006
Jeffrey D Milbrandt, PHD, MD  
James S McDonnell Professor of Genetics (primary appointment)  
Professor of Medicine  
Professor of Neurology  
Professor of Pathology and Immunology  
Head of the Department of Genetics  
PHD University of Virginia 1983  
MD Washington Univ in St. Louis 1978  
BS Univ of Nebraska at Kearney 1974  
Mark James Miller, PHD  
Associate Professor of Medicine (primary appointment)  
Associate Professor of Pathology and Immunology  
BS University of California 1991  
PHD University of California 1996  
Jason C Mills, MD, AB, PHD  
Professor of Medicine (primary appointment)  
Professor of Developmental Biology  
Professor of Pathology and Immunology  
MD University of Pennsylvania 1997  
BA Washington Univ in St. Louis 1989  
AB Washington Univ in St. Louis 1989  
PHD University of Pennsylvania 1997  
MD University of Pennsylvania 1997  
Yoshiko Mito, MS, PHD  
Assistant Professor of Pathology and Immunology (primary appointment)  
MS University of Tokyo 2002  
BS University of Tokyo 2000  
PHD University of Washington 2007  
Hector D Molina-Vicenty, MD  
Associate Professor of Medicine (primary appointment)  
Associate Professor of Pathology and Immunology  
BS University of Puerto Rico 1982  
MD University of Puerto Rico 1985  
Sharon Celeste Morley, MD, PHD  
Assistant Professor of Pediatrics (primary appointment)  
Assistant Professor of Pathology and Immunology  
MD Harvard University 2002  
PHD Harvard University 2002  
John Carl Morris, MD  
Harvey A and Dorismae Hacker Friedman Distinguished Professor of Neurology (primary appointment)  
Professor of Physical Therapy  
Professor of Pathology and Immunology  
Professor of Occupational Therapy  
MD University of Rochester 1974  
BA Ohio Wesleyan University 1970  
Nima Mosammaparast, MD, PHD  
Assistant Professor of Pathology and Immunology (primary appointment)  
MD University of Virginia 2006  
PHD University of Virginia 2005  
BS University of Rochester 1998  
Kenneth M Murphy, MD, PHD  
Professor of Pathology and Immunology (primary appointment)  
Howard Hughes Medical Institute Investigator in Pathology and Immunology  
Eugene Opie First Centennial Professor of Pathology and Immunology  
MD Johns Hopkins University 1984
PHD Johns Hopkins University 1984

Theresa L Murphy, PHD Associate Professor of Pathology and Immunology (primary appointment)
BS University of Arizona 1978
PHD Johns Hopkins University Med 1983
Indira U Mysorekar, MS, PHD Associate Professor of Obstetrics and Gynecology (primary appointment)

Associate Professor of Pathology and Immunology
MS University of Lund 1995
BS University of Lund 1994
PHD Washington Univ in St. Louis 2002

Rakesh Nagarajan, PHD, MD Adjunct Associate Professor of Pathology and Immunology (primary appointment)
PHD Washington Univ in St. Louis 2002
BA1 University of Virginia 1994
MD Washington Univ in St. Louis 2002
BA University of Virginia 1994

Ilke Nalbantoglu, MD Assistant Professor of Pathology and Immunology (primary appointment)
MD Ege University 2000

Christopher A Nelson, PHD Instructor in Pathology and Immunology (primary appointment)
PHD Washington Univ in St. Louis 1995
BS Univ of Wisconsin Madison 1985

Deborah Veis Novack, PHD, MD Associate Professor of Medicine (primary appointment)

Associate Professor of Pathology and Immunology
BA Princeton University 1987
PHD Washington Univ in St. Louis 1995
MD Washington Univ in St. Louis 1995

Stephen T. Oh, PHD, MD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
PHD Northwestern University 2002
MD Northwestern University 2004
BS Harvard University 1996

Eugene Merle Oltz, PHD Professor of Pathology and Immunology (primary appointment)
PHD Columbia University 1987
BS Cornell University 1982

Bijal A. Parikh, PHD, MD Instructor in Pathology and Immunology (primary appointment)
PHD Rutgers University 2004
MD U Medical-Dental Of New Jersey 2006

Jacqueline Elise Payton, PHD, MD Assistant Professor of Pathology and Immunology (primary appointment)
PHD University of Illinois 2002
MD University of Illinois 2004
BS Bradley University 1996

Richard J. Perrin, MD, PHD Assistant Professor of Pathology and Immunology (primary appointment)
MD University of Illinois Chicago 2004
BS Yale University 1992
PHD University of Illinois 2001

Alan Pestronk, MD Professor of Neurology (primary appointment)
Professor of Pathology and Immunology
MD Johns Hopkins University Med 1970
BA Princeton University 1966
**John David Pfeifer, MD, PHD**
Professor of Pathology and Immunology (primary appointment)
Professor of Obstetrics and Gynecology
Vice Chairman for Clinical Affairs of Pathology and Immunology
MD University of California 1988
PHD University of California 1987
BA University of California 1981
**Christine T Pham**
Associate Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
BS University of Florida 1981
**Gwendalyn Jan Randolph, PHD**
Unanue Distinguished Professor of Immunology (primary appointment)
Professor of Medicine
BS Temple University 1991
PHD State University of New York 1995
**Babak Razani, PHD, MD**
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
PHD Albert Einstein College of Med 2003
MD Albert Einstein College of Med 2003
Alejandro Reyes
Adjunct Assistant Professor of Pathology and Immunology (primary appointment)
Jon H Ritter
Professor of Pathology and Immunology (primary appointment)
**Ilana Shaina Rosman, MD**
Assistant Professor of Medicine (Dermatology) (primary appointment)
Assistant Professor of Pathology and Immunology
MD Washington Univ in St. Louis 2008
**Marianna B Ruzinova, MD, PHD**
Assistant Professor of Pathology and Immunology (primary appointment)
MD Cornell University 2005
PHD Cornell University 2004
**Souzan Sanati, MD**
Assistant Professor of Pathology and Immunology (primary appointment)
MD Iran Univ of Medical Sciences 1993
**Andras Schaaffer, MD, PHD**
Assistant Professor of Pathology and Immunology (primary appointment)
Assistant Professor of Medicine (Dermatology)
MD University of Pecs Medical Sch 1993
PHD Cornell University 2001
**Joel D. Schilling, PHD, MD**
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
PHD Washington Univ in St. Louis 2001
MD Washington Univ in St. Louis 2003
**Robert Edward Schmidt, PHD, MD**
Professor of Pathology and Immunology (primary appointment)
PHD Washington Univ in St. Louis 1976
BA Washington Univ in St. Louis 1969
MD Washington Univ in St. Louis 1976
**Robert D Schreiber, PHD**
Alumni Endowed Professor of Pathology and Immunology (primary appointment)
Professor of Molecular Microbiology
PHD State University of New York 1973
BA State University of New York 1968

Mitchell G Scott, MS
Professor of Pathology and Immunology (primary appointment)
Clinical Research Assistant Professor of Medicine
MS University of Missouri 1977

Jennifer K Sehn, MD
Assistant Professor of Pathology and Immunology (primary appointment)
MD Washington Univ in St. Louis 2011
BS Georgia Tech 2007

Karen Seibert, MA
Professor of Anesthesiology (primary appointment)
Professor of Pathology and Immunology
Professor of Genetics
BS Northwestern University 1981
MA University of Toledo 1983

Andrey S Shaw, MD
Adjunct Professor of Pathology and Immunology (primary appointment)
BA Columbia University 1979
MD Columbia University 1984

Kathleen C Sheehan, PHD
Assistant Professor of Pathology and Immunology (primary appointment)
BS University of Notre Dame 1980
PHD Saint Louis University 1986

Morton Edward Smith, MD
Professor Emeritus of Ophthalmology and Visual Sciences (primary appointment)
Prof Emeritus of Ophthalmol & Vis Sci (primary appointment)
Lecturer in Ophthalmology and Visual Sciences
Lecturer in Pathology and Immunology
Associate Dean Emeritus for Post-Graduate Education
BS University of Maryland 1956
MD University of Maryland 1960

Thaddeus S. Stappenbeck, PHD, MD
Conan Professor of Laboratory and Genomic Medicine (primary appointment)
Professor of Developmental Biology
BA Northwestern University 1987
PHD Northwestern University 1994
MD Northwestern University 1995

Sanjay Joshua Swamidass, PHD, MA, MD
Assistant Professor of Pathology and Immunology (primary appointment)
Assistant Professor in Computer Science and Engineering
PHD University of California 2007
MA University of California 2006
MD University of California 2009
BS University of California 2000

Wojciech A. Swat, MS, PHD
Associate Professor of Pathology and Immunology (primary appointment)
MS University of Warsaw 1989
PHD University of Basel 1992

Steven L Teitelbaum, MD
Messing Professor of Pathology and Immunology (primary appointment)
Professor of Medicine
MD Washington Univ in St. Louis 1964
John W Turk, PHD, MD
Professor of Medicine (primary appointment)
Alan A and Edith L Wolff Professor of Endocrinology
Professor of Pathology and Immunology
BA Washington Univ in St. Louis 1970
PHD Washington Univ in St. Louis 1976
MD Washington Univ in St. Louis 1976
Emil Raphael Unanue, MD
Paul and Ellen Lacy Professor of Pathology and Immunology (primary appointment)
BS Institute of Secondary Educati 1952
MD Havana University 1960
Fumihiro Urano, MD
Samuel E Schechter Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology
MD Keio University 1994
Kelli Lynn VanDussen, PHD
Instructor in Pathology and Immunology (Pending Dean's Approval) (primary appointment)
PHD University of Michigan 2010
BS Grand Valley St University 2004
William Vermi
Adjunct Assistant Professor of Pathology and Immunology (primary appointment)
Monika Vig, PHD
Assistant Professor of Pathology and Immunology (primary appointment)
BS Delhi University 1995
PHD Jawaharlal Nehru University 2003
Kiran Raj Vij, MD
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
MD Indira Gandhi Medical College 1993
David Wang, PHD
Associate Professor of Molecular Microbiology (primary appointment)
Associate Professor of Pathology and Immunology
BS Stanford University 1992
PHD Mass Inst of Technology (MIT) 1998
Xiaoli Wang, PHD
Assistant Professor of Pathology and Immunology (primary appointment)
PHD University of Arkansas 2001
Mark A Watson, PHD, MD
Associate Professor of Pathology and Immunology (primary appointment)
PHD Washington Univ in St. Louis 1992
MD Washington Univ in St. Louis 1992
BA University of Pennsylvania 1985
Katherine N Weilbaecher, MD
Professor of Medicine (primary appointment)
Professor of Pathology and Immunology
Professor of Cell Biology and Physiology
BA Harvard University 1987
MD Stanford University 1992
Frances V White, MD, MS
Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Pediatrics
MD University of North Carolina 1989
MS University of North Carolina 1978
BA Princeton University 1975
Terry A Woodford-Thomas, PHD, MS
Adjunct Research Assistant Professor of Pathology and Immunology (primary appointment)
Edward Mallinckrodt Department of Pediatrics

The primary aim of the teaching program of the Department of Pediatrics is to stimulate interest in developmental biology, especially human growth and development, and to provide the student with a foundation sufficiently comprehensive so that he or she will have an appreciation of clinical pediatric problems regardless of his or her future career choice in medicine.

The major clinical and research facilities are in St. Louis Children’s Hospital, and the newborn services are at Barnes-Jewish Hospital. St. Louis Children’s Hospital is a
facility with 264 beds that accepts patients through 21 years of age with all types of medical and surgical problems. Hospital admissions average 11,200 annually. Pediatric medical ambulatory activity, including subspecialty and emergency visits, averages about 152,000 visits a year. Nearly 4,000 infants are born annually at the Washington University Medical Center.

For more information

Please visit the Department of Pediatrics website for more information.

MD Courses — Pediatrics

First year

Selectives

M04 526 NEW DISEASES, NEW PATHOGENS
For full description, see Department of Molecular Microbiology.

Second year

M65 640A PHYSICIANS, PATIENTS & SOCIETY: PEDIATRICS
Instructors: Amanda Emke, MD and Erika Hayes, MD

This year-long curriculum introduces students to the unique nature of pediatrics as a
subspecialty focused on the role of pediatricians in assessing and managing growth and development, the impact of environment on growth and development, and the way a pediatrician’s role changes in concert with the patient’s growth and development. Through a series of lectures and Team-Based Learning sessions, students are given the knowledge, skills and attitudes to understand and recognize pediatric pathology through an intricate understanding of preventative health and health supervision, normal growth and development, focused pathologies in each organ-specific area, and the unique physician-patient relationship in such a dynamic specialty. The unique aspects of the physical examination of patients across various ages and developmental levels are presented in an optional Physical Examination Night.

Third year

M65 760 PEDIATRICS CLERKSHIP
Instructors: Michelle Estabrook, MD and Colleen Wallace, MD (both: 454-6299)

This six-week curriculum emphasizes pediatric pathophysiology and normal growth and development from birth through adolescence. The clerkship consists of three two-week rotations that encompass inpatient medicine, newborn nursery and an ambulatory experience. Sites include St. Louis Children’s Hospital, Progress West, and Missouri Baptist Medical Center as well as community pediatricians’ offices. Students will learn to perform and document age appropriate pediatric histories and physical examinations, develop evidenced based differential diagnoses, and construct logical plans for diagnosis and treatment. Daily rounds with house staff and attending physicians, as well as weekly case management conferences and grand rounds, further this emphasis.

Fourth year

Electives

M65 801 / GENERAL PEDIATRIC SUB-INTERNSHIP – ST. LOUIS CHILDREN’S HOSPITAL
Instructor(s): Michele Estabrook, MD
Location: St. Louis Children's Hospital
Elective Contact: Liz Scott, 4S30, St. Louis Children's Hospital, 314-454-6299

Other Information: The student can choose either 8 East or 8 West. If both students prefer the same floor, a lottery will be used for assignments.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This is the general pediatric sub-internship. The student will be assigned patients on one of two inpatient pediatric floor teams. They will follow patients from initial evaluation and for continuing care until discharge. Students work directly under the supervision of the senior resident and manage their own patients without co-coverage by an intern. Teaching rounds are conducted by the faculty. The elective will provide experience in the management of many pediatric medical conditions (variable depending on floor) and will include the care of patients with various diseases including pulmonary, infectious diseases, gastrointestinal, renal, neurological, endocrine, and rheumatologic issues. Additionally, patients with failure to thrive, asthmatic exacerbations, poisonings, PICU transfers and undiagnosed conditions may be seen.

Student time distribution: Inpatient 100%; Subspecialty Care/General Pediatrics 100%
Major teaching responsibility: Attendings and residents
Patients seen/weekly: Approximately 12
On call/weekend responsibility: 2-3 weekend days, 5 consecutive night shifts

**M65 808 / PEDIATRIC ASTHMA AND ALLERGY**
Instructor(s): Leonard B. Bacharier, MD; Caroline Horner, MD; Robert C. Strunk, MD; Avraham Beigelman, MD; Alysa Ellis, MD; and Maleewan Kitcharoensakkul, MD; 314-454-2694
Location: St. Louis Children's Hospital and St. Louis Children's Specialty Care Center
Elective Contact: Kim Tinsley, 314-454-2158
Other Information: Students should call 314-454-2158 prior to the start of this elective for location and time.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

In predominantly an outpatient setting, students will evaluate patients with a wide variety of allergic and immunologic disorders including asthma, allergic rhinitis, anaphylaxis, food allergy, atopic dermatitis, urticaria, angioedema and primary immunodeficiency. Rotation goals include: (1) the extension of history-taking skills to include environmental exposures, (2) the recognition of physical findings suggestive of allergic disease, (3) understanding the indications and interpretation of diagnostic testing including skin testing and assessment of pulmonary function, and (4) application of appropriate therapeutic strategies to these disorders. Weekly didactic conferences and inpatient consultations provide additional educational opportunities to the student.

Student time distribution: Inpatient 10%; Outpatient 80%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Leonard B. Bacharier, MD, and Caroline Horner, MD
Patients seen/weekly: 40
On call/weekend responsibility: None

M65 809 / PEDIATRIC PULMONARY SUB-INternship
Instructor(s): Thomas Ferkol, Jr., MD; Leonard Bacharier, MD; Avraham Beigelman, MD; Joshua Blatter, MD; Ferdinand Coste, DO; Andrea Coverstone, MD; Alysa Ellis, MD; Albert Faro, MD; Amjad Horani, MD; Kay Horner, MD; James Kemp, MD; Maleewan Kitcharoensakkul, MD; Peter Michelson, MD; Jessica Pittman, MD; Katherine Rivera-Spoljaric, MD; and Stuart C. Sweet, MD, PhD
Location: St. Louis Children’s Hospital
Elective Contact: Thomas Ferkol, Jr., MD, 314-454-2158, or Ferdinand Coste, DO, 314-747-5752
Other Information: Students report to 7 East Respiratory Unit, St. Louis Children’s Hospital, 7:00 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

On the 7 East Respiratory Unit, the sub-intern is an active member of a multidisciplinary care team, consisting of attending pulmonologist or allergist, advanced practice nurses, second-year pediatric residents, unit nurses, and other care providers and takes responsibility for children with acute and chronic lung diseases admitted to the unit. The student will be co-managed with a senior pediatric resident and the sub-intern will be directly supervised by the pediatric residents and attending physician in the daily care of patients. The rotation is structured to provide students with a primarily clinical experience to allow them to gain exposure to the breadth of lung diseases seen at St. Louis Children’s Hospital.

The volume of patients on the 7 East Respiratory Unit varies with the number of patients covered by the sub-intern at any time, and he or she will typically be responsible for the care of two to six patients at any given time. The student will be exposed to children with wide-ranging lung diseases and breathing disorders, such as asthma, cystic fibrosis, bronchopulmonary dysplasia, bronchiolitis, pneumonia, chronic respiratory insufficiency, and congenital lung anomalies during their clinical rotation. The student will also have the opportunity to participate in tests and procedures essential to the practice of pulmonary and allergy medicine, including pulmonary function studies, flexible fiberoptic bronchoscopy, and overnight polysomnography. Sub-interns do not have evening coverage responsibilities, and weekend responsibilities are limited to two days during the four-week block. They are strongly encouraged to attend departmental and divisional conferences.

Student time distribution: Inpatient 80%; Outpatient 10%; Conferences/ Lectures 10%; Primary Care 30%; Subspecialty Care 70%
Major teaching responsibility: Attending Physician
Patients seen/weekly: 10-15
On call/weekend responsibility: Two weekend days per month

M65 811 / PEDIATRIC CRITICAL CARE MEDICINE
Instructor(s): Stuart Friess, MD
Location: St. Louis Children’s Hospital
Elective Contact: Stuart Friess, MD, Friess_S@kids.wustl.edu, 286-2799

Other Information: Students report to the PICU, 7th Floor St. Louis Children’s Hospital, 6:30 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This elective is designed to familiarize the student with the diagnosis and treatment of critical illness in infants and children. To this end, each student is made responsible for a small number of assigned cases under the direct supervision of pediatric residents, pediatric critical care fellows, and faculty. The teaching activities emphasize the understanding of pathophysiological processes that lead to respiratory, circulatory, and central nervous system dysfunction and their therapy in the developing subject. Students are expected to participate in all the daily activities of the Pediatric Intensive Care Unit at St. Louis Children’s Hospital and be on occasional call after hours.

Student time distribution: Inpatient 100%; Subspecialty Care 100%
Major teaching responsibility: Attending, critical care fellows, and pediatric residents
Patients seen/weekly: 150
On call/weekend responsibility: Yes

M65 813 / PEDIATRIC CARDIAC CATHETERIZATION
Instructor(s): David Balzer, MD, and Shabana Shahanavaz, MBBS
Location: St. Louis Children’s Hospital
Elective Contact: David Balzer, MD, 314-454-6095

Other Information: Students report to St. Louis Children’s Hospital Cath Lab (7th
Floor, 8:00 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Elective will focus on interpretation of hemodynamic and angiographic data acquired in the cardiac catheterization laboratory.

Student time distribution: Inpatient 95%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Two attendings, supplemented by one fellow
Patients seen/weekly: 10
On call/weekend responsibility: None

M65 819 / PEDIATRIC CARDIOLOGY-OUTPATIENT
Instructor(s): Georgeann Groh, MD; George Van Hare, MD; Shafkat Anwar, MD; Dave Balzer, MD; Charles Canter, MD; Chesney Castleberry, MD; Mark Grady, MD; Patrick Jay, MD; Mark Johnson, MD; Caroline Lee, MD; Jennifer Silva, MD; Shabana Shahanavaz, MBBS; Kathleen Simpson, MD; Gautam Singh, MD; and Bridget Zoeller, MD
Location: St. Louis Children's Hospital and Children's Specialty Care Center
Elective Contact: Georgeann Groh, MD, groh_g@wustl.edu, 314-454-6095

Other Information: Schedules are kept on the residents' hard drive. For additional information and questions, students should report to 8th Floor, Northwest Tower, Division of Cardiology, Kim Graham, Room 8206, 8:00 a.m. first day of elective to pick up a clinic schedule. Students are encouraged to contact/meet with the elective coordinator, Dr. Groh, prior to the elective, to plan their rotation according to their interests and career goals
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Students will be exposed to the wide spectrum of pediatric cardiology on an
outpatient basis. In addition to general cardiology clinics, several subspecialty clinics are also available, including heart failure/transplant, electrophysiology/inherited arrhythmias, pulmonary hypertension, William's syndrome, Down syndrome, and preventative cardiology clinic. Students will independently evaluate clinic patients referred for a variety of cardiac complaints, such as cardiac murmurs, chest pain, syncope, arrhythmia, as well a wide variety of congenital cardiac lesions, and report their findings to the attending. Cardiac auscultation skills will be enhanced through auscultation of cardiac patients in a clinic environment. Students will learn basics of ECG and echocardiogram interpretation by reviewing studies performed during clinic with the attending. Clinics are held at St. Louis Children's Hospital, and the Children's Specialty Care Center in West County. Students also have the option to participate in outreach clinics that occur on a monthly basis (locations include Cape Girardeau, Poplar Bluff, Rolla, Bonne Terre, and Columbia). Depending on interest, students may spend additional time in the echocardiography laboratory for more in depth exposure to echocardiography. Participation in weekly surgical conference and daily cardiology educational conferences is encouraged.

Student time distribution: Outpatient 95%; Conferences/Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Multiple attendings
Patients seen/weekly: 25
On call/weekend responsibility: None required

**M65 826 / GENETICS AND GENOMIC MEDICINE**
Instructor(s): D. Kathy Grange, MD
Location: St. Louis Children's Hospital
Elective Contact: D. Kathy Grange, MD, 314-454-6093

Other Information: Students should report to the Genetics office on the 9th floor of the Northwest Tower at 9:00 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.
The goal of this senior elective is to facilitate the acquisition of clinical skills and knowledge in genetics and genomic medicine. The student will actively participate in the diagnosis and management of pediatric and adult patients with genetic disease in both the ambulatory and in-patient settings. Emphasis will be placed on application of the science of genetics to the bedside and will include a broad exposure to patients with biochemical, metabolic, structural and complex genetic diseases. Students will have an opportunity to visit clinical laboratories involved with diagnosis of genetic disorders, including the cytogenetics, molecular genetics and biochemical genetics laboratories. Students will be expected to participate in the weekly clinical case conference.

Student time distribution: Inpatient 30%; Outpatient 60%; Conferences/Lectures 10%; Subspecialty Care 100%.

Major teaching responsibility: Attendings
Patients seen/weekly: 15
On call/weekend responsibility: None

M65 827 / SUB-INTERNSHIP – PEDIATRIC HEMATOLOGY/ONCOLOGY

Instructor(s): Robert Hayashi, MD
Location: St. Louis Children’s Hospital, 9 West
Elective Contact: Robert Hayashi, MD, 314-454-4118

Other Information: Students report to 9 South Nursing Station, 8:00 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Students will assume the responsibilities of a pediatric resident on the inpatient Hematology/Oncology service at St. Louis Children’s Hospital.

Student time distribution: Inpatient 90%; Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Single attending, first-year hematology/oncology fellow.
Patients seen/weekly: 2-3 patients a day
On call/weekend responsibility: None

M65 836 / PEDIATRIC RHEUMATOLOGY
Instructor(s): Andrew White, MD; Kevin Baszis, MD; Megan Cooper, MD, PhD; and Anthony French, MD, PhD
Location: St. Louis Children’s Hospital
Elective Contact: Andrew White, MD, 314-454-6124

Other Information: Students report to Rheumatology Clinic, Suite C, St. Louis Children’s Hospital, 8:30 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Opportunities are available to care for children with a variety of immunologic and rheumatologic disorders. Students will see patients in outpatient clinics and inpatient consultations. An in-depth approach to evaluating disorders of the immunologic system will be provided. Students will participate in evaluation of new patients with a variety of rheumatologic diseases including JRA, SLE, and scleroderma at both SLCH and Shriners Hospital clinics. Students may elect to participate in conferences and seminars.

Student time distribution: Inpatient 20%; Outpatient 70%; Conferences/ Lectures 10%; Primary Care 30%; Subspecialty Care 70%
Major teaching responsibility: Andrew White, MD
Patients seen/weekly: 35-40
On call/weekend responsibility: None

M65 838 / PEDIATRIC GASTROENTEROLOGY, HEPATOLOGY & NUTRITION
Instructor(s): Alex Weymann, MD (medical student supervisor); Brian DeBosch, MD, PhD; Christina Hickey, MD; Lori Holtz, MD; Shannon Joerger, MD; Robert Rothbaum,
The rotation in Pediatric Gastroenterology, Hepatology, and Nutrition provides broad exposure to specialized and common pediatric problems. Division patients are seen in the outpatient suites and in the hospital. Students evaluate outpatients with common pediatric complaints like abdominal pain, constipation, and poor growth. Additionally, students experience the ongoing outpatient care of patients with liver disease, inflammatory bowel disease, short-gut syndrome, celiac disease, and other rare disorders. The inpatient service provides experience in caring for patients with acute illnesses such as gastrointestinal bleeding, malnutrition, liver failure, complications of inflammatory bowel disease, and pancreatitis. Students participate in diagnostic and therapeutic endoscopic procedures. At weekly divisional conferences, faculty, fellows, and students review pathology slides from current cases and discuss difficult patient problems and topics of interest.

Student time distribution: The time spent in the outpatient clinic and on the inpatient service can be individualized according to the student's interests. In general, the distribution is: Inpatient 50%; Outpatient 30%; Procedures 10%; Conferences/Lectures 10%; Subspecialty Care 100%

Major teaching responsibility: Faculty and fellows

Patients seen/weekly: 150 (entire division) /week (outpatients), 70/week (inpatients), 20/week (procedures). Students participate in a subset (most interesting/instructive cases)

On call/weekend responsibility: None
M65 840 / PEDIATRIC INFECTIOUS DISEASES
Instructor(s): David Hunstad, MD; Alexis Elward, MD; Michele Estabrook, MD; Stephanie Fritz, MD; Ericka Hayes, MD; S. Celeste Morley, MD, PhD; Audrey Odom, MD, PhD; Gregory Storch, MD; Indi Trehan, MD; and Rachel Orscheln, MD; 314-454-6050
Location: St. Louis Children’s Hospital
Elective Contact: Pam Wilson, 314-286-2778

Other Information: Students should contact Fellow on call at 314-424-6877 one week prior to start of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This elective is designed to introduce students to the clinical aspects of infectious diseases in children. Students will consult on both inpatients and outpatients. Regular daily activities will include evaluation of new patients, work rounds on inpatient consults, microbiology teaching rounds in the bacteriology and virology labs, and teaching rounds with the infectious diseases attending. Students will attend the general pediatric clinic and the pediatric HIV clinic once per week. Formal teaching sessions include a weekly pediatric infectious disease case conference, a weekly joint clinical conference with the adult infectious diseases group, and a weekly pediatric infectious diseases research conference.

Student time distribution: Inpatient 70%; Outpatient 20%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: One or two attendings, one or two fellows
Patients seen/weekly: 5-10 new patients primarily, over 15-20 new patients with team
On call/weekend responsibility: None

M65 845 / PEDIATRIC EMERGENCY MEDICINE
Instructor(s): Kimberly S. Quayle, MD and Robert (Bo) M. Kennedy, MD
Location: St. Louis Children’s Hospital
Elective Contact: Carol Heller, 454-2341
Other Information: Students report to Room 9105 Northwest Tower, 8:30 a.m. first day of elective.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The goal of this elective is to provide the senior medical student with a broad introductory clinical experience in pediatric emergency medicine. Functioning as a subintern in the Emergency Unit of St. Louis Children's Hospital, the student will have the opportunity to evaluate and manage patients with a wide variety of emergent and urgent medical and surgical problems. Examples include: respiratory distress, abdominal pain, lacerations, bone injuries, rashes, fever, etc.

Students will work either a day shift (7:30 a.m.-3:00 p.m.) or an evening shift (3:00 p.m.-11:00 p.m.) in rotation. Daily teaching conferences are provided by the attending staff. A weekly meeting of the students and senior faculty will occur to review interesting cases. Also, attending staff and senior pediatric residents provide 24-hour on-site supervision. Each medical student will be asked to prepare a 20-minute presentation on a topic of his/her choosing.

Student time distribution: Outpatient 90%; Conferences/Lectures 10%; Subspecialty Care (Emergency Medicine) 100%
Major teaching responsibility: All EM attendings
Patients seen/weekly: ~30
On call/weekend responsibility: None (unless making up time)

M65 849 / PEDIATRIC ENDOCRINOLOGY AND DIABETES
Instructor(s): Abby Hollander, MD; Bess Marshall, MD; Paul Hruz, MD, PhD; Ana Maria Arbelaez, MD; Neil White, MD; Andrea Granados, MD.; and Jennifer Sprague, MD, PhD, 314-454-6051
Location: St. Louis Children's Hospital
Elective Contact: Kathy Corey, 314-286-2725
Other Information: Student has the option to extend elective. Students report to Endocrinology and Diabetes Office, 9th Floor Northwest Tower, 8:30 a.m. first day of elective.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This elective is designed to include broad clinical experience in pediatric endocrinology and diabetes. The student will have an opportunity to evaluate both patients admitted to St. Louis Children's Hospital and patients referred for consultation in our three outpatient clinics each week. In addition to a divisional conference to review referred patients, several joint conferences with the adult Endocrinology and Diabetes Division (clinical rounds, journal club/research seminar, case conference) are held weekly.

Student time distribution: Inpatient 40%; Outpatient 50%; Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attending physicians and fellows
Patients seen/weekly: 10-20 by student
On call/weekend responsibility: None

M65 852 / CLINICAL PEDIATRIC PULMONARY MEDICINE
Instructor(s): Thomas Ferkol, Jr., MD; Leonard Bacharier, MD; Avraham Beigelman, MD; Joshua Blatter, MD; Ferdinand Coste, DO; Andrea Coverstone, MD; Alysa Ellis, MD; Albert Faro, MD; Amjad Horani, MD; Kay Horner, MD; James Kemp, MD; Peter Michelson, MD; Jessica Pittman, MD; Katherine Rivera-Spoljaric, MD; Robert C. Struck, ND; and Stuart C. Sweet, MD, PhD; 314-454-2694
Location: St. Louis Children's Hospital
Elective Contact: Kim Tinsley, 314-454-2158

Other Information: Students should call 314-454-2158 prior to the start of elective for location and time.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and
This elective provides an excellent opportunity for students to be exposed to the full scope of respiratory diseases and sleep disorders in infants and children. Pediatric referrals will be seen in both an inpatient and outpatient setting. Rotation goals for students include: (1) gain greater insights into the genetics, epidemiology, pathophysiology, and clinical presentations of lung diseases in children; (2) learn the importance of the physical examination using inspection, percussion, and auscultation; (3) understand indications and interpretation of diagnostic tests, such as chest imaging, blood gas measurements, polysomnography, pulmonary function testing, and bronchoscopy with biopsy and lavage; and (4) learn to apply therapeutic interventions to common lung diseases. Unique aspects of this rotation include, a broad exposure to children with asthma, cystic fibrosis, ciliopathies, interstitial lung diseases, chronic lung disease of infancy, congenital lung malformations, and end-stage cardiopulmonary diseases referred for lung transplantation. Weekly didactic sessions, as well as divisional clinical conferences, provide opportunities for the trainee to develop his or her presentation skills.

Student time distribution: Inpatient varies; Outpatient varies; Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attendings
Patients seen/weekly: 25
On call/weekend responsibility: None

M65 861 / NEWBORN MEDICINE
Instructor(s): Akshaya Vachharajani, MD
Location: 8th Floor Northwest Tower
Elective Contact: Emily Alexander, 314-454-6148

Other Information: Students should schedule an appointment with Emily to meet with Dr. Vachharajani. Appointments should be scheduled one week prior to class start date.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The goal of this course is to provide students with responsibility for caring for newborn infants who range from normal, to acutely ill, to chronically ill, and for their families. The physiology of the transition from fetal to extrauterine existence, the pathophysiology of specific diseases, and primary accountability of the student for patient management decisions and procedures, will be emphasized. In addition, collaboration with nursing staff, other health care providers in decision-making (especially concerning the viability of individual infants), and family management will be regularly required.

Students, during each rotation, will have the option to rotate through the Neonatal Intensive Care Unit at St. Louis Children's Hospital and/or the labor and delivery services at Barnes-Jewish Hospital. Students assigned to the Labor and Delivery Service will routinely be involved in normal newborn care and delivery room management. The student will be expected to rotate patient responsibilities every fourth night.

Student time distribution: Inpatient 90%; Outpatient 5%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Attending, fellow and residents
Patients seen/weekly: 30
On call/weekend responsibility: Every fourth night

M65 875 / PEDIATRIC RENAL DISEASE
Instructor(s): Vikas Dharnidharka, MD, MPH; Keith A. Hruska, MD; S. Paul Hmiel, MD, PhD; Carmen Halabi, MD, PhD; Thomas Keefe Davis, MD; and Tara Neumayr, MD
Location: St. Louis Children's Hospital
Elective Contact: Vikas Dharnidharka, MD, MPH, 314-454-6043

Other Information: Students report to the Division of Nephrology, 314-286-1574, 10th Floor Northwest Tower, 8:15 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This course is designed to provide the student with a wide exposure to all aspects of pediatric renal disease and an opportunity to explore a desired aspect of the field in-depth. The student will be an integral part of the Renal Team and as such will see both inpatients and outpatients. Students will have an opportunity to follow the courses of patients with acute renal disease as well as those with more chronic problems and will help to plan the evaluation and therapeutic management of these patients. Discussions and rounds with the attending staff and fellows emphasize the relationship between clinical problems and the pathophysiology of the underlying disease. These informal teaching sessions are supplemented by more formal sessions. These include renal attending rounds, renal research rounds and grand rounds, which are conducted weekly in conjunction with the Renal Division of Barnes-Jewish Hospital. Renal biopsy material is reviewed with the renal pathologists. Attendance at the weekly pediatric grand rounds and pediatric case conferences is encouraged. Opportunities in clinical and translational research projects will be discussed with interested students.

Student time distribution: Inpatient 50%; Outpatient 40%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attendings
Patients seen/weekly: 12-15
On call/weekend responsibility: None

M65 876 / PEDIATRIC LUNG TRANSPLANTATION
Instructor(s): Stuart C. Sweet, MD; Peter Michelson, MD; Albert Faro, MD; and Joshua Blatter, MD, 314-454-2214
Location: St. Louis Children’s Hospital
Elective Contact: Kim Tinsley, 314-454-2158

Other Information: Students should call 314-454-2158 prior to the start of elective for
St. Louis Children’s Hospital has the largest pediatric lung transplantation program in North America. This unique clinical rotation will enable students to be exposed to the process of transplantation from referral and listing to the actual surgery and post-operative care. Both inpatient and twice weekly outpatient clinics will be available for participation and learning. The use of diagnostic tests, including flexible fiberoptic bronchoscopy with biopsies and bronchoalveolar lavage, histopathology of infection and graft rejection, and the complexities of immunosuppression will all be explored. Weekly multidisciplinary meetings with our team, as well as didactic, psychosocial, and ethical meetings will be available. Our patient referral base is worldwide, and includes infants and children with cystic fibrosis, pulmonary hypertension, complex congenital heart defects, surfactant protein defects and alveolar proteinosis.

Student time distribution: Inpatient 50%; Outpatient 40%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attendings
Patients seen/weekly: 20-30
On call/weekend responsibility: None

M65 878 / CLERKSHIP IN RURAL PRIMARY CARE PEDIATRICS
Instructor(s): Michele Estabrook, MD, 314-454-6299; Claudia Preuschoff, MD, in Cape Girardeau, MO
Location: Cape Girardeau, MO
Elective Contact: Liz Scott, St. Louis Children’s Hospital, 314-454-6299

Other Information: Students should call Liz Scott, 314-454-6299, at beginning of school year to confirm dates. Students should then report to the site on their first day, at time determined by Dr. Preuschoff. Enrollment limit per period: 1
Valid start weeks for two or four-week blocks are: Weeks 1, 3, 5, 7, 9, 11, 13, 15, 17, 19,
The clerkship in rural primary care pediatrics is designed to provide the student with first-hand experience in general pediatric practice in a rural community setting. Students will have the opportunity to see patients in a private office, participate in delivery room resuscitation, evaluate patients in the emergency department, and provide pediatric consultation to family practitioners, obstetricians, and surgeons. The objective of this elective is to provide the student with the experience of serving as a general pediatrician providing comprehensive health services in a rural community. Students assume responsibility for ongoing care of patients and have opportunities to perform procedures. Two-week or four-week blocks are available.

Student time distribution: Inpatient 10%; Outpatient 90%; Primary Care 100%
Major teaching responsibility: Single attending
Patients seen/weekly: 25-50
On call/weekend responsibility: Call with instructor, not in-house call

Research — Pediatrics

Ana Maria Arbelaez, MD
10th Floor, Northwest Tower
314-286-1138
Clinical Research in Diabetes Mellitus. Clinical research studies on hypoglycemia associated autonomic failure in patients with type 1 diabetes mellitus and on cystic fibrosis related diabetes.

Charles E. Canter, MD
8th Floor, Northwest Tower, Division of Cardiology
Single-center and multi-center clinical studies and trials in pediatric cardiomyopathy, heart failure, and heart transplantation.

F. Sessions Cole, MD, and Jennifer Wambach, MD, MS
8th Floor, Northwest Tower and 5th Floor McDonnell Pediatric Research Building
314-454-6148
Using candidate gene sequencing, exome sequencing, whole genome sequencing, and computational prediction and filtering strategies for discovery of deleterious variants in population-based cohorts, case-control cohorts, and trios of affected infant and parents, our laboratory focuses on discovering novel candidate genes associated with neonatal respiratory distress syndrome and understanding the contribution of genetic variation in candidate genes of the pulmonary surfactant metabolic pathway (including surfactant protein B, surfactant protein C, NKX2-1, and ABCA3), to risk of neonatal respiratory distress syndrome.

Vikas Dharnidharka, MD, MPH
10th Floor, Northwest Tower
314-286-1574
Clinical and translational research in childhood kidney disease. Our group is involved in several different types of clinical and translational research, including (a) multicenter clinical intervention trials to improve teen adherence with transplant medications and test new medications in children on dialysis; (b) translational biomarker studies in transplant acute and chronic rejection and genomic studies or post-transplant lymphoproliferative disease; (c) large transplant database epidemiological analyses for associations of immunosuppressive regimens with efficacy and morbidity balance.

Allan Doctor, MD
5th Floor, McDonnell Pediatric Research Building
314-454-2527
Role of Erythrocytes in Pathologic Vascular Signaling. We employ several novel experimental platforms to pursue a range of basic, translational, and clinical studies exploring: (1) the role of erythrocytes in context-responsive metabolism of vasoactive
effectors in flowing blood; (2) molecular control of antioxidant defense in erythrocytes; (3) the role of acquired injury to normal erythrocytes in the pathophysiology of acute lung injury and multiple organ failure syndrome; and (4) the impact of genetic abnormalities in erythrocytes upon antioxidant defense and vascular signaling (modeled by sickle cell anemia). Query is modeled on many levels from isolated proteins – cell culture – isolated organ – whole mouse – to studies in humans.

Todd Druley, MD, PhD
Room 6203, 4444 Forest Park Avenue
314-286-2124
Translational genomic research in pediatric oncology. The Druley lab aims to develop novel genomic and computational methodologies for characterizing the functional impact of rare acquired and germline variation on the etiology and outcomes of various pediatric malignancies.

Jennifer Duncan, MD
3rd Floor, McDonnell Pediatric Research Building
314-747-0802
Understanding the Transgenerational Impact of Maternal Nutrition. Our lab uses Drosophila melanogaster as a model system to evaluate the impact of maternal caloric excess on metabolism and mitochondrial function in offspring. We are currently pursuing epigenetic mechanisms, specifically the role of histone modification, for altering gene expression. In addition, we are evaluating the molecular mechanisms underlying triglyceride excess in the offspring and are evaluating tissue specific mitochondrial function. This elective is for students interested in research in any of these areas.

Stephanie A. Fritz, MD, MSCI
Room 10125, Northwest Tower
314-454-4115
Our research team studies the epidemiology, microbial virulence mechanisms, and host defenses against community-associated methicillin-resistant Staphylococcus aureus (CA-MRSA) colonization, transmission, and disease. We are investigating the
transmission dynamics of CA-MRSA in households and interventions to interrupt the transmission of CA-MRSA and prevent subsequent infections. Our lab also explores the microbial and host genomic determinants, as well as the host immune response to staphylococcal toxins implicated in the pathogenesis of CA-MRSA, in patients across a spectrum of disease states. Our goal is to develop novel approaches for the prevention of CA-MRSA infections.

Carmen Halabi, MD, PhD
4th Floor, McDonnell Pediatric Research Building, Room 4107
314-286-1376
Extracellular matrix in vascular development and disease: The research in the laboratory focuses on vascular biology. Specifically, we study extracellular matrix proteins that make up the elastic fibers of blood vessels. Elastic fibers convey elasticity to blood vessels allowing large arteries to store energy during systole and release it during diastole. Abnormalities in elastic fiber components lead to various complications including hypertension, stiff vessels, and aneurysms. In the laboratory, we utilize mouse models to understand how abnormalities in these proteins lead to disease, which helps us not only learn about the normal function of these proteins, but also identify potential novel therapeutic targets.

Robert J. Hayashi, MD
Suite 9S, St. Louis Children's Hospital
314-454-4118
Clinical research interests include stem cell transplantation and its complications, including Post Transplant Lymphoproliferative Disease and long-term side effects of therapy.

Keith A. Hruska, MD
5th Floor, McDonnell Pediatric Research Building
314-286-2772
The research in the laboratory focuses on chronic kidney disease (CKD) and its complications of the chronic kidney disease mineral bone disorder syndrome that involves skeletal frailty, cardiovascular disease, and vascular calcification. The lab has
discovered important new pathologic mechanisms of disease leading to vascular calcification through systemic effects of factors involved in renal repair, and hyperphosphatemia. Translational studies that continue to develop new therapeutic approaches are being aggressively pursued. New therapies for chronic kidney disease, and its complications, are being studied in clinical trials.

Paul Hruz, MD, PhD
3rd Floor, McDonnell Pediatric Research Building
314-286-2797
Research interests include structure/function relationships in facilitative glucose transporters, congenital and acquired lipodystrophy syndromes, and insulin resistance associated with HIV protease inhibitor therapy.

David A. Hunstad, MD
Room 6106, McDonnell Pediatric Research Building
314-286-2710
Work in our lab focuses on the interactions of pathogenic bacteria with their hosts. We aim to elucidate the modulation of host immune responses by pathogens and to determine the mechanisms by which these bacteria present specific virulence factors on their surfaces. Currently, we use cultured bladder epithelial cell models and murine models of cystitis to investigate the ability of uropathogenic Escherichia coli to modulate host innate and adaptive immune responses. In addition, we are studying the molecular mechanisms by which selected outer membrane proteins contribute to the virulence of uropathogenic E. coli. Our primary goal is to discover novel targets for interventions that will prevent and better treat bacterial infections of the urinary tract. Along these lines, we are leveraging recent discoveries in UTI pathogenesis to design nanoparticle-based therapies for prevention of acute and recurrent UTI. We have also launched a new translational study of immune responses to UTI in male and female infants, paired with an innovative new mouse model of male UTI that permits first-ever studies of sex differences in these infections.

S. Celeste Morley, MD, PhD
Room 6105, McDonnell Pediatric Research Building
Our laboratory investigates the molecular mechanisms underlying immune cell signaling and trafficking using mouse models. We hope to identify molecules critical for host defense against infectious organisms such as pneumococcus. Our focus is currently on an actin-binding protein called L-plastin, which is required for normal T and B cell motility.

Audrey R. Odom, MD, PhD
Room 6108, McDonnell Pediatric Research Building
314-747-2370

Antimalarial therapies and diagnostics. Severe malaria due to infection with Plasmodium falciparum kills nearly a million children annually. My laboratory uses translational approaches to develop new methods to diagnose and treat malaria. Projects are available in several research areas, ranging from clinical studies to molecular parasitology approaches in the lab. We are eager to have students join either our team on campus, where we study parasite metabolism and evaluate new potential therapies, or our team in the field in Malawi, where we are collecting samples for new malaria biomarkers.

Jose A. Pineda, MD
10th Floor, Northwest Tower, Patient Oriented Research Unit
314-286-1246

Mechanisms of brain injury in children. Our clinical research efforts focus on investigating the mechanisms and potential new treatments for brain injury, including strategies for implementation of best clinical practices. We utilize high-resolution physiological monitoring, biochemical analysis of clinical samples, and innovative implementation science methodologies.

Alan L. Schwartz, PhD, MD
Suite 3S36, St. Louis Children's Hospital
314-454-6005

Investigative efforts are aimed at understanding: (1) the biology of cell surface receptors, including biochemical and molecular dissection of the mechanisms
responsible for receptor-mediated endocytosis of blood coagulation proteins; and (2) the regulation of intracellular protein turnover.

Shalini Shenoy, MD
Suite 9S, St. Louis Children's Hospital
314-454-6018
Investigation of novel reduced intensity transplant strategies for pediatric non-malignant disorders and the immunologic basis of graft versus host disease and graft rejection.

Gregory A. Storch, MD; Kristine Wylie, PhD; Todd Wylie, BS; Richard S. Buller, PhD
Suite 2N52, St. Louis Children's Hospital
314-454-6079
Infectious disease genomics. Our laboratory is interested in applying genomic analysis to a variety of problems in infectious diseases, mostly related to viral infections. Recent studies include use of next generation sequencing to define the human virome in immunocompromised children, improved methods for detecting viruses using next generation sequencing, use of next generation sequencing for clinical diagnosis, analysis of the human transcriptome response to acute infections, sequencing of the genome of enterovirus D68 and development of a rapid diagnostic test for that virus. Students would have the opportunity to learn genomic techniques, including informatics analysis.

Phillip I. Tarr, MD
Room 6103, McDonnell Pediatric Research Building
314-286-2848
Research in Pediatric Gastroenterology, Hepatology, and Nutrition. Students have opportunities in broadly encompassing research projects. Investigators, in the Division, have funded and vibrant projects in liver disease (fatty liver disease, acute liver failure, biliary atresia, liver transplants, cystic fibrosis liver disease), inflammatory bowel diseases (Crohn's Disease and ulcerative colitis), infections of the gastrointestinal tract (diarrhea), acute liver failure, Hirschsprung Disease, diarrhea, gut microbiome, aflatoxin injury to the liver and stunting, health services research,
necrotizing enterocolitis, antibiotic resistant pathogens in the human gut, and quality improvement, particularly related to inflammatory bowel disease management. Short- and long-term projects can be arranged around these and other related efforts. The exact nature of the project depends on the time that the student can contribute to the effort, and the availability of any of the Division faculty, who all have established track records as mentors. Interested students should contact any of our faculty, or Dr. Tarr, to discuss the possibilities.

Neil H. White, MD, CDE
9th Floor, Northwest Tower, St. Louis Children's Hospital
314-286-1157
Our work involves patient-oriented research in the management of diabetes in children. Arrangements can be made for involvement in, or development of, projects aimed at improving outcome or prevention of diabetes mellitus and its complications.

David B. Wilson, MD, PhD
Room 3102, McDonnell Pediatric Research Building
314-286-2834
Research is focused on the molecular switches that regulate control genes during early embryonic development and differentiation.

Faculty — Pediatrics

Gary Arthur Silverman, PHD, MD Harriet B Spoehrer Professor of Pediatrics (primary appointment)
Head of the Department of Pediatrics
BS Washington Jefferson College 1978
PHD University of Chicago 1982
MD University of Chicago 1984
Philip Mulayara Abraham Instructor in Pediatrics (primary appointment)
Susan E Adams, PHD, MD Assistant Professor of Clinical Pediatrics (primary appointment)
BS University of Kansas 1977
William S Adams, Associate Professor of Clinical Pediatrics (primary appointment)
Randy Agolia, MD, Instructor in Clinical Pediatrics (primary appointment)
MD St. Louis University Group of 1995
Fahd Aqeeb Ahmad, MD, Assistant Professor of Pediatrics (primary appointment)
MD University of MO Columbia 2006
Etihad S. Al-Falahi, Instructor in Clinical Pediatrics (primary appointment)
Suzanne G Albrecht, Instructor in Clinical Pediatrics (primary appointment)
Ardis Kay Allison, DOST, Instructor in Clinical Pediatrics (primary appointment)
DOST Oklahoma St University 1980
Denis Ian Altman, MBBCH, Associate Professor of Clinical Neurology (primary appointment)
Assistant Professor of Clinical Pediatrics
MBBCH University of the Witwatersra 1975
Patricia J Amato, Professor of Clinical Pediatrics (primary appointment)
BS Notre Dame College 1979
Mohamad T Amjad, MD, Professor of Clinical Pediatrics (primary appointment)
BS School Not Listed 1957
MD School Not Listed 1961
Jagruti Shah Anadkat, MD, Assistant Professor of Pediatrics (primary appointment)
BS Ohio State University 2000
MD Northeastern University 2005
Kristen Minette Andersen, Instructor in Clinical Pediatrics (primary appointment)
Dana E Ankney, MD, Instructor in Clinical Pediatrics (primary appointment)
MD Wake Forest University 2005
BA Washington Univ in St. Louis 2001
Amal F. Antoun, Instructor in Clinical Pediatrics (primary appointment)
Shafkat Anwar, MD, Assistant Professor of Pediatrics (primary appointment)
MD George Washington University 2005
Ana Marie Arbelaez Perez, Associate Professor of Pediatrics (primary appointment)
Jennifer L. Arter, Assistant Professor of Clinical Pediatrics (primary appointment)
Elizabeth L Atkinson, MD, Instructor in Clinical Pediatrics (primary appointment)
MD Hahnemann University 1994
Jeffrey Jay Atkinson, Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pediatrics
BS1 Loyola College 1990
MD1 Hahnemann University 1994
BS Loyola College 1990
Stephanie Jane Attarian, BBA, MD, Instructor in Pediatrics (primary appointment)
BBA East Tennessee State Universi 2004
MD University of Tennessee 2009
Robert K Atteberry, Instructor in Clinical Pediatrics (primary appointment)
Adrienne Denise Atzemis, MD, Associate Professor of Pediatrics (primary appointment)
MD Creighton University 2000
BS John Carroll University 1996
Sarah Elizabeth Aubuchon, MD, Instructor in Clinical Pediatrics (primary appointment)
BA University of MO Kansas City 2007
MD University of MO Kansas City 2008
**Sara Ayers, MD** *Instructor in Clinical Pediatrics* (primary appointment)

MD University of Missouri 1998
**Fariba Azarpour, MDx** (primary appointment)

MD School Not Listed 1971
**Leonard B Bacharier, MD** *Professor of Pediatrics* (primary appointment)

MD Washington Univ in St. Louis 1992
BA Johns Hopkins University 1988

**Jill M Baer, MD** *Assistant Professor of Clinical Pediatrics* (primary appointment)

BS University of Kentucky 1972

MD University of Kentucky 1975
**Dustin M Baldridge, MD** *Instructor in Pediatrics* (primary appointment)

MD Baylor University 2011

**Sirine A. Baltagi, MD** *Assistant Professor of Pediatrics* (primary appointment)

MD Saint Louis University 1985

BS University of MO Columbia 1981

**Angela L Bard, MD** *Associate Professor of Clinical Pediatrics* (primary appointment)

MD Indiana University Bloomington 1981

BS Indiana University Bloomington 1976

**Alan Roy Barnette, MD** *Adjunct Instructor in Pediatrics* (primary appointment)

**Amanda Marie Musto Bashir, MD** *Instructor in Pediatrics* (primary appointment)

MD University of MO Kansas City 2004

**Maria S Baszis, MD** *Instructor in Clinical Pediatrics* (primary appointment)

**Aimee M Baumann-Dudenhoeffer, MD** *Instructor in Pediatrics* (primary appointment)

BA Cornell University 2000

MD Washington Univ in St. Louis 2005

**Susan L Baumer, MD** *Associate Professor of Clinical Pediatrics* (primary appointment)

MD University of Pennsylvania 1975

**Christie A. Bayer, MD** *Instructor in Clinical Pediatrics* (primary appointment)

MD University of MO Columbia 1990

BA Saint Louis University 1986

**Susan Joy Bayliss, MD** *Professor of Medicine (Dermatology)* (primary appointment)

**Professor of Pediatrics**

BA University of Texas Austin 1970

MD University of Texas Galveston 1974

**Julia M. Becker, MD** *Instructor in Clinical Pediatrics* (primary appointment)

MD University of Missouri 1997

**Jeffrey John Bednarski, MD, PHD** *Assistant Professor of Pediatrics* (primary appointment)

BS Duke University 1995

MD Davenport University 2003

PHD Davenport University 2003

**Earl C Beeks Jr, MD** *Associate Professor of Clinical Pediatrics* (primary appointment)

MD University of Missouri 1981

BS Howard University 1977

**Avraham Beigelman, MD** *Associate Professor of Pediatrics* (primary appointment)
MD Hebrew University 2000

Walter F Benoist, MD Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1972
BA University of Pennsylvania 1968
Kathleen Mary Berchelmann, MD Assistant Professor of Pediatrics (primary appointment)
BS Amherst College 1998
MD University of Connecticut 2003
Louise E Berdan Instructor in Clinical Pediatrics (primary appointment)

Mary Ellen Bertrand, MD Associate Professor of Neurology (primary appointment)
Associate Professor of Pediatrics
BS McKendree College 1987
MD Southern Illinois University 1993

Shobha Bhaskar, MBBS Assistant Professor of Pediatrics (primary appointment)
MBBS Bangalore University 1994

Priya Narayana Bhat, MS, MD Assistant Professor of Pediatrics (primary appointment)
MS University of AL Hunstville 2000
BS University of AL Hunstville 1999
MD University of South Alabama 2004
Jean E Birmingham Associate Professor of Clinical Pediatrics (primary appointment)
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Kevin J Blanton Instructor in Clinical Pediatrics (primary appointment)
Joshua Andrew Blatter, M PH, MD Assistant Professor of Pediatrics (primary appointment)
M PH University of Pittsburgh 2014
MD University of Pittsburgh 2008

Trina Blythe, MD Assistant Professor of Clinical Pediatrics (primary appointment)
BA Harvard Radcliffe 1992
MD Albany Medical College 1996
Joshua P Boldt Instructor in Clinical Pediatrics (primary appointment)

Robert J Bradshaw, MD Instructor in Clinical Pediatrics (primary appointment)
BA Emory University 1976
BS Emory University 1976
MD Saint Louis University 1980
Celeste Capers Brancato Assistant Professor of Pediatrics (primary appointment)

Rita Thomas Brookheart Instructor in Medicine (primary appointment)
Instructor in Pediatrics
BA Sweet Briar College 2003
Sarah Michelle Brown Assistant Professor of Pediatrics (primary appointment)

Assistant Professor of Pathology and Immunology
Instructor in Anesthesiology
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BS City University of New York 1973
MD Washington Univ in St. Louis 1982
Earline A Brownridge Instructor in Clinical Pediatrics (primary appointment)

Seth J Brownridge, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1982
BA Washington Univ in St. Louis 1978

Kathryn Ann Bucklen, MD Assistant Professor of Pediatrics (primary appointment)
MD Wake Forest University 2001
Tara M. Budetti, Instructor in Clinical Pediatrics (primary appointment)
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Richard S Buller, Associate Professor of Pediatrics (primary appointment)
BS Michigan Tech University 1972
Rebecca Kay Bullivant, MD, Assistant Professor of Clinical Pediatrics (primary appointment)
BS Eastern Illinois University 1988
MD University of Illinois 1992
Max H Burgdorf, MD, Assistant Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1974
BA Washington Univ in St. Louis 1970
Carey-Ann Dawn Burnham, PhD, Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Pediatrics
Associate Professor of Molecular Microbiology
BS University of Alberta 2002
PHD University of Alberta 2007
Candice Marie Burns, Instructor in Pediatrics (primary appointment)
BS Lee College 2004
Garrett C Burris, MD, Associate Professor of Clinical Neurology (primary appointment)
Associate Professor of Clinical Pediatrics
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MD Saint Louis University 1968
Kelley S. Caddel, MD, Instructor in Clinical Pediatrics (primary appointment)
BA Indiana University Bloomington 1998
MD George Washington University 2008
Archna Calfee, MD, Instructor in Clinical Pediatrics (primary appointment)
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David J Callahan, Assistant Professor of Clinical Neurology (primary appointment)
Assistant in Clinical Pediatrics
Kirstin Lee Campbell, MD, Assistant Professor of Pediatrics (primary appointment)
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BA Johns Hopkins University 2002
Joseph Edward Cangas, Assistant Professor of Clinical Pediatrics (primary appointment)
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BS1 Brown University 1976
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BS University of Kansas 1972
MD University of Kansas Medical 1975
Michael J. Carney, MD, Instructor in Clinical Pediatrics (primary appointment)
BS University of Notre Dame 1987
MD University of MO Columbia 1991
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MD University of Santo Tomas 1979
BS University of Santo Tomas 1979
Timothy James Casper, Instructor in Pediatrics (primary appointment)
BS University of Dayton 2005

Chesney Dawn Castleberry, MD, Assistant Professor of Pediatrics (primary appointment)
MD University Texas San Antonio 2005

Mario Castro, MD, M PH, Professor of Medicine (primary appointment)
Professor of Radiology
Professor of Pediatrics
Alan A and Edith L Wolff Distinguished Professor
MD University of Missouri 1988
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BS University of Illinois 1975
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MD University Texas San Antonio 1988
BS University of Texas Austin 1984

Wak S Chia, MD, Instructor in Clinical Pediatrics (primary appointment)
MD School Not Listed 1974

Jonathan C Chiles, MD, Assistant Professor of Pediatrics (primary appointment)
MD University of MO Kansas City 2004
BA University of MO Kansas City 2004

Sri Sankar Chinta, Instructor in Pediatrics (primary appointment)
MS1 Washington University 2015

Amy Lynn Clark, DOST, Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
DOST Kirksville College of Osteopath 2009
BA Saint Louis University 2004

Andrew Stephen Cluster, MD, Instructor in Pediatrics (primary appointment)
BS University of Maryland 2006
MD University of Texas Southwest 2010

Darryl S Cohen, DOST, Assistant Professor of Clinical Pediatrics (primary appointment)
DOST School Not Listed 1981
BA University of North Texas 1976

Barbara A Cohlan, MD, Professor of Pediatrics (primary appointment)
BA University of Michigan 1974
MD New York University 1978

F. Sessions Cole, MD, Park J White, M.D., Professor of Pediatrics (primary appointment)
Vice Chair of the Department of Pediatrics
Professor of Cell Biology and Physiology
Assistant Vice Chancellor for Children's Health, Washington University School of Medicine
MD Yale University 1973
BA Amherst College 1969

John C. Cole, MD, PHD, Instructor in Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1995
MD Washington Univ in St. Louis 2003
PHD Washington Univ in St. Louis 2003

Lora Pearlman Collier, Instructor in Clinical Pediatrics (primary appointment)
Bryanne Noel Colvin, Instructor of Pediatrics (Pending Dean's Approval) (primary appointment)
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Anne Maureen Connolly, MD, Professor of Neurology (primary appointment)

Professor of Pediatrics
MD Indiana University Bloomington 1984
BS Saint Mary's College 1980
John Nicholas Constantino, Blanche F Ittleson Professor of Psychiatry (Child Psychiatry) (primary appointment)

Professor of Pediatrics
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Megan A Cooper, PhD, MD, Assistant Professor of Pediatrics (primary appointment)
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BA College of Wooster 1995
PHD Ohio State University 2002
MD Ohio State University 2004
Ferdinand Louis Coste III, DOST, Assistant Professor of Pediatrics (primary appointment)
DOST NY Coll of Osteopathic Med 2004
BA Cornell University 1998

Carrie Christine Coughlin, MD, Assistant Professor of Medicine (Dermatology) (primary appointment)
Assistant Professor of Pediatrics
MD Washington Univ in St. Louis 2010
BA Yale University 2005
Andrea Michele Coverstone, MD, Instructor in Pediatrics (primary appointment)
MD Saint Louis University 2009

Mary Michaeleen Cradock, Assistant Professor of Clinical Pediatrics (primary appointment)

Andrew Cronyn, MD, Instructor in Clinical Pediatrics (primary appointment)
MD Albert Einstein College of Med 1996
BA Princeton University 1987

Betty Cross, MD, Instructor in Clinical Pediatrics (primary appointment)
BS University of Kansas 1979
MD University of Kansas 1983

Clayton Cummings, BSBA, MD, Instructor in Pediatrics (primary appointment)
BSBA University of MO Columbia 1996
MD University of MO Columbia 2000

Aarti Sudhir Dalal, DOST, Instructor in Pediatrics (primary appointment)
DOST Rowan College 2007
BA Boston University 2002

Tracey M. Daly, Instructor in Clinical Pediatrics (primary appointment)

Michael E Danter, Assistant Professor of Clinical Pediatrics (primary appointment)

Yasmeen Daud, MD, Associate Professor of Pediatrics (primary appointment)
MD University of MO Kansas City 2000

John C Davis, MD, Associate Professor of Clinical Pediatrics (primary appointment)
MD University of Michigan 1980

Kasey L. Davis, PhD, MS, Instructor in Clinical Pediatrics (primary appointment)
PHD University of Indianapolis 2007
BS McKendree College 2002
MS University of Indianapolis 2004
Ray S Davis, MD Professor of Clinical Pediatrics (primary appointment)
MD University of Louisville 1978

Thomas Keefe Davis, MD Assistant Professor of Pediatrics (primary appointment)
MD St. George's University 2004
BS Regis University 1999

Jeffrey G Dawson, MD Professor of Pediatrics (primary appointment)
BA Northwestern University 1982
MD University of Louisville 1982

Brian J. DeBosch, PHD, MD Assistant Professor of Pediatrics (primary appointment)
Assistant Professor of Cell Biology and Physiology
PHD Washington Univ in St. Louis 2008
MD Washington Univ in St. Louis 2008
BS University of Michigan 2001

Jane E. Defalco, MS, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MS Rutgers University 1978
MD Case Western Reserve Univ 1984
BA Rutgers University 1977

Louis P Dehner, MD Professor of Pathology and Immunology (primary appointment)
Professor of Pathology in Pediatrics
MD Washington Univ in St. Louis 1966
BA Washington Univ in St. Louis 1962

Maureen Elaine Dempsey Instructor in Clinical Pediatrics (primary appointment)

Leanne Michelle DePalma, MD Instructor in Pediatrics (primary appointment)
MD University of Louisville 2008
BS University of Notre Dame 2004

Gerry Deschamps, MD Instructor in Clinical Pediatrics (primary appointment)
MD University of Missouri 1983
BA Washington Univ in St. Louis 1976

Vikas Ramnath Dharnidharka, MD Professor of Pediatrics (primary appointment)
UNKNOWN St Xavier's College 1982
MD Topiwala National Med College 1991

Donald V. Dichsen, MD Instructor in Clinical Pediatrics (primary appointment)
MD University of Nebraska 1964
BA School Not Listed 1961

Lizbeth H DidrikSEN Assistant Professor of Clinical Pediatrics (primary appointment)

Dennis J. Dietzen, PHD Professor of Pediatrics (primary appointment)
Professor of Pathology and Immunology
PHD Indiana University Bloomington 1992

Patrick A Dillon Associate Professor of Surgery (Pediatric Surgery) (primary appointment)

Mary C Dinauer, MD, PHD Professor of Pediatrics (primary appointment)
Professor of Pathology and Immunology
BA Lawrence University 1975
MD University of Chicago 1981
PHD University of Chicago 1979

Tulay F Dincer, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MD School Not Listed 1977
John F Dipersio, MD, PHD Virginia E and Sam J Golman Professor of Medicine (primary appointment)

Professor of Pediatrics
Professor of Pathology and Immunology
MD University of Rochester 1980
PHD University of Rochester 1980
BA Williams College 1973

Allan Doctor Professor of Pediatrics (primary appointment)
Associate Professor of Biochemistry and Molecular Biophysics

Alla Dorfman, MD Instructor in Clinical Pediatrics (primary appointment)
MD Cheruovtsy State School of Med 1986

Nico U. Dosenbach, MD, PHD Assistant Professor of Neurology (primary appointment)
Assistant Professor of Pediatrics
Assistant Professor of Occupational Therapy

BA Columbia University 2000
MD Washington Univ in St. Louis 2008
PHD Washington Univ in St. Louis 2008

Catherine J Doty Instructor in Clinical Pediatrics (primary appointment)

Charles H Dougherty Professor of Clinical Pediatrics (primary appointment)
BA Holy Cross College 1969

Matthew P Dougherty Instructor in Clinical Pediatrics (primary appointment)

Joan Catherine Downey, M PH, MD Assistant Professor of Pediatrics (primary appointment)
Assistant Dean, College of Arts & Sciences

M PH Harvard University 1985
MD Harvard University 1985

Todd Druley, MD, PHD Assistant Professor of Pediatrics (primary appointment)
Assistant Professor of Genetics
Assistant Professor of Developmental Biology

MD University of Illinois Chicago 2002
BS University of Illinois 1994
PHD University of Illinois Chicago 2002

Jennifer Gries Duncan, MD Associate Professor of Pediatrics (primary appointment)
MD University of Chicago 1997
BS Vanderbilt University 1993

Jennifer M Dunn, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 2000
BS Duke University 1996

Adam C. Eaton, MD Assistant Professor of Clinical Pediatrics (primary appointment)
BS University of Illinois 1992
MD Washington Univ in St. Louis 1997

Lori L Eberhart Instructor in Clinical Pediatrics (primary appointment)

Robert W Edmonds, MD Assistant Professor Emeritus of Clinical Pediatrics (primary appointment)
Asst Prof Emeritus of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1960
BA University of Missouri 1956

Pirooz Eghtesady, MD, MS, D SC Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Professor of Pediatrics
Alysa G. Ellis, Assistant Professor of Pediatrics (primary appointment)
BA University of MO Kansas City 2004

Alexis M Elward, MPH, MD, Professor of Pediatrics (primary appointment)
Vice Chair of Quality Improvement and Safety in Pediatrics
MPH Saint Louis University 2006
BA Loyola College 1988
MD University of Maryland 1994

Amanda R. Emke, Assistant Professor of Pediatrics (primary appointment)
BS St Marys University 1998

Jay S Epstein, MS, MD, Professor of Clinical Pediatrics (primary appointment)
BA Emory University 1977
MS Emory University 1978
MD Emory University 1983

Diane M Eschmann, MD, Instructor in Clinical Pediatrics (primary appointment)
MD University of Missouri 1993
BA Saint Louis University 1989

Jennifer Ess, Instructor in Clinical Pediatrics (primary appointment)

Laura Ann Esswein, MD, Instructor in Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1987
MD University of Missouri 1991

Michele Marie Estabrook, MA, MD, Professor of Pediatrics (primary appointment)
BA Bates College 1976
MA Stanford University 1979
MD Case Western Reserve Univ 1983

Elliott H Farberman, MD, Assistant Professor of Clinical Pediatrics (primary appointment)
MD Saint Louis University 1973
BA University of Rochester 1969

James J Fehr III, Professor of Anesthesiology (primary appointment)

Professor of Pediatrics
Richard A. Felkel Jr, Instructor in Clinical Pediatrics (primary appointment)

Thomas W Ferkol, MD, Professor of Pediatrics (primary appointment)
Professor of Cell Biology and Physiology

Alexis Hartmann, MD, Professor of Pediatrics
MD Ohio State University 1985
BA Case Western Reserve Univ 1981

Isabel Fernandez-Holtzman, Instructor in Clinical Pediatrics (primary appointment)

Melanie Erin Fields, MD, Instructor in Pediatrics (primary appointment)
BS Tulane University 2003
MD Univ of Texas Med Sch Houston 2008

Mayte Ideliz Figueroa, MD, Associate Professor of Pediatrics (Pending Executive Faculty Approval) (primary appointment)
MD Mount Sinai School of Medicine 1992

Gregory K Finn, MD, Assistant Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1992
Emily Faith Fishman, MD
Instructor in Pediatrics (primary appointment)
BA Hendrix College 1985
BS Youngstown St University 2005
MD Northeast Ohio Medical U 2009
Anna M Fitz-James, MD, M PH
Assistant Professor of Clinical Pediatrics (primary appointment)
MD George Washington University 1981
M PH School Not Listed 1994
BA University of Massachusetts 1975
Edward B Fliesher, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
MD Saint Louis University 1978
BA Northwestern University 1974
Rebecca Hope Foster
Instructor in Clinical Pediatrics (primary appointment)
Myrto Frangos, MD
Instructor in Clinical Pediatrics (primary appointment)
BA Washington Uniu in St. Louis 1981
MD Saint Louis University 1985
Sharon Glave Frazee
Adjunct Assistant Professor of Pediatrics (primary appointment)
Anthony Raymond French, PHD
Associate Professor of Pediatrics (primary appointment)
Associate Professor of Pathology and Immunology
Associate Professor of Biomedical Engineering
Stuart Howard Friess, MD
Associate Professor of Pediatrics (primary appointment)
MD Mount Sinai School of Medicine 1999
BS Brown University 1985
Stephanie Ann Fritz, MD, MS
Assistant Professor of Pediatrics (primary appointment)
MD Medical College of Wisconsin 2001
MS Washington Univ in St. Louis 2008
BS Univ of Wisconsin Milwaukee 1997
John P Galgani Jr, MD
Associate Professor of Clinical Pediatrics (primary appointment)
MD Saint Louis University 1982
BS Massachusetts College of Phar 1977
Maria Virginia Ganninger
Instructor in Clinical Pediatrics (primary appointment)
Jane M. Garbutt, MHS, MBCHB
Professor of Pediatrics
Professor of Pediatrics
MHS University of Toronto 1988
MBCHB Bristol University 1977
Tessa D Gardner, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
MD Harvard University 1972
BS Mass Inst of Technology (MIT) 1968
Caryn Garriga
Assistant Professor of Clinical Pediatrics (primary appointment)
Sarah Kathryn Garwood, MD
Assistant Professor of Pediatrics (primary appointment)
BS Truman State University 1998
MD University of MO St Louis 2002
Karen J Garzia
Instructor in Clinical Pediatrics (primary appointment)
Karen Marie Gauvain, MD
Assistant Professor of Pediatrics (primary appointment)
BS University of MO St Louis 1989
MD Saint Louis University 1998
Avihu Gazit, MD
Associate Professor of Pediatrics (primary appointment)
MD Technion - Israel Inst. of Tec 1997
Elliot Field Gellman, MD
Professor of Clinical Pediatrics (primary appointment)
MD University of MO Columbia 1961
BA Iowa State University 1957
John F Gleeson Jr
Instructor in Pediatrics (primary appointment)
Joseph K Goldenberg, MD
Associate Professor of Clinical Pediatrics (primary appointment)
MD University of MO Kansas City 1980
Matthew I Goldsmith, MD, MS
Associate Professor of Pediatrics (primary appointment)
Assistant Professor of Genetics
BS University of Toronto 1987
MD University of Toronto 1995
MS University of Toronto 1990
Paul T Golumbek, MD, PHD
Assistant Professor of Neurology (primary appointment)
Assistant Professor of Pediatrics
MD Johns Hopkns University Medic 1995
BA University of Maryland 1984
PHD Johns Hopkins University 1995
Misty Lynn Good, MD
Assistant Professor of Pediatrics (Pending Executive Faculty Approval)
(primary appointment)
MD American U of Carribean SchMed 2005
Gary M Goodman
Assistant Professor of Clinical Pediatrics (primary appointment)
Jaya Goswami, MA, MD
Instructor in Pediatrics (primary appointment)
MA State University of New York 2008
BS Calcutta University 2004
MD SUNY DOWNSTATE MED BROOKLYN 2012
Ronald M Grady, MD, MA
Associate Professor of Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1989
BA Princeton University 1984
MA Washington Univ in St. Louis 1989
Laquita A Graham, MD
Instructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1996
BA Washington Univ in St. Louis 1991
Andrea Granados, MD
Instructor in Pediatrics (primary appointment)
MD Universidad Nacional de Columb 2015
Dorothy K. Grange
Professor of Pediatrics (primary appointment)
BA Mount Holyoke College 1976
Valerie Janet Gribben
Instructor in Pediatrics (primary appointment)
BA University of AL Birmingham 2008
Georgeann Keh-Teng Groh, MD
Instructor in Pediatrics (primary appointment)
BS Rice University 2001
MD Baylor College of Medicine 2006
Jesse Brookshire Groh, MD
Instructor in Clinical Pediatrics (primary appointment)
MD Baylor University 2006
BA Rice University 2002
Kristin Guilliams, MD
Assistant Professor of Neurology (primary appointment)
Assistant Professor of Pediatrics
MD University of Virginia 2006
BS Furman University 2002
Joseph Donald Gunn, MD
Associate Professor of Pediatrics (primary appointment)
MD University of Virginia 1989
Santosh K Gupta, DC
**Associate Professor of Clinical Pediatrics** (primary appointment)
UNKnown School Not Listed 1963
DC University of London 1966
UNKnown University of London 1970
Christina A. Gurnett, PHD, MD
**Associate Professor of Neurology** (primary appointment)
**Associate Professor of Orthopaedic Surgery**
**Assistant Professor of Pediatrics**
PHD University of Iowa 1998
BS University of Notre Dame 1991
MD University of Iowa 1998
David H Gutmann
**Donald O. Schnuck Family Professor of Neurology** (primary appointment)
**Professor of Genetics**
**Professor of Neurological Surgery**
**Professor of Pediatrics**
Allah B Haafiz
**Adjunct Associate Professor of Pediatrics** (primary appointment)
Brian P Hackett, PHD, MD
**Professor of Pediatrics** (primary appointment)
BA Middlebury College 1975
PHD Boston College 1984
MD Saint Louis University 1986
Carmen Marie Halabi, PHD, MD
**Instructor in Pediatrics** (primary appointment)
BS University of Iowa 2001
PHD University of Iowa 2009
MD University of Iowa 2009
Laura Evelyn Hall, MD
**Instructor in Pediatrics** (primary appointment)
MD University of Toledo 2010
BS Allegheny College 2005
Mark E. Halstead, MD
**Associate Professor of Orthopaedic Surgery** (primary appointment)
**Associate Professor of Pediatrics**
BS Univ of Wisconsin Madison 1994
MD Univ of Wisconsin Madison 1998
Kim P Hamlin, MD
**Assistant Professor of Pediatrics** (primary appointment)
MD University of MO St Louis 2001
BS University of MO St Louis 1997
Roman E Hammes, MD
**Instructor in Clinical Pediatrics** (primary appointment)
MD University of Iowa 1954
BA University of Iowa 1950
Melanie G Hampton, MD
**Assistant Professor of Clinical Pediatrics** (primary appointment)
BS Georgetown College 1976
MD University of Louisville 1981
Elinor F Hancock, MD
**Instructor in Clinical Pediatrics** (primary appointment)
MD Meharry Med College 1982
BA Fisk University 1975
Robin D Hanson
**Instructor in Clinical Pediatrics** (primary appointment)
BA Johns Hopkins University 1985
Suzanne M Hanson
**Assistant Professor of Clinical Pediatrics** (primary appointment)
Michael Raymond Harris, MS
**Professor of Pediatrics** (primary appointment)
MS Saint Louis University 1976
Elizabeth Avis Harrison, MD **Instructor in Clinical Pediatrics** (primary appointment)
BA Vanderbilt University 2002
MD Washington Univ in St. Louis 2006

Thomas J. Harrison Jr, MD **Instructor in Clinical Pediatrics** (primary appointment)
BA Saint Louis University 1970
MD University of Missouri 1979

David E Hartenbach **Associate Professor of Clinical Pediatrics** (primary appointment)
BA Saint Louis University 1983

Mary E Hartman, M PH, MD **Assistant Professor of Pediatrics** (primary appointment)
M PH University of Pittsburgh 2006
BA Mount Holyoke College 1994
MD University of Rochester 1999

John Edward Hartweger **Instructor in Clinical Pediatrics** (primary appointment)

James Larry Harwell, MD **Assistant Professor of Clinical Pediatrics** (primary appointment)
BA Washington Univ in St. Louis 1958
MD University of Missouri 1961

Sherrie M Hauft, MD **Professor of Pediatrics** (primary appointment)
MD University of Texas Austin 1984
BS University of Texas Austin 1977

Robert J Hayashi, MD **Professor of Pediatrics** (primary appointment)
MD Washington Univ in St. Louis 1986
BS Stanford University 1982

Ericka V. Hayes, MD **Associate Professor of Pediatrics** (primary appointment)
MD Washington Univ in St. Louis 1998
BS Washington Univ in St. Louis 1994

Kara E Hennelly, MD **Assistant Professor of Pediatrics** (primary appointment)
MD UMICCSOM 2015

Nathan Henninger **Instructor in Clinical Pediatrics** (primary appointment)

Mary Jo Hernandez-Zipfel, MD **Instructor in Clinical Pediatrics** (primary appointment)
BS University of North Carolina 1996
MD University of Florida 2001

Christina Kim Ahn Hickey, MD **Instructor in Pediatrics** (primary appointment)
MD Washington Univ in St. Louis 2009

Tunde Hidvegi, MS, PHD **Associate Professor of Pediatrics** (primary appointment)
MS Eötvös Loránd University 1980
PHD Eötvös Loránd University 1988

Laura Hill, MD **Instructor in Pediatrics (Pending Dean's Approval)** (primary appointment)
MD University of Illinois Chicago 2002

Jennifer M Hinton **Instructor in Clinical Pediatrics** (primary appointment)

Keiko Hirose, MD **Associate Professor of Otolaryngology** (primary appointment)
Associate Professor of Audiology and Communication Sciences
Associate Professor of Pediatrics
Vice Chairman of Otolaryngology
MD Harvard University 1993

Stanley P Hmiel, MD, M PHIL, PHD **Professor of Pediatrics** (primary appointment)
MD Case Western Reserve Univ 1989
BS Case Western Reserve Univ 1980
M PHIL Cambridge University 1981
Sandra Jean Hodel, Instructor in Clinical Pediatrics (primary appointment)  
BA Occidental College 1974  
MD University of CA San Francisco 1978

Dee Hodge III, MD, Professor of Pediatrics (primary appointment)  
Robert J Hoffman, MD, Professor of Clinical Pediatrics (primary appointment)  
Russell G. Hoffmann, PHD, Instructor in Clinical Pediatrics (primary appointment)  
Nicholas Alan Holekamp, MD, Instructor in Clinical Pediatrics (primary appointment)  
Abby Solomon Hollander, MD, Associate Professor of Pediatrics (primary appointment)  
Nancy E Holmes, MD, Professor of Clinical Pediatrics (primary appointment)  
Lori Rachel Holtz, MD, Assistant Professor of Pediatrics (primary appointment)  
Amjad Horani, MD, Assistant Professor of Pediatrics (primary appointment)  
Caroline Clare Horner, MD, Associate Professor of Pediatrics (primary appointment)  
Jennifer A. Horst, MD, Instructor in Pediatrics (primary appointment)  
Christine M Hrach, MD, BSW, Assistant Professor of Pediatrics (primary appointment)  
Keith A Hruska, MD, Professor of Pediatrics (primary appointment)  
Professor of Cell Biology and Physiology  
Professor of Medicine  
BS Creighton University 1965  
MD Creighton University 1969

Paul W. Hruz, PHD, MD, Associate Professor of Pediatrics (primary appointment)  
Associate Professor of Cell Biology and Physiology  
PHD Medical College of Wisconsin 1993
MD Medical College of Wisconsin 1994
BS Marquette University 1987
**Frederick Szujuei Huang, MD** Associate Professor of Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1990
MD Baylor University 1994
**Monica L Hulbert** Associate Professor of Pediatrics (primary appointment)
BS Indiana University Bloomington 1996
**David A Hunstad, MD** Associate Professor of Pediatrics (primary appointment)
Associate Professor of Molecular Microbiology
MD Washington Univ in St. Louis 1995
BA Carleton College 1991
**Jane Alyce Hunt, MD** Instructor in Pediatrics (primary appointment)
MD Washington Univ in St. Louis 2014
BS Washington Univ in St. Louis 2014
**Richard J Iken, MD** Instructor in Clinical Pediatrics (primary appointment)
BA Univ of Wisconsin Madison 1972
MD University of MO Columbia 1978
**Carl S Ingber, MD** Instructor in Clinical Pediatrics (primary appointment)
MD Boston University 1972
BA University of Rochester 1968
**Ronald R Jackups Jr.** Assistant Professor of Pathology and Immunology (primary appointment)
Assistant Professor of Pediatrics
BS Washington Univ in St. Louis 2000
**David M Jaffe, MD** Adjunct Professor of Pediatrics (primary appointment)
MD University of Chicago 1978
BA Stanford University 1972
Sue E Jagler Instructor in Clinical Pediatrics (primary appointment)
**Siddharth Vinod Jain, MD** Assistant Professor of Neurology (primary appointment)
Assistant Professor of Pediatrics
MD D.Y. Patil Medical College 2003
Patricia A Jamerson Instructor in Clinical Pediatrics (primary appointment)
**Patrick Y Jay** Associate Professor of Pediatrics (primary appointment)
Associate Professor of Genetics
Yasangi Maina Jayasinha Instructor in Clinical Pediatrics (primary appointment)
**Shannon M. Joerger, MD** Instructor in Pediatrics (primary appointment)
BS Southern Ill Univ Edwardsville 1995
MD University of Missouri-Columbi 2007
**Audrey Ragan Odom John, PHD, MD** Associate Professor of Pediatrics (primary appointment)
Associate Professor of Molecular Microbiology
BS Duke University 1996
PHD Duke University 2002
MD Duke University 2003
**Denise R Johnson, MD** Associate Professor of Clinical Pediatrics (primary appointment)
BA Oakwood College 1979
MD Loma Linda University 1984
**Joyce D Johnson, MD** Assistant Professor of Clinical Pediatrics (primary appointment)
MD Case Western Reserve Univ 1982
BS Oberlin College 1977
Mark C Johnson, MD Associate Professor of Pediatrics (primary appointment)
MD Johns Hopkins University 1982

Staci R. Johnson, MD Instructor in Clinical Pediatrics (primary appointment)
MD Southern Illinois University 2002

William Lee Johnson, MD Associate Professor of Clinical Pediatrics (primary appointment)
Adjunct Associate Professor of Pediatrics
MD University of Missouri 1981
BS University of Missouri 1977

Angela Marie Jones, MD Instructor in Clinical Pediatrics (primary appointment)
MD Universidad Nacional de Columb 1989

Katherine McMullin Jones, MD Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
BA Amherst College 2001
MD Washington Univ in St. Louis 2007

Larry A Jones, MD Assistant Professor of Clinical Pediatrics (primary appointment)
BA Johns Hopkins University 1972
MD Johns Hopkins University Medic 1976

Heather Robin Joyce, MD Instructor in Clinical Pediatrics (primary appointment)
MD University of MO Columbia 2006
BS University of MO Columbia 2002

Samuel F. Julian, MD Instructor in Pediatrics (primary appointment)
MD University of Texas Southwest 2007
BS University of Texas Austin 2001

Erzsebet Jung, MD Instructor in Clinical Pediatrics (primary appointment)
MD School Not Listed 1987

Aadil Kausarali Kakajiwala, MBBS Instructor in Pediatrics (primary appointment)
MBBS Topiwala National Med College 2008

Thomas J Kasper Instructor in Clinical Pediatrics (primary appointment)
Jenny E Kaufman Instructor in Clinical Pediatrics (primary appointment)
BS University of Michigan 1999

Robert S Kebler, MD Instructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1984
BS Muhlenberg College 1980

Martin S Keller, MD Associate Professor of Surgery (Pediatric Surgery) (primary appointment)
Associate Professor of Pediatrics
BS University of Pennsylvania 1985
MD University of Vermont 1990

Robert V Kellow Assistant Professor of Clinical Pediatrics (primary appointment)
Brian J Kelly, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MD School Not Listed 1972
BS School Not Listed 1964

James Scott Kemp Professor of Pediatrics (primary appointment)
Michele E Kemp, MD Associate Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1981
BA Washington Univ in St. Louis 1977

Robert M Kennedy Professor of Pediatrics (primary appointment)
BS Georgia Tech 1975
Kent Leon Killian, MD Instructor in Clinical Pediatrics (primary appointment)
Allison A King, MD  
Associate Professor of Occupational Therapy (primary appointment)  
Associate Professor of Pediatrics  
Associate Professor of Pediatrics  
Associate Professor of Education (Courtesy)  
Associate Professor of Surgery (General Surgery)  
Associate Professor of Medicine  
MD University of MO Columbia 1990  
BA Saint Louis University 1986  

Sonya Kirmani, MD  
Instructor in Pediatrics (primary appointment)  
BS Northwestern University 2006  
MD University of Iowa 2010  

Maleewan Kitcharoensakkul, Instructor in Pediatrics (primary appointment)  
BS Northwestern University 2006  
MD University of Iowa 2010  

Richard D Knight, Instructor in Clinical Pediatrics (primary appointment)  
BA Dillard University 1976  

Joel S Koenig, MD  
Professor of Clinical Pediatrics (primary appointment)  
MD Vanderbilt University 1982  
BA Washington University in St. Louis 1935  
MD Washington University in St. Louis 1941  

Kenneth A Koerner, MD  
Associate Professor of Clinical Pediatrics (primary appointment)  
BA Washington University in St. Louis 1935  
MD Washington University in St. Louis 1941  

Maleewan Kitcharoensakkul, Instructor in Pediatrics (primary appointment)  
BS Northwestern University 2006  
MD University of Iowa 2010  

Nikoleta S. Kolovos, MD  
Associate Professor of Pediatrics (primary appointment)  
MD University of Pittsburgh 1996  
BS University of Pittsburgh 1991  

Katherine L Komendowski, MD  
Assistant Professor of Clinical Pediatrics (primary appointment)  
MD School Not Listed 1984  
BS Marymount College 1980  

Jamie L Kondis, MD  
Instructor in Pediatrics (primary appointment)  
BS Westminster College 2002  
MD Indiana University South Bend 2006  

Beth Ann Kozel, MD, PhD  
Adjunct Assistant Professor of Pediatrics (primary appointment)  
BA Washington University in St. Louis 1996  
MD Washington University in St. Louis 2004  
PHD Washington University in St. Louis 2004  

James M Krafcik, Instructor in Clinical Pediatrics (primary appointment)  

Lily Tadayyon Kregenow, Instructor in Clinical Pediatrics (primary appointment)  

Katherine L Kreusser, MD  
Professor of Clinical Pediatrics (primary appointment)  
MD Indiana University Bloomington 1978  
BS University of Pennsylvania 1973  

Denise Kung, MD  
Assistant Professor of Clinical Pediatrics (primary appointment)  
MD Yale University 1991  
BA University of Missouri 1986  

Jennifer S Ladage, MD  
Instructor in Clinical Pediatrics (primary appointment)  
MD Saint Louis University 1991  
BS Valparaiso University 1987  

Stacie Sharon Laff, MD  
Instructor in Clinical Pediatrics (primary appointment)  
MD Saint Louis University 1991  
BA Valparaiso University 1987
BA Lawrence University 1989
MD School Not Listed 1993
Li-Ling Lai
Instructor in Clinical Pediatrics (primary appointment)

Douglas P. Larsen, MD
Associate Professor of Neurology (primary appointment)
Associate Professor of Pediatrics
BA Brigham Young University 1999
MD University of Utah 2003
Russell K Lawrence, MD
Adjunct Instructor in Pediatrics (primary appointment)
MD Baylor College of Medicine 2002
BS University of Texas Austin 1998

Leland M Laycob, MD
Instructor in Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1964
MD University of Missouri 1968
Richard Lee Lazarooff
Professor of Clinical Pediatrics (primary appointment)

Caroline Kim Lee, MD
Associate Professor of Pediatrics (primary appointment)
BA Wellesley College 1995
MD University of Virginia 1999
Kathryn B Leonard, MD
Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
MD Saint Louis University 2010
Kenneth C Levy
Instructor in Clinical Pediatrics (primary appointment)
BA Emory University 1983

Philip Thaler Levy, MD
Adjunct Instructor in Pediatrics (primary appointment)
MD Tel-Aviv University 2003
BS Rutgers University 2001

Steve Ming-Che Liao, MD
Assistant Professor of Pediatrics (primary appointment)
BS University of CA Los Angeles 1999
MD Saint Louis University 2003

Barry Light, MD
Associate Professor of Clinical Pediatrics (primary appointment)
BA University of Missouri 1973
MD University of Missouri 1980

Anna Lijowska, MD
Assistant Professor of Pediatrics (primary appointment)
MD Jagiellonian University 1988

David D Limbrick Jr
Professor of Neurological Surgery (primary appointment)
Professor of Pediatrics
BS College of William and Mary 1995

John Chao-Chun Lin, MD
Assistant Professor of Pediatrics (primary appointment)
MD University of Virginia 1998
BS University of Virginia 1994

Robert D Lins
Instructor in Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1965

Blake Allen Little, MD
Instructor in Clinical Pediatrics (primary appointment)
MD University of MO Kansas City 1986

Gregg T Lueder, MD
Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Pediatrics
MD University of Iowa 1985
BS Iowa State University 1981

Clifford James Luke, PHD
Associate Professor of Pediatrics (Pending Executive Faculty Approval) (primary appointment)
PHD University of Surrey 1999
BS University of Liverpool 1994
John C. Madden, Instructor in Clinical Pediatrics (primary appointment)

Jeffrey A Magee, PHD, MD, Assistant Professor of Pediatrics (primary appointment)

Assistant Professor of Genetics
PHD Washington Univ in St. Louis 2005
MD Washington Univ in St. Louis 2005
Jay Randolph Malone, MD, Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
BS University of Oklahoma 2005
MD University of Oklahoma 2009
Mark John Manary, MD, Helene B. Roberson Professor of Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1982
BS Mass Inst of Technology (MIT) 1977
John F Mantovani, MD, Associate Professor of Clinical Neurology (primary appointment)
Assistant Professor of Clinical Pediatrics
BA University of Evansville 1971
MD University of Missouri 1974
Soe S Mar, Associate Professor of Neurology (primary appointment)
Assistant Professor of Pediatrics
Bess Adkins Marshall, MD, Professor of Pediatrics (primary appointment)
Professor of Cell Biology and Physiology
BS Vanderbilt University 1982
MD Vanderbilt University 1986
Megan Spokes Martin, MD, Instructor in Pediatrics (primary appointment)
BA University of Notre Dame 2007
MD University of Kansas 2012
Patrice Mathews, MD, Instructor in Clinical Pediatrics (primary appointment)
BA Trinity University 1984
MD University of Oklahoma 1988
Amit Mathur, MBBS, Professor of Pediatrics (primary appointment)
MBBS Delhi University 1982
BS Delhi University 1976
Marvin M Maurer Jr, MD, Assistant Professor of Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1968
MD Washington Univ in St. Louis 1972
Ariane E May, MD, Associate Professor of Clinical Pediatrics (primary appointment)
BA Tufts University 1983
MD School Not Listed 1993
William H McAlister, Professor of Radiology (primary appointment)
Professor of Radiology in Pediatrics
John D McAllister, MD, Professor of Anesthesiology (primary appointment)
Professor of Pediatrics
MD University of Manitoba 1980
BS University of Manitoba 1982
Jina L McAtee, Assistant Professor of Clinical Pediatrics (primary appointment)
Megan McBride, Instructor in Clinical Pediatrics (primary appointment)
Steven D McGaughey, Instructor in Pediatrics (primary appointment)
Carli Laura McGee
Instructor in Pediatrics (primary appointment)

Bryan Edward McGill, MD
Instructor in Neurology (primary appointment)

Instructor in Pediatrics
MD Baylor University 2008
BS Denison University 1999

Mark E. McGranahan, MD
Instructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1997

Thomas Casey McKinney, MD
Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1980
BA Illinois Wesleyan University 1976

Robert Carolin McKinstry III
Professor of Radiology (primary appointment)

Professor of Pediatrics

William A McManus, MD
Assistant Professor of Pediatrics (primary appointment)
MD Saint Louis University 1986
BA Carroll College 1980

Christopher Clayton McPherson
Assistant Professor of Clinical Pediatrics (primary appointment)

Robert Paul Mecham, PhD
Alumni Endowed Professor of Cell Biology and Physiology (primary appointment)

Professor of Medicine

Professor of Biomedical Engineering

Professor of Pediatrics

Nalini K Mehta
Instructor in Clinical Pediatrics (primary appointment)
P Aravindaksha Menon
Instructor in Clinical Pediatrics (primary appointment)

Sarah J. Mermelstein, MD
Instructor in Pediatrics (primary appointment)
MD Drexel University 2007
BA Indiana University Bloomington 2002

Elizabeth Sarah Messer, MD
Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
BS Washington Univ in St. Louis 2009
MD University of Illinois Chicago 2013

Mary Shaughnessy Meyer, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
MD Saint Louis University 2003
BA Saint Louis University 1999

Peter Howard Michelson, MD, MS
Associate Professor of Pediatrics (primary appointment)
MD Jefferson Medical College 1983
MS University of Pittsburgh 2007
BS Bowdoin College 1978

Jenny Lynn Miele, MD
Instructor in Clinical Pediatrics (primary appointment)
BS Valparaiso University 2001
MD University of Illinois at Chic 2005

Donna C Miller, MD
Instructor in Clinical Pediatrics (primary appointment)
MD University of Miami 1982

Suzanne Lee Miller, MD
Instructor in Clinical Pediatrics (primary appointment)
BS University of Illinois 1974
MD University of Illinois 1978
Christopher Molitor
Instructor in Clinical Pediatrics (primary appointment)
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Appointment Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gail Lynn Moolsintong</td>
<td>Instructor in Clinical Pediatrics</td>
<td>(primary appointment)</td>
</tr>
<tr>
<td>Darlene A. Moore, MD</td>
<td>Instructor in Clinical Pediatrics</td>
<td>(primary appointment)</td>
</tr>
<tr>
<td>BS Eastern Illinois</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University 1974</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MD University of Illinois</td>
<td></td>
<td>1978</td>
</tr>
<tr>
<td>Mary R Morgan, MD</td>
<td>Instructor in Clinical Pediatrics</td>
<td>(primary appointment)</td>
</tr>
<tr>
<td>MD Washington Univ in St. Louis</td>
<td></td>
<td>1990</td>
</tr>
<tr>
<td>BA Miami University</td>
<td></td>
<td>1984</td>
</tr>
<tr>
<td>Sharon Celeste Morley, MD, PHD</td>
<td>Assistant Professor of Pediatrics</td>
<td>(primary appointment)</td>
</tr>
<tr>
<td>Assistant Professor of Pathology and Immunology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MD Harvard University</td>
<td></td>
<td>2002</td>
</tr>
<tr>
<td>PHD Harvard University</td>
<td></td>
<td>2002</td>
</tr>
<tr>
<td>Daniel R. Morra</td>
<td>Instructor in Clinical Pediatrics</td>
<td>(primary appointment)</td>
</tr>
<tr>
<td>Lisa Mae Moscoso, MD, PHD</td>
<td>Associate Professor of Pediatrics</td>
<td>(primary appointment)</td>
</tr>
<tr>
<td>Associate Dean for Student Affairs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mary Washington Univ in St. Louis</td>
<td></td>
<td>1998</td>
</tr>
<tr>
<td>BS Univ of Wisconsin</td>
<td></td>
<td>Madison 1989</td>
</tr>
<tr>
<td>Janet Gwen Mueller, MD</td>
<td>Assistant Professor of Clinical Pediatrics</td>
<td>(primary appointment)</td>
</tr>
<tr>
<td>BA Kansas State University</td>
<td></td>
<td>1985</td>
</tr>
<tr>
<td>Margaret M Mueller</td>
<td>Instructor in Clinical Pediatrics</td>
<td>(primary appointment)</td>
</tr>
<tr>
<td>Steven Mueth</td>
<td>Instructor in Clinical Pediatrics</td>
<td>(primary appointment)</td>
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<tr>
<td>Manohara Munimuddappa</td>
<td>Instructor in Clinical Pediatrics</td>
<td>(primary appointment)</td>
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<tr>
<td>Kevin J Murphy, MD</td>
<td>Professor of Clinical Pediatrics</td>
<td>(primary appointment)</td>
</tr>
<tr>
<td>MD Saint Louis University</td>
<td></td>
<td>1978</td>
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<td>BS Birmingham Southern College</td>
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<td>1974</td>
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<tr>
<td>Gian Marco Musarra</td>
<td>Assistant Professor of Pediatrics</td>
<td>(primary appointment)</td>
</tr>
<tr>
<td>John A Myers, MD</td>
<td>Instructor in Clinical Pediatrics</td>
<td>(primary appointment)</td>
</tr>
<tr>
<td>MD Southern Illinois University S</td>
<td></td>
<td>1997</td>
</tr>
<tr>
<td>BA Washington Univ in St. Louis</td>
<td></td>
<td>1993</td>
</tr>
<tr>
<td>Venkata S. Nagireddi</td>
<td>Instructor in Clinical Pediatrics</td>
<td>(primary appointment)</td>
</tr>
<tr>
<td>Tasnim A Najaf, MDA</td>
<td>Assistant Professor of Pediatrics</td>
<td>(primary appointment)</td>
</tr>
<tr>
<td>MD Dow Medical College</td>
<td></td>
<td>Karachi 1991</td>
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<tr>
<td>Ayesha Najib</td>
<td>Instructor in Clinical Pediatrics</td>
<td>(primary appointment)</td>
</tr>
<tr>
<td>Alison C Nash</td>
<td>Professor of Clinical Pediatrics</td>
<td>(primary appointment)</td>
</tr>
<tr>
<td>BS Howard University</td>
<td></td>
<td>1977</td>
</tr>
<tr>
<td>Lynn G Nelms</td>
<td>Instructor in Clinical Pediatrics</td>
<td>(primary appointment)</td>
</tr>
<tr>
<td>April Erwin Nesin</td>
<td>Instructor in Clinical Pediatrics</td>
<td>(primary appointment)</td>
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<tr>
<td>Tara Marie Neumayr, MD</td>
<td>Assistant Professor of Pediatrics</td>
<td>(primary appointment)</td>
</tr>
<tr>
<td>BA Duke University</td>
<td></td>
<td>1999</td>
</tr>
<tr>
<td>MD Univ South Dakota</td>
<td></td>
<td>Vermillion 2003</td>
</tr>
<tr>
<td>Jason Guy Newland, MS, MD</td>
<td>Associate Professor of Pediatrics (Pending Executive Faculty Approval)</td>
<td>(primary appointment)</td>
</tr>
<tr>
<td>MS University of Cincinnati</td>
<td></td>
<td>2011</td>
</tr>
<tr>
<td>MD University of Oklahoma</td>
<td></td>
<td>2000</td>
</tr>
<tr>
<td>Khai Ngo, MD</td>
<td>Instructor in Clinical Pediatrics</td>
<td>(primary appointment)</td>
</tr>
<tr>
<td>MD School Not Listed</td>
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<td>1974</td>
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<tr>
<td>Ellen Margaret Nicastro</td>
<td>Instructor in Clinical Pediatrics</td>
<td>(primary appointment)</td>
</tr>
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</table>
Adjunct Associate Professor of Pediatrics (primary appointment)

Michael Justin Noetzel, MD
Professor of Neurology (primary appointment)

Professor of Pediatrics
Vice Chair of Pediatric and Developmental Neurology
BA Yale University 1973
MD University of Virginia 1977

David Craig Norman, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
MD School Not Listed 1992
BS University of Illinois 1988

Karen K Norton, MD
Associate Professor of Clinical Pediatrics (primary appointment)
BS Loyola University 1985
MD Louisiana St University 1989

Douglas Susumu Nozaki
Instructor in Clinical Pediatrics (primary appointment)

Christian J Nunez, MD
Instructor in Pediatrics (primary appointment)
BA Washington Univ in St. Louis 2005
MD University of Illinois 2013

Kevin Sullivan O'Bryan, MD
Instructor in Pediatrics (primary appointment)
MD University of Michigan 2010

Shawn David O'Connor, MD
Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
MD Medical College Georgia 2010
BS University of Georgia 2006

Jerome H O'Neil Jr, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
MD Saint Louis University 1981
BA University of Missouri 1977

Justin O Ogbevden, MBBS
Instructor in Clinical Pediatrics (primary appointment)
MBBS University of Lagos 1982

Andrea Cohron Orr
Instructor in Clinical Pediatrics (primary appointment)
BS University of Georgia 2007

Valerie Orrico
Instructor in Clinical Pediatrics (primary appointment)

Rachel C. Orscheln, MD
Assistant Professor of Pediatrics (primary appointment)
MD University of MO Columbia 1998
BS University of MO Columbia 1994

Cynthia M. Ortinau, MD
Assistant Professor of Pediatrics (Pending Executive Faculty Approval) (primary appointment)
MD University of MO Kansas City 2005

Irma I Ortiz-Arroyo
Assistant Professor of Clinical Pediatrics (primary appointment)

Amir Mordechai Oryan
Visiting Assistant Professor of Pediatrics (primary appointment)

Alison H Oswald
Instructor in Clinical Pediatrics (primary appointment)

Pamela B Padda, MD
Instructor in Clinical Pediatrics (primary appointment)
BA University of Michigan 1986
MD University of Illinois 1990

Stephen C Pak, PHD
Associate Professor of Pediatrics (Pending Executive Faculty Approval) (primary appointment)
BS University of Sydney 1990
PHD University of New South Wales 1996

Jennifer Ann Panasci
Instructor in Clinical Pediatrics (primary appointment)

Tae Sung Park, MD
Shi Hui Huang Professor of Neurological Surgery (primary appointment)
Professor of Neuroscience
Professor of Pediatrics
MD Yonsei University 1971
BS Yonsei University 1967

David H Perlmutter, MD
Executive Vice Chancellor for Medical Affairs (primary appointment)
Dean of the School of Medicine

Professor of Pediatrics
BS1 University of Rochester 1974
MD Saint Louis University 1978

Jose A Pineda Soto, MD
Associate Professor of Pediatrics (primary appointment)
Associate Professor of Neurology
BS Francisco Marroquin University 1988
MD Francisco Marroquin University 1993

Christopher James Pingel, MD
Instructor in Pediatrics (primary appointment)
BS Washington Univ in St. Louis 2003
MD Saint Louis University 2007

Jessica E Pittman, MD, M PH
Assistant Professor of Pediatrics (primary appointment)
BS Oberlin College 1998
MD Washington Univ in St. Louis 2004
M PH University North Carolina 2009

Daniel S Plax, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1993
BA Brown University 1988

Kathryn L. Plax, MD
Ferring Family Chair Professor of Pediatrics (primary appointment)
BA Brown University 1989
MD University of Rochester 1996

John Samuel Plowden, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
BS Washington & Lee 1979
MD Medical College Georgia 1984

Santiago Boye Plurad Jr, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1982
MD School Not Listed 1987

Juanita C Polito-Colvin, MD
Associate Professor of Clinical Pediatrics (primary appointment)
BA University of Dallas 1975
MD Southwest Texas State Univers 1979

Claudia Preuschoff
Instructor in Clinical Pediatrics (primary appointment)

Cassandra Michelle Pruitt, MD
Associate Professor of Pediatrics (primary appointment)
MD Texas Tech University 1999
BA Emory University 1994

Peter J Putnam
Assistant Professor of Clinical Pediatrics (primary appointment)

Jenna M Putzel
Instructor in Clinical Pediatrics (primary appointment)

Robert Louis Quaas
Instructor in Clinical Pediatrics (primary appointment)

Kimberly S Quayle, MD
Professor of Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1988

Jennifer Quinn
Instructor in Clinical Pediatrics (primary appointment)
BA University of Kentucky 1982
Mohammad H Rahman, Instructor in Clinical Pediatrics (primary appointment)
UNKNOWN School Not Listed 1960
Vidya Raman, Instructor in Clinical Pediatrics (primary appointment)
Pathmawathy T Ramesvara, MS, Instructor in Clinical Pediatrics (primary appointment)
MS School Not Listed 1972
Rakesh Rao, MD, Assistant Professor of Pediatrics (primary appointment)
MD Maulana Azad Medical College 1996
Emanuel Rashet, MD, Instructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1962
BS University of Illinois 1958
Sheryl S Ream, MD, Instructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1986
BA Saint Louis University 1982
Neil F. Rebbe, PHS, MD, Instructor in Clinical Pediatrics (primary appointment)
BA University of MO St Louis 1978
PHS Washington Univ in St. Louis 1983
MD Saint Louis University 1996
Timothy Reed, Instructor in Clinical Pediatrics (primary appointment)
Phillip D Reichert, Instructor in Clinical Pediatrics (primary appointment)
Catherine R Remus, MD, MSN, Assistant Professor of Clinical Pediatrics (primary appointment)
MD School Not Listed 1983
BA Luther College 1975
MSN Rush University 1978
Kenneth Eugene Remy, MD, Assistant Professor of Pediatrics (primary appointment)
MD Jefferson Medical College 2004
George H Rezabek, DOST, Instructor in Clinical Pediatrics (primary appointment)
DOST School Not Listed 1988
Edward K Rhee, Adjunct Assistant Professor of Pediatrics (primary appointment)
BA University of Pennsylvania 1986
Noor Riaz, MD, Instructor in Pediatrics (primary appointment)
MD Washington Univ in St. Louis 2008
Joan K. Riley, PHD, Assistant Professor of Obstetrics and Gynecology (primary appointment)
Assistant Professor of Pediatrics
Instructor in Medicine
PHD Washington Univ in St. Louis 1998
Katherine Rivera-Spoljaric, MS, MD, Associate Professor of Pediatrics (primary appointment)
BS University of Puerto Rico 1997
MS Washington Univ in St. Louis 2008
MD University of Puerto Rico 2001
William L. Rives, MS, Assistant Professor of Pediatrics (primary appointment)
MS University of Missouri 1992
Janis B Robinson, MA, Associate Professor of Clinical Pediatrics (primary appointment)
MA Yale University 1972
Toby Andrew Rockefeller, MD, Assistant Professor of Pediatrics (Pending Executive Faculty Approval) (primary appointment)
BS Oklahoma St University 2005
MD University of Oklahoma 2009
Sandeep Rohatgi, MD, Instructor in Clinical Pediatrics (primary appointment)
James R Rohrbaugh, MD
Associate Professor of Clinical Neurology (primary appointment)
Associate Professor of Clinical Pediatrics
MD Ohio State University 1974
BA Yale University 1971
Ayelet Rosen, MD
Instructor in Pediatrics (primary appointment)
BS Rutgers University 2015
MD Albert Einstein College of Med 2015
Joan Lee Rosenbaum
Professor of Pediatrics (primary appointment)
Isabel L Rosenbloom
Associate Professor of Clinical Pediatrics (primary appointment)
BA Goucher College 1979
Daniel B Rosenbluth, MD
Professor of Pediatrics
Tracey C and William J Marshall Professor of Medicine
MD Mount Sinai School of Medicine 1989
BS Columbia University 1985
Kelly Ross, MD
Assistant Professor of Pediatrics (primary appointment)
BS University of MO Kansas City 1991
MD University of MO Columbia 1996
William J Ross, MD
Associate Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1972
BA Miami University 1968
Robert J Rothbaum, MD
Centennial Professor of Pediatrics (primary appointment)
MD University of Chicago 1976
Ella Rozin
Instructor in Clinical Pediatrics (primary appointment)
Joshua Bennett Rubin, MD, PHD, MS
Professor of Pediatrics
Professor of Neuroscience
Professor of Neurology
MD Albert Einstein College of Med 1994
BS Yale University 1982
PHD Albert Einstein College of Med 1994
MS Albert Einstein College of Med 1992
Christina M Ruby-Ziegler, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
BS Loyola University 1990
MD Northwestern University Med 1994
Martin D Rudloff, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1981
David Rudnick, MD
Associate Professor of Pediatrics (primary appointment)
Associate Professor of Developmental Biology
BS University of Illinois 1987
MD Washington Univ in St. Louis 1994
Daniel G. Rudolph, MD
Instructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1992
BS Saint Louis University 1988
Karen Elizabeth Ruecker
Instructor in Clinical Pediatrics (primary appointment)
Diane Mary Rup, MA, MD
Instructor in Clinical Pediatrics (primary appointment)
BA State University of New York 1976
MA State University of New York 1979
MD Case Western Reserve Univ 1986
Lisa A Ryan Instructor in Clinical Pediatrics (primary appointment)
Ahmed Sameh Said, PHD, MD Instructor in Pediatrics (primary appointment)
PHD Ain Shams University 2009
MD Ain Shams University 2000
Charles Michael Samson, MD Assistant Professor of Pediatrics (primary appointment)
MD University of Washington 2003
BS University of North Carolina 1998
Gretchen A Sander, MD Instructor in Clinical Pediatrics (primary appointment)
BA Vanderbilt University 2000
MD Loyola University Chicago 2004
Heidi L Sandige, MD, MA Instructor in Pediatrics (primary appointment)
BA Northwestern University 1991
MD Washington Univ in St. Louis 2005
MA Yale University 1993
MA1 Washington Univ in St. Louis 2003
Pravesh Sangwan, MD, MBBS Instructor in Pediatrics (primary appointment)
MD Gauhati Medical College 2009
MBBS Vijayanagara Inst of Med Sci 2015
Diana M Sater-Roukoz Instructor in Clinical Pediatrics (primary appointment)
Scott Saunders, PHD, MD Associate Professor of Pediatrics (primary appointment)
Associate Professor of Developmental Biology
PHD Stanford University 1990
MD Stanford University 1990
BS University of Minnesota 1983
Brian J. Saville, MD Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
BS Washington Univ in St. Louis 1997
MD Washington Univ in St. Louis 2001
Blaine M Sayre, M PH, MD Professor of Clinical Pediatrics (primary appointment)
M PH University of CA Berkeley 1972
MD Washington Univ in St. Louis 1968
Joseph Schachter, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MD Indiana University Bloomington 1979
BA Indiana University Bloomington 1974
Bradley L Schlaggar, PHD, MD Ernest and Jane G Stein Professor of Neurology (primary appointment)
Professor of Radiology
Professor of Psychiatry
Professor of Pediatrics
Professor of Neuroscience
BS Brown University 1986
PHD Washington Univ in St. Louis 1994
MD Washington Univ in St. Louis 1994
Howard J Schlansky, MD Instructor in Clinical Pediatrics (primary appointment)
BA University of MO Kansas City 1976
MD University of MO Kansas City 1978
Margaret Ann Schmandt, MD Associate Professor of Clinical Pediatrics (primary appointment)
BA University of Iowa 1982
MD Saint Louis University 1987
David Schnadower, M PH, MDAssociate Professor of Pediatrics (primary appointment)
M PH Columbia University 2005
MD National Autonomous U of Mex 1993
Jacquelyn C Schnidman, MDISnstructor in Clinical Pediatrics (primary appointment)
BA University of Missouri 1975
MD Saint Louis University 1979
Laura Graves Schuettpelz, PhDAssistant Professor of Pediatrics (primary appointment)
Assistant Professor of Developmental Biology
PHD Northwestern University 2000
Alan L Schwartz, PhD, MDAlumni Endowed Professor of Pediatrics (primary appointment)
Professor of Developmental Biology
PHD Case Western Reserve Univ 1974
MD Case Western Reserve Univ 1976
Colleen Erika SeematterInstructor in Clinical Pediatrics (primary appointment)
Martha Papay Sewall, MDI nstructor in Clinical Pediatrics (primary appointment)
MD University of Missouri 1985
BA University of Missouri 1983
Purvi Shah, MDAssistant Professor of Pediatrics (primary appointment)
MD Baylor University 2000
BA Rice University 1996
Snehal Paresh Shah, MDInstructor in Pediatrics (primary appointment)
MD Ross Univ School of Medicine 2010
BA Boston College 2003
Shabana Shahanavaz, MDA ssistant Professor of Pediatrics (primary appointment)
MD Kasturba Medical College 2002
Rachel E. Shakofsky, MDInstructor in Pediatrics (primary appointment)
BS University of MO Columbia 2003
MD University of MO Columbia 2007
Larry J Shapiro, MDSpencer T and Ann W Olin Distinguished University Professor (primary appointment)
Professor of Pediatrics
Executive Vice Chancellor and Dean Emeritus
BS Washington Univ in St. Louis 1968
MD Washington Univ in St. Louis 1971
Eleanor Maria ShawAssistant Professor of Clinical Pediatrics (primary appointment)
BA University of Missouri 1978
Megan Elizabeth SheltonInstructor in Clinical Pediatrics (primary appointment)
Shalini Shenoy, MD, MBBSProfessor of Pediatrics (primary appointment)
MD Kasturba Medical College 1985
BS M.G.R. Medical University 1981
MBBS Kasturba Medical College 1981
Ross William Shepherd, MD, MBBSAdjunct Professor of Pediatrics (primary appointment)
MD University of Queensland 1979
MBBS University of Queensland 1970
Marwan Shinawi, MD Professor of Pediatrics (primary appointment)
MD Technion - Israel Inst. of Tec 1996
Min-Yi Katherin Shiue  
Instructor in Clinical Pediatrics (primary appointment)  
BS Washington Univ in St. Louis 1992

Michael Shoykhet, MD, PHD  
Assistant Professor of Pediatrics (primary appointment)  
BA Cornell University 1996  
MD University of Pittsburgh 2005  
PHD University of Pittsburgh 2003

Marilyn J Siegel  
Professor of Radiology (primary appointment)  
Professor of Radiology in Pediatrics

Jennifer N Silva  
Assistant Professor of Pediatrics (primary appointment)  
BA Union College New York 1997

Connie Darlene Simmons  
Instructor in Clinical Pediatrics (primary appointment)

Paul S Simons, MD  
Associate Professor of Pediatrics (primary appointment)  
MD Washington Univ in St. Louis 1967  
BA University of Texas Austin 1963

Kathleen Elizabeth Simpson, MD  
Assistant Professor of Pediatrics (primary appointment)  
MD University of MO Kansas City 2006

Gautam K Singh, MBBS, MD  
Professor of Pediatrics (primary appointment)  
MBBS Ranchi University 1977  
MD Patna Medical College 1982

Carl Jeffrey Sippel, MD, PHD  
Assistant Professor of Clinical Pediatrics (primary appointment)  
MD Saint Louis University 1983  
BA University of Missouri 1975  
PHD Saint Louis University 1980

Bryan Anthony Sisk  
Instructor in Pediatrics (primary appointment)

Kelsey Alayne Sisti, MD  
Instructor in Pediatrics (primary appointment)  
MD University of Arkansas 2009  
BS University of Alaska 2005

Harold B Sitrin, MD  
Assistant Professor of Clinical Pediatrics (primary appointment)  
BA University of Rochester 1966  
MD Saint Louis University 1971

Alan Joseph Skoultchi, MD  
Instructor in Clinical Pediatrics (primary appointment)  
BS Duke University 1989  
MD U Medical-Dental Of New Jersey 1995

Carolyn Anne Delaney Smith  
Assistant Professor of Pediatrics (primary appointment)  
BA Rice University 1996

Joshua C Smith  
Instructor in Clinical Pediatrics (primary appointment)

Matthew D Smyth, MD  
Professor of Neurological Surgery (primary appointment)  
Professor of Pediatrics  
MD University of CA San Francisco 1996  
BA Cornell University 1992

Nareshkumar J Solanki  
Assistant Professor of Clinical Pediatrics (primary appointment)  
UNKNOWN University of Nairobi 1975

Umang Sood  
Instructor in Pediatrics (primary appointment)  
BS University of MO Kansas City 2003

Robert D Spewak, MD  
Instructor in Clinical Pediatrics (primary appointment)  
MD Saint Louis University 1979  
BA Drake University 1975

Craig A Spiegel, MD  
Assistant Professor of Clinical Pediatrics (primary appointment)
Philip Charles Spinella, MD  Associate Professor of Pediatrics  (primary appointment)
MD New York Medical College 1995
BS Tufts University 1991

Jennifer E. Sprague, PhD, MD  Assistant Professor of Pediatrics  (primary appointment)
BS Indiana University Bloomington 2000
PHD Washington Univ in St. Louis 2007
MD Washington Univ in St. Louis 2007

Mythili Srinivasan, MS  Associate Professor of Pediatrics  (primary appointment)
MS Madurai Kamaraj University 1983

Danielle R St Leger  Instructor in Clinical Pediatrics  (primary appointment)

Kristin Voellinger Stahl  Instructor in Clinical Neurology  (primary appointment)

Sarah A Stanage  Instructor in Pediatrics  (primary appointment)
BS Washington Univ in St. Louis 2001

Ashley L. Steed, MD, PhD  Instructor in Pediatrics (Pending Dean's Approval)  (primary appointment)
MD Washington Univ in St. Louis 2008
PHD Washington Univ in St. Louis 2008
BS Duke University 2001

Norman P Steele  Instructor in Clinical Pediatrics  (primary appointment)

Leena Lata Stemler, MD  Instructor in Pediatrics  (primary appointment)
BA Brown University 2003
MD Brown University 2007

Randall S Sterkel  Assistant Professor of Clinical Pediatrics  (primary appointment)
BA Duke University 1989

Anita R Stifelman, MD  Associate Professor of Clinical Pediatrics  (primary appointment)
BA Washington Univ in St. Louis 1983
MD New York Medical College 1987

Jeffrey R Stokes  Professor of Pediatrics (Pending Executive Faculty Approval)  (primary appointment)

Janis Marie Stoll, MD  Assistant Professor of Pediatrics  (primary appointment)
MD Eastern Virginia Med School 2004

Stephen I Stone, MD  Instructor in Pediatrics (Pending Dean's Approval)  (primary appointment)
BS University of Illinois Chicago 2005
MD Rosalind Franklin University 2010

Gregory A Storch, MD  Ruth L. Siteman Professor of Pediatrics  (primary appointment)
Professor of Molecular Microbiology
Professor of Medicine
MD New York University 1973
BA Harvard University 1969

Jennifer Mae Strahle, MD  Asst Prof of Neurological Surgery  (primary appointment)
Asst Prof of Orthopaedic Surgery
Asst Prof of Pediatrics
MD University of Minnesota 2008
BS Bates College 2002

Robert H Strashun, MD, MA  Associate Professor of Clinical Pediatrics  (primary appointment)
MD New York University 1982
M. Anne Street, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MD University of Illinois 1976

Judith M. Stucki-Simeon, MD Instructor in Clinical Pediatrics (primary appointment)
MD Univ of Wisconsin Madison 1987

Rosa M Suarez-Solar Instructor in Clinical Pediatrics (primary appointment)
BA University of Puerto Rico 1990

Lisa Suffian, MD Instructor in Clinical Pediatrics (primary appointment)
MD University of MO Kansas City 1996
BS University of MO Kansas City 1990

Toshifumi Sugatani, PHD, DDENT Instructor in Pediatrics (primary appointment)
PHD Meiji University 2003
DDENT Meiji University 1991

Stuart C Sweet, PHD W. Mckim O. Marriott Professor of Pediatrics (primary appointment)
PHD University of Michigan 1989

Amanda Sweetland Instructor in Clinical Pediatrics (primary appointment)
Susan C. Sylvial Instructor in Clinical Pediatrics (primary appointment)

Phillip Irwin Tarr, MD Melvin E Carnahan Professor of Pediatrics (primary appointment)

Professor of Molecular Microbiology
BA Brown University 1975
MD Yale University 1980
Kristen A Terrill Instructor in Clinical Pediatrics (primary appointment)

Donna T Thackrey, MD Instructor in Clinical Pediatrics (primary appointment)
BS John Carroll University 1990
MD Wright State University 1994

Tama Saint The, MD Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
BS1 University of Kentucky 2009
MD University of Louisville 2013
BS University of Kentucky 2009

Stephen Thierauf Instructor in Clinical Pediatrics (primary appointment)

Kwee L Thio, PHD, MD Associate Professor of Neurology (primary appointment)
Associate Professor of Pediatrics
Associate Professor of Neuroscience
PHD Washington Univ in St. Louis 1992
MD Washington Univ in St. Louis 1992
BS Brown University 1984
Mary A Tillman Professor of Clinical Pediatrics (primary appointment)

Robert W Tolan Jr., MA, MD Instructor in Clinical Pediatrics (primary appointment)
MA Indiana University Bloomington 1983
BA Indiana University Bloomington 1982
MD Washington Univ in St. Louis 1987

Scott A. Trail, MD Instructor in Clinical Pediatrics (primary appointment)
BA Saint Louis University 1985
MD University of MO Columbia 1990

Indi Trehan, MD, MPH Assistant Professor of Pediatrics (primary appointment)
MD Northwestern University 2004
MPH Northwestern University 2004
Shamik Bharat Trivedi, MD
Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
MD University of Toledo 2009
Garland R Tschudin, MD
Instructor in Clinical Pediatrics (primary appointment)
BA University of Missouri 1971
MD University of Missouri 1975
Michael P Turmelle, MD
Associate Professor of Pediatrics (primary appointment)
MD Johns Hopkins University 1998
BA Bowdoin College 1994
Yumirle Padron Turmelle, MD, AA
Associate Professor of Pediatrics (primary appointment)
MD University of Florida 2000
AA Miami Dade Community College 1993
BA University of Miami 1995
Robert Lawrence Tychsen
Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Neuroscience
Professor of Ophthalmology and Visual Sciences in Pediatrics
John F Hardesty MD Distinguished Professor of Ophthalmology and Visual Sciences
BS Georgetown University 1975
April L Tyus
Instructor in Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1995
Elizabeth C Utterson, MD
Assistant Professor of Pediatrics (primary appointment)
BA University of Notre Dame 1994
MD Creighton University 1998
Akshaya J Vachharajani, MBBS, MD
Associate Professor of Pediatrics (primary appointment)
MBBS Topiwala National Med College 1984
MD University of Bombay 1986
George Frederick Van Hare III, MD
Louis Larrick Ward Professor of Pediatrics (primary appointment)
MD University of Connecticut 1980
BS Bates College 1976
Laird Henry Vermont
Instructor in Clinical Pediatrics (primary appointment)
Zachary Andrew Vesoulis, MD
Instructor in Pediatrics (primary appointment)
MD Ohio State University 2009
Jean V Wagner
Instructor in Clinical Pediatrics (primary appointment)
Colleen M Wallace, MD
Assistant Professor of Pediatrics (primary appointment)
Director, Humanities Program
MD Washington Univ in St. Louis 2001
BS University of Notre Dame 1997
Jennifer Anne Wambach, MD
Assistant Professor of Pediatrics (primary appointment)
BS Vanderbilt University 1997
MD Vanderbilt University 2001
Barbara B. Warner, MS, MD
Professor of Pediatrics (primary appointment)
MS University of Massachusetts 1981
MD University of Cincinnati 1985
BS University of Dayton 1976
Brad W. Warner
Jessie L. Ternberg, M.D., PhD. Distinguished Professor of Pediatric Surgery in Surgery (Pediatric Surgery) (primary appointment)
Professor of Pediatrics
Michael S Watson, MS, PHD
Adjunct Professor of Pediatrics (primary appointment)
MS University of Alabama 1978
PHD University of Alabama 1981
Benjamin David Weintraub
Instructor in Clinical Pediatrics (primary appointment)
Don Weiss, MS, MD
Instructor in Clinical Pediatrics (primary appointment)
MS Saint Louis University 1996
BS Dickinson College 1979
MD School Not Listed 1986
Timothy P Welch, MD
Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Pediatrics
MD University of Cincinnati 2004
Valerie B. Welch, MD
Instructor in Clinical Pediatrics (primary appointment)
BA Baylor University 1994
MD University Texas San Antonio 1998
Jennifer Corinne Wessman, MD
Instructor in Pediatrics (primary appointment)
MD Commonwealth College 2005
Alexander Weymann, MD
Assistant Professor of Pediatrics (primary appointment)
MD Witten Herdecke University 1999
Andrew J White, MD
James P Keating Professor of Pediatrics (primary appointment)
Vice Chair of Medical Education in Pediatrics
MD University of Texas Southwest 1994
Frances V White, MD, MS
Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Pediatrics
MD University of North Carolina 1989
MS University of North Carolina 1978
BA Princeton University 1975
Neil Harris White, MD
Professor of Pediatrics (primary appointment)
Professor of Medicine
MD Albert Einstein College of Med 1975
BS State Univ of NY at Albany 1971
Nicole Izetta White
Instructor in Clinical Pediatrics (primary appointment)
Karen Whiteside
Instructor in Clinical Pediatrics (primary appointment)
Michael Peter Whyte, MD
Professor of Pediatrics (primary appointment)
Professor of Genetics
MD State University of New York 1972
BA New York University 1968
Karen Mori Wickline, MD
Associate Professor of Pediatrics (primary appointment)
MD Saint Louis University 1986
BS University of Hawaii 1978
Denise Wilfley, PHD
Professor of Psychiatry (primary appointment)
Professor of Medicine
Professor of Psychological & Brain Sciences
Professor of Pediatrics
Scott Rudolph University Professor
PHD University of Missouri Columbi 1989
Kristine G Williams, MD, MPH  
Assistant Professor of Pediatrics (primary appointment)  
MD Georgetown University 1994  
MPH Saint Louis University 2001

Marcia Christine Willing, MS, MD, D SC  
Professor of Pediatrics (primary appointment)  
BS Goucher College 1973  
MS University of Michigan 1976  
MD University of Virginia 1982  
D SC George Washington University 1981

David B Wilson, PHD  
Professor of Pediatrics  
Professor of Developmental Biology  
PHD Washington Univ in St. Louis 1986

Loralee Jane Wold, MD  
Instructor in Clinical Pediatrics (primary appointment)  
MD Saint Louis University 1997  
BA Saint Louis University 1993

Patricia Ann Wolff, MD  
Professor of Clinical Pediatrics (primary appointment)  
MD University of Minnesota 1972  
BA University of Minnesota 1968

Michael Wong, MD, PHD  
Allen P and Josephine B Green Professor of Pediatric Neurology (primary appointment)  
Professor of Pediatrics  
Professor of Neuroscience  
MD University of Texas Southwest 1995  
PHD University of Texas Southwest 1995  
BA Princeton University 1987

Jeffrey M Wright, MD  
Assistant Professor of Clinical Medicine (primary appointment)  
Assistant Professor of Clinical Pediatrics  
BS Vanderbilt University 1975  
MD Washington Univ in St. Louis 1979

Kathie R Wuellner  
Associate Professor of Clinical Pediatrics (primary appointment)  
BS University of Illinois 1973

Hayley Wurzel, MD  
Assistant Professor of Clinical Pediatrics (primary appointment)  
MD Washington Univ in St. Louis 1999  
BS Brown University 1995

Kristine M Wylie, PHD  
Assistant Professor of Pediatrics (primary appointment)  
BA Southern Ill Univ Edwardsville 1996  
PHD Saint Louis University 2009

Todd N Wylie  
Assistant Professor of Pediatrics (primary appointment)  
BS Southern Ill Univ Edwardsville 1995

Christina Marie Yadao  
Instructor in Clinical Pediatrics (primary appointment)  
MD School Not Listed 1979

Mona Yassin, MD  
Instructor in Clinical Pediatrics (primary appointment)  
MD Washington Univ in St. Louis 1995

Julia Catherine Young  
Instructor in Clinical Pediatrics (primary appointment)  
Cecilia H Yu  
Assistant Professor of Clinical Pediatrics (primary appointment)  
Craig Mitchell Zaidman  
Associate Professor of Neurology (primary appointment)  
Assistant Professor of Pediatrics

John M Zempel, MD, PHD  
Associate Professor of Neurology (primary appointment)  
Associate Professor of Pediatrics  
MD Washington Univ in St. Louis 1995
Department of Psychiatry

Instruction in psychiatry is given during the second, third and fourth years of the medical curriculum. Emphasis is on the teaching of psychiatry as a medical discipline, including the biological, social and psychological mechanisms and manifestations of psychiatric illness, as well as psychological reactions to other illnesses. Psychiatric disorders are common and disabling illnesses. An explosion of knowledge resulting from research in neuroscience, genetics and epidemiology is leading to exciting advances in understanding and treating these disorders. Our department is heavily involved in this research, and our didactic curriculum integrates current clinical information with research advances to help students develop the knowledge, skills and attitudes to recognize these illnesses and understand the basic principles of treatment.

William Greenleaf Eliot Division of Child Psychiatry

The Division of Child Psychiatry offers a varied teaching program for medical students, residents in psychiatry and fellows at St. Louis Children’s Hospital and the Child Psychiatry Center. The center provides outpatient services to children with an array of mental disorders. Trainees are assigned to these various services, where they participate in diagnostic evaluations and see patients in treatment, under supervision.
of a fellow and attending physician.

For more information

Please visit the Department of Psychiatry website for more information.

MD Courses — Psychiatry

Second year

M85 676A DISEASES OF THE NERVOUS SYSTEM: PSYCHIATRY
Instructor: Marcie Garland, MD  314-362-2432
This course emphasizes the diagnosis of major psychiatric illnesses in adults and children. Psychiatric diseases are described in terms of epidemiology, clinical presentation, natural history, genetics, differential diagnosis and clinical management. Interviewing techniques and performance of the mental status exam will be demonstrated by patient interviews.

Third year

M85 770 PSYCHIATRY CLERKSHIP
Instructor(s): Brendan O'Connor, MD, 362-2469
During this 4-week rotation, students will further enhance their understanding of psychiatric disorders and develop necessary clinical skills through active participation in the evaluation and treatment of psychiatric patients under the supervision of resident and attending physicians, teaching conferences and lectures, and other assigned learning experiences and educational requirements. The primary experience will be in inpatient adult psychiatry; however there will also be variety experiences in outpatient settings and with the electroconvulsive therapy (ECT) service.
M85 771 AMBULATORY CLERKSHIP: PSYCHIATRY FOR GENERALISTS
Instructor(s): Brendan O'Connor, MD, 362-2469
Students may elect to pursue their ambulatory medicine selective through the
Department of Psychiatry. This rotation is intended to provide clinical experience in
Psychiatry relevant to other medical fields, including Internal Medicine and Pediatrics.
Students may request experience in psychiatry consult-liaison, outpatient adult
psychiatry, outpatient child and adolescent psychiatry, and/or addiction psychiatry.

Fourth year

Electives

M85 805 / PSYCHIATRY CONSULT SERVICE
Instructor(s): Fay Y. Womer, MD, 314-362-2469
Location: Barnes-Jewish Hospital
Elective Contact: Fay Y. Womer, 314-362-2469

Other Information: Students should report to Renard Building 4410 at 8:00 a.m. first
day. Tammie Repko is available in Renard 4408 and can be reached at 314-362-2469
for any questions or issues.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and
41.

Students will participate in the evaluation and treatment of patients referred to the
psychiatry consult service. They will attend departmental conferences and other
educational sessions.

Student time distribution: Inpatient 90%; Conferences/Lectures 10%; Subspecialty Care
100%
Major teaching responsibility: Attending psychiatrist and psychiatry residents
Patients seen/weekly: 5-10
On call/weekend responsibility: None
M85 810 / OUTPATIENT COMMUNITY PSYCHIATRY
Instructor(s): Aninkunle Owoso, MD
Location: The Psychiatry Clinic and community sites
Elective Contact: Patricia Sharp, 314-362-1251

Other Information: Please e-mail one month prior to the elective to arrange meeting time and place.
Enrollment limit per period: minimum 2; maximum 3.
Valid start weeks for four-week blocks are: Weeks 9 and 13

This is a flexible clerkship where effort is made to tailor the activities to the students’ interests. Students will assist in diagnosis and treatment of adult psychiatric clinic patients. The patients present with a wide variety of psychological and interpersonal problems, as encountered in an everyday office practice. In this setting, the student will have the opportunity to learn a variety of treatment techniques under supervision.

Student time distribution: Outpatient 80%; Conferences/Lectures 20%; Subspecialty Care 100%
Major teaching responsibility: Attending Psychiatrist and psychiatry residents
Patients seen/weekly: 20
On call/weekend responsibility: None

M85 836 / CLINICAL PSYCHIATRY – INPATIENT PSYCHIATRIC SERVICE
Instructor(s): Michael Jarvis, MD, PhD, 314-362-1816
Location: Barnes-Jewish South
Elective Contact: Michael Jarvis, MD, PhD, 314-362-1816

Other Information: Contact Cindy Bander prior to first day of elective at 314-362-1816.
Enrollment limit per period: 3
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This is a senior rotation that provides the students with an opportunity to expand their
knowledge of inpatient clinical psychiatry by functioning as interns. Students attend all staffing and teaching conferences given to first-year psychiatry residents, take patients in rotation, and share night call with first-year residents approximately every fifth night.

Immediate supervision is provided by the inpatient attending, and additional supervision can be arranged as desired. Teaching emphasis is directed toward psychiatric diagnosis, appropriate use of psychopharmacologic agents, psychotherapeutic intervention, use of community resources and pursuit of the psychiatric scientific literature. The student will write a self selected clinical topic relevant to treatment and management of psychiatric inpatients.

Student time distribution: Inpatient 85%; Conferences/Lectures 15%
Major teaching responsibility: Clinical attending, teaching attendings and residents
Patients seen/weekly: 5-15
On call/weekend responsibility: Every fifth night

**M85 840 / CHILD PSYCHIATRY**

Instructor(s): Anne Glowinski, MD, 314-286-2217
Location: Montclair Building, 24 S. Kingshighway, Outpatient Psychiatry Clinic
Elective Contact: Brigitte Northrop, MD, 314-286-2217

Other Information: Interested students should contact Dr. Anne Glowinski at 314-286-2217 in the Department of Psychiatry.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 9, 13, 17, 21, 25, 29, 33, 37, and 41 or contact Dr. Glowinski for modifications.

This elective in child psychiatry utilizes the Child Psychiatry Outpatient Clinic and the consult-liason service at St. Louis Children’s Hospital. It provides experience in age-appropriate diagnostic and treatment methods in children and adolescents. A paper on topic of student's choosing is required.
Student time distribution: Outpatient 75%; Conferences/Lectures 25%; Subspecialty Care 100%
Major teaching responsibility: Attendings and fellows
Patients seen/weekly: 15-20
On call/weekend responsibility: No, but can shadow fellow during call if requested by student

M85 844 / FORENSIC PSYCHIATRY
Instructor(s): Michael R. Jarvis, MD, PhD
Location: Barnes-Jewish Hospital Plaza, West Pavilion, Suite 15430
Elective Contact: Cindy Bander, 314-362-1816, banderc@wustl.edu

Other Information: Students should report to Barnes-Jewish Hospital Plaza, West Pavilion, Suite 15430, at 9:00 a.m. on the first day of the elective.
Enrollment limit per period: 1
Valid starting weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The medical student will be actively involved in many aspects of forensic psychiatry including civil litigation, workman's compensation, malpractice, civil commitment, and guardianship. There may be opportunities to be involved in criminal forensic issues. The student will work with Drs. Jarvis, Harbit, and Garland, within the Department of Psychiatry but will primarily meet with Dr. Jarvis a minimum of 2 hours a week. They will also work with The BJH Manager of Case Management and The City of St Louis Probate Court. The student will also be assigned readings of landmark case, textbooks, psychiatric expert opinions, legal filing with the probate court and attend civil hearings.

The student will learn relevant criminal statutes regarding competency and civil commitment, causation in civil litigation, the concept of medical malpractice and risk assessment of violence and suicide. There may be the opportunity to witness sexually violent predator evaluations and/or treatment. The student will be required to research and write an opinion on a specific approved topic in forensic psychiatry. The
objectives will be measured by attendance and by formal evaluation of the student’s participation and knowledge during the supervision discussion. It will also be determined by the originality, thoroughness and quality of the research paper.

Student time distribution: Inpatient 50%; Conferences/Lectures 50%
Major teaching responsibility: Dr. Jarvis, Dr. Harbit, Dr. Garland, Jim Hoerchler, Lisa Johnson, St. Louis Probate Court
Patients seen/weekly: No active patient treatment
On call/weekend responsibility: None

M85 855 / INTRODUCTION TO EATING DISORDERS
Instructor(s): Kimberli McCallum, MD, 314-968-1900, ext. 111
Location: 231 W. Lockwood Ave., Suite 201, St. Louis, MO 63119
Elective Contact: Kimberli McCallum, MD, 314-968-1900 ext. 111

Other Information: Students report to Dr. McCallum’s office, 231 W. Lockwood Ave., Suite 201, St. Louis, MO 63119, 9:00 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 9, 13, 21, 29, and 33

Students will learn the basics of assessment, participate in groups that focus on family education, gain experience in interdisciplinary psychiatric team work, attend case discussions with psychiatrists, and participate in treatment planning. Students will be able to describe core symptoms, recommend treatment options, and discuss the medical, nutritional, and psychiatric components of treatment.

Student time distribution: Inpatient 80%; Day Program 10%; Conferences/Lectures 10%; Primary Care 20%; Subspecialty Care 80%
Major teaching responsibility: Kimberli McCallum, M.D.
Patients seen/weekly: 5
On call/weekend responsibility: Second Saturday of each month

M85 870 / PSYCHIATRIC ONCOLOGY
Instructor(s): Monica Bishop, MD, 314-362-2469, and Eugene Rubin, MD
Location: Center for Outpatient Health (COH), Suite 441
Elective Contact: Cristina Gonzalez, 314-362-8251

Other Information: Students should contact Cristina Gonzalez at 314-362-8251, prior to the first day to coordinate meeting time/place.
Enrollment limit per period: 3
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This elective will provide additional training related to consultation-liaison psychiatry with a special emphasis on caring for patients with cancer. The Institute of Medicine has identified the need to increase the availability of psychiatric services in the setting of cancer treatment, and this elective will allow students to gain additional experience working with inpatients and outpatients receiving treatment at Siteman Cancer Center. This elective will allow students to learn about the management of end of life issues, and experience the satisfaction of providing comfort to patients and families via psychotherapy and pharmacology. Opportunities also exist to focus on specific conditions, such as gynecological cancers. Dr. Bishop and Marty Clarke, PhD, PA-C will directly supervise students providing a unique opportunity for individualized teaching and autonomy.

Student time distribution: Inpatient 60%; Outpatient, 30%; Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: The attending on the rotation
Patients seen/weekly: 12
On call/weekend responsibility: None

M85 880 / SCHIZOPHRENIA PRECURSORS & PRODROMAL STATES
Instructor(s): Angela M. Reiersen, MD, 314-747-6793
Location: Dr. Reiersen’s office at East Building Suite 1153-Room B, and the Washington University Child Psychiatry Clinic at 4444 Forest Park Blvd., Suite 2600.
Elective Contact: Angela M. Reiersen, MD, 314-747-6793, reiersea@wustl.edu
Other Information: Students should contact Dr. Reiersen via email 1-2 weeks prior to rotation to confirm schedule and obtain some preparatory reading materials.

Enrollment limit per period: 1

Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This is an opportunity for trainees to gain experience in the evaluation of children and adolescents who may be at high risk for schizophrenia. The rotation would center around the “First Contact Assessment Service”, which evaluates patients who show characteristics suggestive of prodromal schizophrenia (such as new-onset attenuated psychotic symptoms along with recent deterioration in functioning) and/or early life characteristics that may indicate risk for developing schizophrenia later in life (for example, nonspecific social/emotional/behavioral symptoms in a child/adolescent with a strong family history of schizophrenia.). Since the full symptoms of schizophrenia are often preceded by a wide range of childhood behavioral & developmental abnormalities, this rotation would also help trainees integrate information regarding the continuity between childhood development and adult psychopathology. Trainee would observe all aspects of First Contact evaluations (including semi-structured diagnostic interviews & examination of subtle neurological signs), participate in case discussions, and observe follow-up consultations involving patients with psychotic and/or complex neurodevelopmental disorders. Trainee would also be required to write a literature review on a topic relevant to the rotation.

Student time distribution: Outpatient 50%; Conferences/Lectures 50%; Subspecialty Care 100%

Major teaching responsibility: Coursemaster (psychiatry attending)

Patients seen/weekly: 2 (possibly more if enrolled during summer months)

On call/weekend responsibility: None

**M85 889 / INTERVENTIONAL PSYCHIATRY**

Instructor(s): Charles Conway, MD; Donald Bohnencamp, MD; Pilar Cristancho, MD, Nuri Farber, MD; Michael Jarvis, PhD, MD; Yvette Sheline MD; Dragan Svrakic PhD, MD; Charles Zorumski, MD; and ECT staff
Location: Barnes-Jewish Hospital, South Campus
Elective Contact: Charles Conway, MD, 314-362-1816

Other Information: Students should call Cindy Bander 314-362-1816 prior to scheduling the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Interventional Psychiatry involves the application of ECT (Electroconvulsive Therapy), rTMS (Repetitive Transcranial Magnetic Stimulation) and VNS (Vagus Nerve Stimulation) in the treatment of medication-resistant psychiatric illness. The student will participate in the evaluations of patients referred to the Treatment Resistant Depression Clinic supervised by Dr. Charles Conway. The student will be involved in the neuropsychiatric assessment of patients referred for ECT. In addition, the student will receive training in the application of ECT and in the clinical management of patients receiving inpatient and outpatient ECT. As cases become available, the student will be involved in rTMS and VNS evaluations and treatment. The student will be encouraged to review appropriate literature and make clinically relevant case-oriented presentations. The student will be expected to write a review of a self-selected clinic topic relevant to interventional psychiatry.

As advances in the field occur, the rotation may also involve exposure to individuals receiving other modalities of intervention, including deep brain stimulation (DBS) and magnetic seizure therapy (MST).

Student time distribution: Inpatient 70%; Outpatient 20%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Charles Conway, MD
 Patients seen/weekly: 20
On call/weekend responsibility: None
This Research Elective is intended for students interested in cognitive neuroscience, biological psychology, psychophysiology, and behavior genetics in relation to psychopathology. Dr. Anokhin’s laboratory is investigating relationships between genes, brain, and behavior in order to better understand complex etiology of mental disorders. Our main focus is on “externalizing” spectrum of psychopathology characterized by deficits in inhibitory self-regulation including ADHD, conduct disorder, and addictive behaviors. We are particularly interested in the intermediate phenotypes, or “endophenotypes”, mediating genetic risk for addiction such as impulsivity, risk taking, and abnormal affective processing of social-emotional information. In our laboratory-based studies with human volunteers, including twins, we investigate individual differences in brain activity using the recording of brain oscillation (event-related brain potentials, or ERPs) during the performance of different behavioral tasks. A subsample of our twin subjects also undergoes functional magnetic resonance imaging (fMRI) scanning. Other assessments used in the lab include psychiatric diagnostic interviews, personality questionnaires, neuropsychological tests, and collection of DNA samples. For example, an ongoing longitudinal study of adolescent twins explores developmental trajectories and genetic determinants of brain activity related to inhibitory control of behavior and processing of emotional information in order to identify prospective predictors of substance abuse and associated behavioral problems. Another twin study investigates the consequences of heavy drinking during adolescence by comparing neurocognitive functioning in twins who are discordant for heavy drinking. Interested students will be
able to learn a variety of methods used in these studies, such as the recording and analysis of brain oscillations, event-related neural dynamics, startle response, and autonomic measures, administration of neuropsychological and behavioral tests, and statistical analysis of data. Format of this research elective may include: (1) directed reading; (2) participation in laboratory experiments involving human subjects; (3) analysis of existing data from various research projects; (4) designing and piloting new behavioral tests and ERP experiments. Qualifications: Reliability and responsibility, ability to commit specified amount of time per week and work on schedule which can be negotiated on an individual basis, and good computer skills.

Deanna M Barch, PhD – Cognitive and Affective Neuroscience of Schizophrenia and Depression
6612 Renard Hospital
314-747-2160
Students may participate in the conduct of clinical studies of schizophrenia and depression. Involvement in clinical studies can include training and experience in interviewing psychiatric patients, or gaining experience in the techniques of assessing cognitive and emotional function using behavioral and brain imaging methods.

Laura Jean Bierut, MD
Maternity Building
314-362-2544
This research elective will focus on analyzing data from high-risk studies of smoking and other addictions. Students will have the opportunity to examine genetic and environmental factors that place some at risk for developing nicotine, alcohol and other substance dependence and protect others from the development of these disorders.

Kevin J. Black, MD
4525 Scott Ave, Room 2106
314-362-5041
Kevin@wustl.edu
Students will participate in ongoing studies of brain imaging, movement disorders or
neuropsychiatric illnesses. Degree of participation will relate to the student’s available research time, skills, and interest. See www.nil.wustl.edu/labs/kevin for examples of past research.

Alison Goate, DPhil – Genetic Studies of Alzheimer’s Disease
9th Floor, BJH – 1H Building
314-362-8691
Studies can involve laboratory-based projects on the genetics or cell biology of Alzheimer’s disease or clinical studies involving the collection of data through telephone or personal interview of individuals with a family history of dementia.

Ginger E. Nicol, MD
4412 Renard Building
314-362-5939
Clinical research concerning metabolism and the regulation of weight and body composition in persons with mental illness, particularly during exposure to psychotropic medications. Additional projects include 1) participation in the conduct and interpretation of results from gold standard metabolic assessments in mentally ill individuals within the context of a clinical trial 2) participation in clinical studies testing the effectiveness of behavioral and medical interventions for weight loss in youth and adults 3) learning how clinical and administrative data can be used to characterize and examine psychotropic prescribing and metabolic monitoring trends in antipsychotic-treated individuals 4) learning to evaluate the cost effectiveness of various clinical approaches to the management of weight problems and metabolic risk conditions in mentally ill individuals using decision analytic techniques, and 5) participation in the development, implementation and effectiveness testing of patient safety and quality improvement (PSQI) interventions in mentally ill obese patients in Wash U outpatient psychiatry clinic settings. This elective offers the student a broad exposure to clinical research protocols, including protocols in adults and children. Students will have an opportunity to focus on a particular project of interest.

Psychiatric and Behavioral Health Sciences Concentration
Courses are held at the Institute for Public Health TAB Bldg. The Psychiatric and Behavioral Health Sciences Concentration, an integral component of the Master of Population Health Sciences (MPHS) accredited in WUSM and taught by Psychiatry faculty members, provides clinician-researchers, postdoctoral fellows, and advanced medical and other graduate students with strong conceptual and methodological skills required for the design, advanced analysis and interpretation of epidemiological and treatment-effectiveness studies. With an emphasis on a clinical approach to psychiatric and addiction health research, didactic training focuses on in-depth understanding of disease phenotypes, pathobiology and developmental trajectories; understanding the underlying biological and environmental factors and their interactions; understanding the role of psychiatric epidemiology in disease prevention and intervention; and evaluating psychiatric clinical treatment and management programs of psychopathology. A fellow/student has an option of applying for a MPHS degree program or taking appropriate courses as part of his/her training or academic program. A total of 18 credits are needed for this Concentration for a matriculated student. Currently available courses include: (1) Epidemiology of Psychiatric Disorders across the Lifespan (M19-561; Course master, A. Glowinski, MD; 3 credits): This course takes an integrated developmental approach to the epidemiology, etiology and evolving nosology of psychiatric disorders. (2) Addictions and Addictive Behaviors (M19-562; Course master, R. Grucza; 3 credits): This course provides an overview of the principles of substance-related addictions and the processes and mechanisms that underlie addiction. Fellows/students are introduced to the epidemiology and developmental course of addiction, risk and protective influences that act on the course of addiction and its adverse health consequences. (3) Global Burden of Diseases: (M19-5656/S55-4003; Course master, RK Price; 3 credits): This course provides an overview of the current methods and research applications for studying global burden of medical and psychiatric diseases from a multidisciplinary perspective.
In addition to understanding and applying the current and advanced methodology used in studying global burden of diseases, fellow and students will learn the updated knowledge of communicable and non-communicable chronic diseases including psychiatric and addiction diseases.

Rumi Kato Price, PhD, MPE
4560 Clayton Rd., CID Bldg.
314-286-2282

Medical and graduate students, postdoctoral and clinical fellows will work closely with Dr. Price and her collaborators on ongoing research projects in psychiatric epidemiology, substance abuse, and prevention in the community research context. The current projects include: implementation of a sensor- and smartphone-based technology to monitor and manage post-traumatic stress disorder (PTSD) and anxiety disorder symptoms; and epidemiology and clinical studies of human trafficking in the St. Louis region and more globally. We work closely with the Institute for Public Health and collaborate on a wide range of topics related to human trafficking with multidisciplinary faculty (computer sciences, biomedical engineering, social work, nursing, women's studies, and international studies) as well as with community leaders. New technologies are introduced as they fit to specific aims. Secondary analysis studies can be arranged using archived data files. Private-domain data files include: a longitudinal study assessing the impact of war experience and trauma spectrum disorders and health services utilization on National Guard service members and their families deployment to Iraq and Afghanistan; and 30-year longitudinal study series assessing the impact of drug abuse and war trauma, PTSD and suicidality. Several public domain large general population data files are also accessible.

NOTE TO STUDENTS: There are always a number of research projects in the Department of Psychiatry. For additional information contact Dr. Rubin, 314-362-2462.
Faculty — Psychiatry

Charles F Zorumski, Samuel B. Guze Professor of Psychiatry (primary appointment)
Professor of Neuroscience
Head of the Department of Psychiatry
BA Saint Louis University 1974

Arpana Agrawal, PHD, Associate Professor of Psychiatry (primary appointment)
PHD Virginia Comm University 2004

Aqeeb Ahmad, Instructor in Clinical Psychiatry (primary appointment)

Dale J Anderson, MD, Instructor in Clinical Psychiatry (primary appointment)
MD Washington Univ in St. Louis 1978

Richard H Anderson, Instructor in Clinical Psychiatry (primary appointment)

Andrey P Anokhin, PHD, MS, Associate Professor of Psychiatry (primary appointment)
PHD Russia Academy of Science 1987
MS Moscow State University 1981

Scott J Arbaugh, MD, Instructor in Clinical Psychiatry (primary appointment)
MD Saint Louis University 1985
BA Saint Louis University 1980

Ahmad Beheshti Ardekani, MD, Assistant Professor of Clinical Psychiatry (primary appointment)
MD School Not Listed 1974

Victoria Brooke Ayden, Assistant Professor of Psychiatry (Child Psychiatry) (primary appointment)
BS Northwestern University 1996

Naazia H Azhar, Instructor in Psychiatry (primary appointment)

Michael Roman Banton, MD, Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)
MD Saint Louis University 1985

Vadim Baram, Instructor in Clinical Psychiatry (primary appointment)

Ronald Beach, Instructor in Clinical Psychiatry (primary appointment)

Andrew Curry Belden, PHD, Assistant Professor of Psychiatry (primary appointment)
BS University of MO Columbia 2000

Savita Bhat, MS, Instructor in Clinical Psychiatry (primary appointment)
MS1 School Not Listed 1989
MS St Xavier’s College 1980

Laura J Bierut, Alumni Endowed Professor of Psychiatry (primary appointment)
BA Harvard University 1982

Monica E. Bishop, Associate Professor of Psychiatry (primary appointment)

Kevin J. Black, MD, Professor of Psychiatry (primary appointment)
Professor of Radiology
Professor of Neurology
Professor of Neuroscience
MD Duke University 1990
BS Brigham Young University 1986

Adam J. Bloom, PHD, Assistant Professor of Psychiatry (primary appointment)
Assistant Professor of Anesthesiology
PHD Washington Univ in St. Louis 2006
Donald David Bohnenkamp, MD
Assistant Professor of Psychiatry (primary appointment)
BS Saint Louis University 2003
MD Univ of Nebraska Med Center 2007
Kelly N Botteron, MD
Professor of Psychiatry (Child Psychiatry) (primary appointment)
Professor of Radiology
BA University of Kansas 1984
MD University of Kansas Medical 1988
Susan Kathleen Boyer, MD
Instructor in Clinical Psychiatry (primary appointment)
BA Rockhurst College 1988
MD University of Missouri 1993
Robert Harry Brady, MD
Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)
Adjunct Instructor in Psychiatry (Child Psychiatry)
MD Tufts University 1995
BS University of Notre Dame 1988
Peter Anthony Brawer, MA
Instructor in Clinical Psychiatry (primary appointment)
MA Loyola College 1999
BS University of Scranton 1997
Steven E. Bruce, PHD
Visiting Assistant Professor of Psychiatry (primary appointment)
BA Virginia Tech 1992
PHD Virginia Comm University 1998
Tony Wayne Buchanan, MA, PHD
Adjunct Asst Professor of Psychiatry (primary appointment)
MA University of Oklahoma 1998
PHD University of Oklahoma 2000
BA Southern Nazarene University 1995
Kathleen K Bucholz, PHD, MS
Professor of Psychiatry (primary appointment)
PHD Yale University 1986
BA Yale University 1972
MS Yale University 1976
MS1 Yale University 1982
Joan Rachel Butcher
Instructor in Clinical Psychiatry (primary appointment)
James Byrd, MD
Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)
MD School Not Listed 1991
BS Southeast Missouri St Univers 1987
Joshua W. Calhoun, MD
Instructor in Clinical Psychiatry (Child) (primary appointment)
MD University of Connecticut 1982
BS Yale University 1978
Wilma J. Calvert, PHD, BN
Adjunct Instructor in Psychiatry (primary appointment)
PHD University of Missouri 2002
BN Oral Roberts University 1981
Robert Michael Carney, PHD
Professor of Psychiatry (primary appointment)
Professor of Psychological & Brain Sciences
PHD Washington Univ in St. Louis 1978
BA University of MO Columbia 1969
Patricia A Cavazos-Rehg, PHD
Associate Professor of Psychiatry (primary appointment)
BA University Texas San Antonio 1998
PHD State University of New York 2004
Mina Charepoo  
Instructor in Psychiatry (Pending Dean's Approval) (primary appointment)
Li-Shiun Chen, M PH, PHS, MD  
Assistant Professor of Psychiatry (primary appointment)
M PH Johns Hopkins University 1995
PHS Johns Hopkins University 1998
MD National Taiwan University 1993
Zhoufeng Chen  
Professor of Anesthesiology (primary appointment)
M PH John Hopkins University 1995
PHS Johns Hopkins University 1998
MD National Taiwan University 1993

Andrew Chirchirillo, PHD  
Instructor in Clinical Psychiatry (Child) (primary appointment)
BA Illinois State University 1973
PHD University of MO St Louis 1981
Theodore J Cicero, MS, PHD  
John P Feighner Professor of Psychiatry (primary appointment)
Vice Chairman for Research, Department of Psychiatry
Professor of Neuroscience
MS Purdue University 1966
BS Villanova University 1964
PHD Purdue University 1969
Andrew Chirchirillo, PHD  
Instructor in Clinical Psychiatry (Child) (primary appointment)
BA Illinois State University 1973
PHD University of MO St Louis 1981
Theodore J Cicero, MS, PHD  
John P Feighner Professor of Psychiatry (primary appointment)
Vice Chairman for Research, Department of Psychiatry
Professor of Neuroscience
MS Purdue University 1966
BS Villanova University 1964
PHD Purdue University 1969
Martin J Clarke, MA, MS, PHD  
Assistant Professor of Psychiatry (primary appointment)
MA Fielding Institute 2005
MS National Louis University 1997
BS Saint Louis University 1981
PHD Fielding Institute 2011
William W Clendenin, MD  
Assistant Professor of Clinical Psychiatry (primary appointment)
MD University of Tennessee 1963
C. Robert Cloninger, MD  
Wallace Renard Professor of Psychiatry (primary appointment)
Professor of Psychiatry
Professor of Psychological & Brain Sciences
Professor of Genetics
BA University of Texas Austin 1966
MD Washington Univ in St. Louis 1983
David M Conner, MD  
Instructor in Clinical Psychiatry (primary appointment)
MD University of Oklahoma 1983
John Nicholas Constantino  
Blanche F Ittleson Professor of Psychiatry (Child Psychiatry) (primary appointment)
Professor of Pediatrics
BA Cornell University 1984
Charles Richard Conway, MD  
Professor of Psychiatry (primary appointment)
MD University of Missouri Columbi 1995
Linda B Cottler, PHD, M PH  
Adjunct Professor of Psychiatry (primary appointment)
Adjunct Professor of Anthropology
BA Emmanuel College 1977
PHD Washington Univ in St. Louis 1987
M PH Boston University 1980
Douglas Floyd Covey, MA  
Professor of Pharmacology in Developmental Biology (primary appointment)
Professor of Anesthesiology
Professor of Psychiatry
BS Loyola College 1967
MA Johns Hopkins University 1969
Lucia del Pilar Cristancho Pimiento Assistant Professor of Psychiatry (primary appointment)
Jack L Croughan, MD Associate Professor of Clinical Psychiatry (primary appointment)
BA University of Kansas 1964
MD University of Kansas Medical 1968
Carlos Cruchaga Associate Professor of Psychiatry (primary appointment)
Associate Professor of Neurology
Alejandro M Datuin, MD, AA Assistant Professor of Clinical Psychiatry (On Staff at Malcolm Bliss Mental Health Center) (primary appointment)
MD University of Santo Tomas 1956
AA University of Santo Tomas 1951
Mary A Davis, MD Assistant Professor Emeritus of Clinical Psychiatry (primary appointment)
Asst Prof Emeritus of Clinical Psychiatry (primary appointment)
BA Ohio State University 1947
MD Washington Univ in St. Louis 1952
Jon Todd Dean, MD Instructor in Clinical Psychiatry (primary appointment)
BA University of Texas Austin 1982
MD University of Texas Austin 1987
Paul Dewald, MD Assistant Professor of Clinical Psychiatry (primary appointment)
MD University of Rochester 1945
BA Swarthmore College 1942
Plaridel C Deza, MD Assistant Professor of Clinical Psychiatry (On Staff at Malcolm Bliss Mental Health Center) (primary appointment)
MD University of Santo Tomas 1956
Carie Kollmeyer Dinehart, MD Instructor in Clinical Psychiatry (primary appointment)
BA Saint Louis University 1999
MD Saint Louis University 2003
Joseph D Dougherty, PHD Assistant Professor of Genetics (primary appointment)
Assistant Professor of Psychiatry
BS Truman State University 1999
PHD University of California 2005
James Earl Edwards, MD Assistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)
MD University of Tennessee 1962
BA University of Tennessee 1959
Sarah Ann Eisenstein, PHD Assistant Professor of Psychiatry (primary appointment)
Assistant Professor of Radiology
PHD University of Georgia 2008
Nuri Bradford Farber, MD Professor of Psychiatry (primary appointment)
BA Washington Univ in St. Louis 1985
MD Washington Univ in St. Louis 1989
Beverly J. Field, PHD, B MUS Associate Professor of Anesthesiology (primary appointment)
Associate Professor of Psychiatry
BA University of MO Columbia 1987
PHD Washington Univ in St. Louis 1993
B MUS Southern Illinois University 1972
Robert T. Fitzgerald, MS Instructor in Psychiatry (Child) (primary appointment)
BS Abilene Christian University 1998
Ellen E Fitzsimmons-Craft, MS PSYC, PSYD
Instructor in Psychiatry (primary appointment)
MS Saint Louis University 2000
MS PSYC University North Carolina 2010
PSYD University North Carolina 2014
BS1 University of Notre Dame 2008

Cynthia Florin, MD
Instructor in Clinical Psychiatry (primary appointment)
MD Columbia University 1984
BS Grinnell College 1976

Kenneth E Freedland
Professor of Psychiatry (primary appointment)
Professor of Psychological & Brain Sciences
BS University of Oregon 1975

Darrin Friesen, MD
Instructor in Clinical Psychiatry (primary appointment)
MD Washington Univ in St. Louis 1996
BA School Not Listed 1990

Lara A Fuchs
Instructor in Clinical Psychiatry (primary appointment)

Michael S Gaffrey, PHD
Assistant Professor of Psychiatry (primary appointment)
PHD Univ of Wisconsin Milwaukee 2009

Nick S. Garg
Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)

Marcie Epstein Garland, MD
Assistant Professor of Psychiatry (primary appointment)
MD University of MO Kansas City 2008
BA University of MO Kansas City 2008

Dawn Lee Garzon
Adjunct Instructor in Psychiatry (primary appointment)

Fred W Gaskin
Associate Professor of Clinical Psychiatry (primary appointment)
BS University of Minnesota 1964

Luis Giuffra, MS, PHD
Professor of Clinical Psychiatry (primary appointment)
MS School Not Listed 1985
PHD Yale University 1991
BS School Not Listed 1983

Paul E Glaser, PHD, MD
Professor of Psychiatry (Child Psychiatry) (primary appointment)
PHD Washington Univ in St. Louis 1996
MD Washington Univ in St. Louis 1996
MS1 University of Illinois Chicago 1986
BS1 University of Illinois Chicago 1986

Anne L Glowinski, MS, MD
Professor of Psychiatry (Child Psychiatry) (primary appointment)
BS University of Houston 1988
MS Washington Univ in St. Louis 2001
MD Baylor University 1992

Mark Gold, MD
Adjunct Professor of Psychiatry (primary appointment)
MD University of Florida 1975

David Goldmeier, MD
Instructor in Clinical Psychiatry (primary appointment)
BA Dartmouth College 1978
MD Washington Univ in St. Louis 1982

Julia D. Grant, PHD, MA
Associate Professor of Psychiatry (primary appointment)
PHD Pennsylvania State University 1997
BA Davidson College 1989
MA Wake Forest University 1993

Deanna Greene, PHD, MS
Assistant Professor of Psychiatry (primary appointment)
Assistant Professor of Radiology
Richard Grucza, MS, PHD
Associate Professor of Psychiatry (primary appointment)
BY University of CA San Diego 2003
MS University of CA Los Angeles 2006

Dong Hyun Han
Visiting Instructor in Psychiatry (primary appointment)

Oscar Marcos Harari, PHD, MA
Assistant Professor of Psychiatry (Pending Executive Faculty Approval) (primary appointment)
MS Pennsylvania State University 1991
PHD Washington Univ in St. Louis 2000
BS Rochester Institute of Techno 1989

Melissa A. Harbit, MD
Associate Professor of Psychiatry (primary appointment)
MD University of Iowa 1997
BS University of Iowa 1993

Michael P. Harms
Assistant Professor of Psychiatry (primary appointment)

Dehra Anne Harris, MD
Assistant Professor of Psychiatry (Child Psychiatry) (primary appointment)
MD University of Arkansas 2000
BS Washington Univ in St. Louis 1996

Sarah McConnell Hartz, MD
Assistant Professor of Psychiatry (primary appointment)
BA Knox College 1996
MD University of Iowa 2005
PHD University of Illinois 2002

Steven Arthur Harvey, MD
Instructor in Clinical Psychiatry (primary appointment)
BA Washington Univ in St. Louis 1988
MD Washington Univ in St. Louis 1992

Andrew C Heath, PHD
Spencer T. Olin Professor of Psychology in Psychiatry (primary appointment)
Associate Professor of Psychological & Brain Sciences
Professor of Genetics
PHD Oxford University 1983

Celeste Eileen Herleth
Instructor in Psychiatry (primary appointment)
BA1 Loyola University 2005

Tamara G Hershey
Professor of Psychiatry (primary appointment)
Adjunct Professor of Psychological & Brain Sciences (Courtesy)
Professor of Neurology
Professor of Radiology
BA Earlham College 1988

Frederick G Hicks
Assistant Professor of Clinical Psychiatry (primary appointment)

Joshua Wade Hogins
Instructor in Clinical Psychiatry (primary appointment)

Sheldon G Holstad, PHD, PHS
Assistant Professor of Clinical Pharmacy in Psychiatry (On Staff at Jewish Hospital and St Louis College of Pharmacy) (primary appointment)

Barry Allen Hong, MD
Professor of Psychiatry (primary appointment)
Professor of Psychological & Brain Sciences
Vice Chairman for Clinical Affairs, Department of Psychiatry
Professor of Medicine
BA Concordia University 1969
MDI Concordia University 1972
Linda S Horne, MD Instructor in Clinical Psychiatry (primary appointment)
MD Ohio State University 1986
James J Hudziak Adjunct Professor of Psychiatry (primary appointment)
Yukitoshi Izumi Professor of Psychiatry (primary appointment)
Aleksandar Janca, MD Adjunct Professor of Psychiatry (primary appointment)
MD School Not Listed
Michael R Jarvis, MD Professor of Psychiatry (primary appointment)
Vice Chairman for Clinical Affairs, Department of Psychiatry
MD Washington Univ in St. Louis 1985
Mark C. Johnson Associate Professor of Clinical Psychiatry (primary appointment)
La Rhonda Jones Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)
Wajiha Parveen Karatela Instructor in Clinical Psychiatry (Child) (primary appointment)
Celeste Marie Karch Assistant Professor of Psychiatry (primary appointment)
Saaid Khojasteh, MD Assistant Professor of Clinical Psychiatry (primary appointment)
MD School Not Listed 1981
Neha Navsaria Kirtane, PHD, MA Assistant Professor of Psychiatry (primary appointment)
PHD Temple University 2008
MA Columbia University 2003
BA Bryn Mawr College 1999
Valerie S. Knopik, MA, PHD Adjunct Assistant Professor of Psychiatry (primary appointment)
MA University of Colorado Boulder 1998
BA Wesleyan College 1994
PHD University of Colorado Boulder 2000
Sara L Kornfield, PHD Assistant Professor of Psychiatry (primary appointment)
PHD Drexel University 2010
BA Columbia University 2003
Maria Kovacs Visiting Professor of Psychiatry (primary appointment)
Suzanne Nicole L'Ecuyer, MD Instructor in Psychiatry (primary appointment)
MD University of Louisville 2016
Eric J Lenze, MD Professor of Psychiatry (primary appointment)
MD Washington Univ in St. Louis 1994
Shannon N Lenze, PHD, MA Assistant Professor of Psychiatry (primary appointment)
PHD University of Pittsburgh 2007
MA University of Pittsburgh 2003
F. Timothy Leonberger, PHD, MS Instructor in Clinical Medical Psychology in Psychiatry (On Staff at Malcolm Bliss Mental Health Center) (primary appointment)
BA University of Illinois 1977
PHD Univ of Southern Mississippi 1986
MS Louisiana St University 1983
Christina Lessov-Schlaggar, PHD Assistant Professor of Psychiatry (primary appointment)
PHD Oregon Health Science Univers 2000
Nigel C Lester, MD Instructor in Psychiatry (primary appointment)
MD University of Bristol 1994
Collins E Lewis, MD Associate Professor Emeritus of Psychiatry (primary appointment)
Assoc Prof Emeritus Of Psychiatry (primary appointment)
BA Rutgers University 1967
MD Harvard University 1971
Penelope Alathea Lind Adjunct Instructor in Psychiatry (primary appointment)
Jay L Liss, MD Associate Professor of Clinical Psychiatry (primary appointment)
MD Washington Univ in St. Louis 1966
BA Washington Univ in St. Louis 1963
Joan L Luby, MD Professor of Psychiatry (Child Psychiatry) (primary appointment)
BA Brown University 1981
MD Wayne State University 1985
Philip A Ludbrook, MBBS Professor Emeritus of Medicine (primary appointment)
Prof Emeritus of Medicine (primary appointment)
Professor Emeritus of Psychiatry
MBBS University of Adelaide 1963
BS School Not Listed 1957
Patrick Joseph Lustman, PHD Professor of Psychiatry (primary appointment)
Professor of Psychological & Brain Sciences
BA University of Illinois 1972
PHD Michigan State University 1980
Michael T. Lynskey, PHD, MS Adjunct Professor of Psychiatry (primary appointment)
PHD School Not Listed 1997
BS School Not Listed 1987
MS University of Canterbury 1989
Colin Mackenzie Instructor in Clinical Psychiatry (primary appointment)
Pamela A Madden, PHD, MS Professor of Psychiatry (primary appointment)
PHD University of Pittsburgh 1992
MS University of Pittsburgh 1983
BS University of Pittsburgh 1978
Virgil Lee Malmberg, MD, MS Instructor in Clinical Psychiatry (primary appointment)
MD University of Missouri 1978
MS University of Illinois 1970
BS University of Illinois 1968
Daniel T. Mamah Assistant Professor of Psychiatry (primary appointment)
Natasha M.V. Marrus, PHD, MD Assistant Professor of Psychiatry (primary appointment)
BA University of Southern Calif 1999
PHD Washington Univ in St. Louis 2007
MD Washington Univ in St. Louis 2007
BS University of Southern Calif 1999
Nicholas Gordon Martin Adjunct Instructor in Psychiatry (primary appointment)
Jose Mathews, MD Assistant Professor of Psychiatry (primary appointment)
MD Delhi University 1993
Gregory Warren Mattingly, MD Assistant Professor of Clinical Psychiatry (primary appointment)
BS University of Missouri 1985
MD Washington Univ in St. Louis 1989
Marcia June McCabe, PHD, MA Associate Professor of Psychiatry (primary appointment)
PHD University of Missouri 1991
BA Washburn University 1985
MA University of Missouri 1987
Kimberli McCallum, MD
Assistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)
BS Brown University 1981
MD Yale University 1986

Scott McCormick III, MD
Assistant Professor of Clinical Psychiatry (primary appointment)
MD University of Chicago 1985
BA Coe College 1981

Douglas E McCoy, MD
Instructor in Clinical Psychiatry (primary appointment)
BS Eastern Illinois University 1986
MD Southern Illinois University 1990

Vivia Van Dyne McCutcheon, MS, PHD
Assistant Professor of Psychiatry (primary appointment)
BA Ohio State University 1985
MS Washington Univ in St. Louis 2001
PHD Washington Univ in St. Louis 2005

Steven James Mennerick, PHD
Professor of Psychiatry (primary appointment)
Professor of Neuroscience
PHD Washington Univ in St. Louis 1995
BA Earlham College 1988

Jay L Meyer, MD
Associate Professor of Clinical Psychiatry (primary appointment)
BA Washington Univ in St. Louis 1956
MD Saint Louis University 1960

James R Mikolajczak, MD
Assistant Professor of Clinical Psychiatry (primary appointment)
MD Saint Louis University 1972
BS Saint Louis University 1968

Jule P. Miller Jr
Instructor in Clinical Psychiatry (primary appointment)

Susan Minchin, PHD, MD
Instructor in Clinical Psychiatry (primary appointment)
PHD University of Iowa 1991
MD University of Iowa 1991
BS Oregon St University 1981

David M Montani
Instructor in Clinical Psychiatry (primary appointment)

Grant William Montgomery
Adjunct Instructor in Psychiatry (primary appointment)

Mary Ann Montgomery, MBA, MD
Associate Professor of Clinical Psychiatry (primary appointment)
MBA Washington Univ in St. Louis
MD Northwestern University Med 1973
BA Vassar College 1967

Randi H Mozenter, MA
Instructor in Clinical Medical Psychology in Psychiatry (primary appointment)
BA Washington Univ in St. Louis 1980
MA Washington Univ in St. Louis 1982

Rashmi R Nakra
Associate Professor of Clinical Psychiatry (primary appointment)
UNKNOWN Lady Hardings 1970

Elliot C Nelson, MD
Professor of Psychiatry (primary appointment)
MD University of Illinois 1986
BA Johns Hopkins University 1982

Ginger E. Nicol, MD
Assistant Professor of Psychiatry (Child Psychiatry) (primary appointment)
BA University of Iowa 1998
MD University of Iowa 2002

Bruce L Nock, PHD, MS
Associate Professor of Neurobiology in Psychiatry (primary appointment)
Associate Professor of Neuroscience
PHD Rutgers University 1981
BA Elizabethtown College 1969
MS Bucknell University 1975
Kevin K. Noguchi, MA, PHD Assistant Professor of Psychiatry (primary appointment)
MA University of CA Los Angeles 1998
PHD University of CA Los Angeles 2003
BS University of CA Santa Barbara 1996
Thomas John Nowotny, MD Assistant Professor of Clinical Psychiatry (primary appointment)
MD Washington Univ in St. Louis 1985
BS Washington Univ in St. Louis 1980
Brendan Joseph O’Connor, MD Assistant Professor of Psychiatry (primary appointment)
MD Creighton University 2010
BS Creighton University 2006
Kalu Onuma Instructor in Clinical Psychiatry (primary appointment)
Akinkunle Owoso, MD Assistant Professor of Psychiatry (primary appointment)
MD University of Oklahoma 2007
BS1 University of Oklahoma 2003
Vasileios Panagopoulos Instructor in Clinical Psychiatry (primary appointment)
Pablo Pastor, MD Visiting Instructor in Psychiatry (primary appointment)
MD University of Barcelona 2001
Stephen E Peterson Instructor in Clinical Psychiatry (Child) (primary appointment)
Elizabeth F Pribor, MD Associate Professor of Clinical Psychiatry (primary appointment)
BA Emory University 1981
MD Saint Louis University 1985
Rumi Kato Price, PHD, MA, MPE Professor of Psychiatry (primary appointment)
PHD University of California 1988
MA University of California 1982
BA Ochanomizu Univ 1976
MPE Washington Univ in St. Louis 1990
John R. Pruett Jr, PHD Associate Professor of Psychiatry (Child Psychiatry) (primary appointment)
Associate Professor of Radiology
Associate Professor of Psychological & Brain Sciences (Courtesy)
PHD Washington Univ in St. Louis 2000
BA Princeton University 1990
John S Rabun, MD Instructor in Clinical Psychiatry (primary appointment)
BA University of Tennessee
MD University of Tennessee
Alex Taylor Ramsey Instructor in Psychiatry (primary appointment)
Diane Rankin, MD Assistant Professor of Clinical Psychiatry (primary appointment)
BA University of Colorado Boulder 1962
MD University of Colorado Boulder 1968
Dabeeru C Rao, PHD, MS Professor of Biostatistics (primary appointment)
Professor of Biostatistics in Genetics
Director of the Division of Biostatistics
Tenure Held At-Large in the Medical School
Professor of Biostatistics in Psychiatry
Professor of Mathematics
BS Indian Statistical Institute 1967
PHD Indian Statistical Institute 1971
MS Indian Statistical Institute 1968
Radhika Rao, Instructor in Clinical Psychiatry (primary appointment)
Syed A Raza, Assistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)
Chandrashekar Reddy, Instructor in Clinical Psychiatry (primary appointment)
Angela M. Reiersen, MD, MS PSYC, Assistant Professor of Psychiatry (Child Psychiatry) (primary appointment)
MD University of Southern Calif 1999
BS University of CA Davis 1994
MS PSYC Washington Univ in St. Louis 2006
Daniel B. Reising, Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)
John P Rice, MA, PHD, Professor of Mathematics in Psychiatry (primary appointment)
Professor of Biostatistics
Professor of Genetics
BA Cornell University 1969
MA Washington Univ in St. Louis 1972
PHD Washington Univ in St. Louis 1975
Treva Kay Rice, MA, Professor of Biostatistics (primary appointment)
Professor of Psychiatry
BS University of Texas Arlington 1981
MA University of Colorado Boulder 1984
Cheryl Richards, MA, PHD, Assistant Professor of Psychiatry (primary appointment)
Assistant Professor of Medicine
MA University of Illinoi 1981
BS Ohio University 1977
PHD University of Illinoi 1987
Thomas F Richardson, Professor of Psychiatry (primary appointment)
William M Riedesel II, Associate Professor of Clinical Psychiatry (primary appointment)
Stephen L. Ristvedt, MA, PHD, Associate Professor of Anesthesiology
Associate Professor of Psychiatry
BA University of Minnesota 1981
MA University of Pennsylvania 1983
PHD University of Pennsylvania 1989
Syed T Rizvi, Assistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)
John Deno Rogakos, Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)
BS University of Dayton 1990
Cynthia E Rogers, MD, Assistant Professor of Psychiatry (primary appointment)
BA Harvard University 1998
MD Washington Univ in St. Louis 2005
Eugene Harold Rubin, MD, Professor of Psychiatry (primary appointment)
Professor of Psychological & Brain Sciences (courtesy)
Vice Chairman for Education, Department of Psychiatry
BA University of Rochester 1971
MD Washington Univ in St. Louis 1978
John Conrad Rudersdorf, Instructor in Clinical Psychiatry (Child) (primary appointment)
James Rutherford, MD, Assistant Professor Emeritus of Clinical Psychiatry (primary appointment)
Asst Prof Emeritus of Clinical Psychiatry (primary appointment)
BA Drake University 1975
MD University of Iowa 1980
Jo-Ellyn M Ryall, MD Associate Professor of Clinical Psychiatry (primary appointment)
MD Washington Univ in St. Louis 1975
Frank Scott Saccone Associate Professor of Psychiatry (primary appointment)
BA Rensselaer Polytechnic Instit 1990
Berette A Salazar, MD Assistant Professor of Clinical Psychiatry (primary appointment)
MD University of New Mexico 1982
BA Middlebury College 1973
Carolyn E. Sartor, PHD, MS Adjunct Assistant Professor of Psychiatry (primary appointment)
MD University of Missouri 1982
BA Middlebury College 1973
BS Oberlin College 1994
MS Catholic University America 1999
Norman Sartorius Adjunct Professor of Psychiatry (primary appointment)
Gregory Stephen Sayuk Associate Professor of Medicine (primary appointment)
Associate Professor of Psychiatry
Jeffrey Frank Scherrer, PHD Adjunct Associate Professor of Psychiatry (primary appointment)
PHD Saint Louis University 2004
Bradley L Schlaggar, PHD, MDA Ernest and Jane G Stein Professor of Neurology (primary appointment)
Professor of Radiology
Professor of Psychiatry
Professor of Pediatrics
Professor of Neuroscience
BS Brown University 1986
PHD Washington Univ in St. Louis 1994
MD Washington Univ in St. Louis 1994
Jeffrey I Schulman, MD, MBA Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)
BA Yale University 1970
MD University of Kentucy 1974
MBA Washington Univ in St. Louis 1988
Earl R Schultz, MD Professor of Clinical Neurology (primary appointment)
Associate Professor of Clinical Psychiatry
MD Washington Univ in St. Louis 1955
BS University of Missouri 1953
BA Southeast Missouri St Univers 1952
Adelita Segovia Langley Assistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)
Bryan Norbert Sewing, DOST Instructor in Psychiatry (Pending Dean's Approval) (primary appointment)
DOST Kirksville College of Osteopat 1998
BS Texas Christian University 1991
Paul W Sheffner Assistant Professor of Clinical Psychiatry (primary appointment)
Barbara Sue Silverstein, PHD Assistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)
PHD Saint Louis University 1992
BS University of Missouri 1978
Nathan M Simon, MS, MD  
Professor Emeritus of Clinical Psychiatry (primary appointment)  
Prof Emeritus of Clinical Psychiatry (primary appointment)  
MS Yale University 1950  
MD Washington Univ in St. Louis 1955  
BS Yale University 1949

Reed Earl Simpson, MD  
Assistant Professor of Clinical Psychiatry (primary appointment)  
BA Wabash College 1972  
MD Washington Univ in St. Louis 1976

Judith Ann Skala, RN, RN, MA, PHD  

Stacey L Smith, MD  
Assistant Professor of Clinical Psychiatry (primary appointment)  
BA Northwestern University 1986  
MD Northwestern University 1991

Timothy Eric Spiegel, MD  
Assistant Professor of Psychiatry (Child Psychiatry) (primary appointment)  
BS Saint Louis University 2006  
MD University of Utah 2011

Wayne A Stillings  
Assistant Professor of Clinical Psychiatry (primary appointment)  
Catherine Striley  
Adjunct Assistant Professor of Psychiatry (primary appointment)  
Yun Ju Sung  
Associate Professor of Biostatistics (primary appointment)

Jagdish C Suri, MD  
Assistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)  
UNKNOWN School Not Listed 1959  
BS School Not Listed 1954  
MD School Not Listed 1964

Vinod Suri  
Instructor in Clinical Psychiatry (Child Psychiatry) (Full-Time at Hawthorn Children's Psychiatric Hospital) (primary appointment)  
UNKNOWN Punjab University 1962

Dragan M Svrakic, MD, PHD  
Professor of Psychiatry (primary appointment)  
MD University of Belgrade 1978  
PHD University of Belgrade 1989

Chad M Sylvester, PHD, MD  
Instructor in Psychiatry (Child) (primary appointment)  
PHD Washington Univ in St. Louis 2009  
MD Washington Univ in St. Louis 2009  
BS University of Notre Dame 2001

Mini Tandon, DOST  
Assistant Professor of Psychiatry (Child Psychiatry) (primary appointment)  
DOST Kansas Cty Univ Med/Bioscience 2002  
BS Truman State University 1997

Alexandre Todorov, M ED  
Professor of Psychiatry (primary appointment)  
BS Vanderbilt University 1985  
M ED Vanderbilt University 1988  
Dorothy J. Van Buren  
Associate Professor of Psychiatry (primary appointment)
Michele Van Eerdewegh, MD  Instructor in Clinical Psychiatry (primary appointment)
MD School Not Listed 1970

Jeffrey A. Vander Kooi, MD  Instructor in Clinical Psychiatry (primary appointment)
BS University of Iowa 1997
MD University of Iowa 2002

Garry M. Vickar  Instructor in Clinical Psychiatry (primary appointment)

Erin Foster Voegtli, OTD  Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Neurology
Assistant Professor of Psychiatry
OTD Washington Univ in St. Louis 2005
BS Washington Univ in St. Louis 2003

Mary C. Waldron  Adjunct Assistant Professor of Psychiatry (primary appointment)
Sara Walker, MD  Instructor in Clinical Psychiatry (primary appointment)
MD University of South Florida 2001
Marysia Weber  Instructor in Clinical Psychiatry (primary appointment)

Reuben R Welch II, PHD, M ED  Associate Professor of Psychiatry (primary appointment)
PHD University of Missouri 1988
M ED University of Missouri 1982
BA Point Loma Nazrene College 1980

Zila Welner, MD  Associate Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)
MD School Not Listed 1961

John Bair Whitfield  Adjunct Instructor in Psychiatry (primary appointment)
Denise Wilfley, PHD  Professor of Psychiatry (primary appointment)
Professor of Medicine
Professor of Psychological & Brain Sciences
Professor of Pediatrics
Scott Rudolph University Professor
PHD University of Missouri Columbi 1989

Matthew Stewart Wilson  Instructor in Clinical Psychiatry (primary appointment)
Eric Nicholas Wittrock, DOST  Instructor in Psychiatry (Child) (primary appointment)
DOST Kansas State University 2011

Edwin D Wolfram, MD  Assistant Professor of Clinical Psychiatry (primary appointment)
BS Iowa State University 1954
MD University of Iowa 1959

Fay Yeh Womer, MD  Associate Professor of Psychiatry (primary appointment)
BS Washington Univ in St. Louis 1999
MD University of Connecticut 2003

David F Wozniak, MA  Professor of Psychiatry (primary appointment)
Adjunct Associate Professor of Psychological & Brain Sciences
MA Connecticut College 1977

Christopher Wuertz, MD  Assistant Professor of Clinical Psychiatry (primary appointment)
MD University of Illinois 1984

Sean H Yutzy  Adjunct Professor of Psychiatry (primary appointment)

Jorge Sergio Zwir, PHD, BSCS, MS  Assistant Professor of Psychiatry (primary appointment)
PHD University of Granada 2001
BSCS Universidad del Buenos Aires 1991
MS Universidad del Buenos Aires 1995
Department of Radiation Oncology

The Department of Radiation Oncology was created on July 1, 2001, having been part of the Mallinckrodt Institute of Radiology for many decades. The department has a broad academic program that focuses on excellence in patient care and the development of new treatment paradigms; innovative research in each of the four divisions of clinical, physics, biology and bioinformatics; and teaching for residents in radiation oncology, medical students and allied health personnel. The department is one of the largest, most academically balanced and best equipped in the country, and is responsible for all radiation therapy procedures at Washington University Medical Center. Our faculty have gained international recognition for innovative technological advances in physics and treatment planning, biological research, computer applications and clinical investigation.

Milestones

- Implementation of novel respiratory gating algorithms
- Development of biomarkers of DNA repair capacity of tumors
- Demonstrated the use of Proton Therapy
- Implementation of first Mevion S250 single room proton therapy system
- Implementation of real-time MRI guidance for radiation therapy treatment with the ViewRay system. Real-time MR guidance provides the ability to see tumors move in real-time during a patients entire treatment. This helps ensure that tumor targets are hit and health tissue is spared
- Acquisition of High Intensity Focused Ultrasound (HIFU) with MRI thermometry mapping
The Department of Radiation Oncology currently occupies a large, and convenient clinical facility on the lower level of the Center for Advanced Medicine. The downtown clinical facility includes nine linear accelerator rooms, three simulator rooms and a brachytherapy center with two high dose-rate treatment units. Furthermore, the facility houses the latest Gamma Knife Perfexion unit. We have advanced treatment planning computer systems for 3-D conformal and intensity-modulated radiation therapy. We have five linear accelerators with on-board CT imaging capability. The brachytherapy suite includes capability for high dose-rate remote afterloading and for image-guided permanent prostate seed implants. Interstitial and external hyperthermia treatments are also available. We recently implemented a new type of proton treatment facility, using a superconducting synchrocyclotron mounted on a gantry, and also recently implemented the world's first MRI-guided radiation therapy treatment program. Additionally, the department provides radiation therapy treatment at BJ South County, BJ West County, BJ Christian Hospital Northeast, and BJ St. Peters.

The Physics faculty have research laboratories and offices on the fourth floor of the Clinical Sciences Research Building plus designated areas adjacent to the clinical facility in the CAM building. The Radiation Biology laboratory and faculty offices are housed at the 4511 Forest Park Building and Wohl Hospital Building.

For more information

Please visit the Department of Radiation Oncology website for more information.

MD Courses — Radiation Oncology

Third year and fourth year

M90 740 RADIATION ONCOLOGY CLERKSHIP
The four-week clerkship in radiation oncology will provide students with an introduction to the evaluation and management of a broad range of patients referred for consultation regarding radiation therapy. Clerkship activities will take place within the Barnes-Jewish Hospital/Siteman Cancer Center complex, Christian Hospital, Barnes-Jewish West County Hospital and Barnes-Jewish South County Hospital. Students will conduct inpatient and outpatient evaluations under the supervision of radiation oncology department residents and faculty. Students will also attend and participate in regularly scheduled departmental conferences, with an additional didactic teaching component tailored to the third and fourth year student level. Students will also have the opportunity to attend the appropriate multidisciplinary conferences (such as pediatric neuro-oncology, cardiothoracic oncology, lymphoma, GYN oncology and ENT) pertaining to their rotation schedule. The clerkship will allow exposure to a variety of treatment techniques including brachytherapy, image guided radiation therapy (IGRT), proton therapy, and radiosurgery. Students will be given the opportunity to make a teaching case presentation and will meet weekly with the Coursemaster and/or the department Chairman for small-group case discussions.

Instructional materials are available for students on the rotation. (Students are NOT expected to purchase any curricular materials for the clerkship.) Student performance will be evaluated by faculty members who supervise the student over the course of the four-week clerkship.

Fourth year

Elective

M90 840 / CLINICAL RADIATION ONCOLOGY
Instructor(s): Maria Thomas, MD, PhD
Location: Center for Advanced Medicine, Lower Level
Elective Contact: Maria Thomas, MD, PhD, 362-8516, or Gwen Jackson 362-8567
Other Information: Students should meet the Chief Resident in the Department of Radiation Oncology in the Siteman Cancer Center on the lower level of the CAM Building.
Enrollment limit per period: 3
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The clinical division offers an elective with emphasis on the evaluation, planning of and administration of radiation therapy in patients with malignant tumors. The students have the opportunity to enhance their knowledge on the natural history, pathological, and biological features of cancer and to sharpen their clinical skills participating in the management of these patients.

Student time distribution: Inpatient 7%; Outpatient 78%; Conferences/ Lectures 15%; Subspecialty Care 100%
Major teaching responsibility: Attendings, residents and staff
Patients seen/weekly: 20-35 per physician

Research — Radiation Oncology

Dennis Hallahan, MD
4511 Forest Park, Room 202
314-362-9700

1. Radiation Sensitizers: The over arching hypothesis of this research is that interruption of the signaling will improve cancer response to therapy. Inhibitors of these molecular targets are presently in development at pharmaceutical companies. We study the efficacy of specific inhibitors when combined with
radiotherapy in mouse models of human cancer.

2. Radiation Protection of normal tissue: We study the mechanisms of cell death in normal tissues during cancer therapy. In particular, we have found that a signal transduction pathway required for radiation induced apoptosis in normal tissues involves glycogen synthase kinase 3beta. GSK-3beta regulates the apoptosis machinery within normal tissues. Cancer cells do not require GSK-3beta or apoptotic machinery to respond to cancer therapy. In contrast, injuries in normal tissues such as the brain and intestine require GSK-3 signaling. We have found that inhibitors of GSK-3beta prevent injury in normal tissues. These inhibitors prevent injury to the brain and improve neurocognitive function and reduce injury in the intestine of animal models. Presently, we are studying the mechanisms by which GSK-3 inhibition prevents program cell death in normal tissues. We are also studying new drugs intended for clinical trials.

3. Targeted Drug Delivery to Cancer: We have identified several peptides and over a dozen monoclonal antibodies that bind to cancer following treatment with ionizing radiation. Using this strategy, drug delivery can be targeted specifically to cancer and guided by use of a beam of radiation therapy. These targeting ligands have been conjugated to the drug delivery systems, including liposomes and nanoparticles to improve the specificity of drug delivery of cancer. We collaborate extensively with pharmaceutical companies to target drug delivery to mouse models of human cancer.

4. Immunotherapy: We characterize the immunological response of antibodies targeted by radiation. These monoclonal antibodies bind to radiation inducible neo-antigens. These antibodies can activate immune response. In addition, therapeutic agents are conjugated to the antibodies to provide cancer specific drug delivery. Identification of radiation inducible neo-antigens involves the coprecipitation of antigens from cancer by use of monoclonal antibodies. Antigens are then identified by use of proteomic technology. Humanization of these mouse monoclonal antibodies is performed with the goal of bringing antibodies into clinical trials.
Broad range of opportunities for investigation in:

1. Prognostic factors and therapy outcome in a variety of patients with cancer

2. Three-dimensional treatment conformal and intensity-modulated radiation therapy in the treatment of patients with head and neck, lung, pancreas, rectal or prostate cancer.

Faculty — Radiation Oncology

Dennis E Hallahan, MD  Professor of Radiation Oncology (primary appointment)
Professor of Cell Biology and Physiology
Professor of Pathology and Immunology
Elizabeth H and James S McDonnell III Distinguished Professor of Medicine
Head of the Department of Radiation Oncology
Professor of Molecular Microbiology
MD Rush University 1984
BS University of Illinois 1980
Christopher Abraham, MS, MD  Assistant Professor of Radiation Oncology (Pending Executive Faculty Approval) (primary appointment)
MS Washington Univ in St. Louis 2011
BS Medical College Georgia 2005
MD Saint Louis University 2006
Michael Bernard Altman  Assistant Professor of Radiation Oncology (primary appointment)
PHD Washington Univ in St. Louis 2009
BS Princeton University 1999
MD Washington Univ in St. Louis 2009
Abdelkareem Azab, PHD  Assistant Professor of Radiation Oncology (primary appointment)
PHD Hebrew University 2007
Kathy Baglan  Instructor in Clinical Radiation Oncology (primary appointment)
Walter R Bosch, PHS, MS, BE  Associate Professor of Radiation Oncology (primary appointment)
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David T Curiel, MD, PhD, Distinguished Professor of Radiation Oncology (primary appointment)
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MD Emory University 1982
BA West Georgia College 1978
PHD University of Groningen 2000

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MSSP Arizona State University 2003
BA Dana College 2001

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No entries found
Department of Radiology

The Edward Mallinckrodt Institute of Radiology (more commonly known as Mallinckrodt Institute of Radiology or MIR) serves as the Department of Radiology for Washington University in St. Louis School of Medicine, helping to guide the consulting physician in the discovery, treatment and, ultimately, the healing of disease. Established in 1930, MIR is one of the largest and most scientifically sophisticated radiology centers worldwide.

Internationally recognized for its groundbreaking research, the Institute continues to pioneer new radiological techniques for better patient care.

Milestones

- development of the first diagnostic test for gallbladder disease
- design and construction of the first cross-sectional X-ray laminagraph
- collaboration on design and installation of the first cyclotron located in a U.S. medical center
- development of positron emission tomography (PET)
- installation of one of the world's first computed tomography (CT) and magnetic resonance (MR) scanners
- interfacing of a minicomputer with a gamma camera, improving accuracy and efficiency of nuclear medicine procedures
- establishment of the first mobile mammography van west of the Mississippi River
- integration of CT and MR scans with three-dimensional technology application of organic chemistry to the preparation of radiopharmaceuticals used in medical imaging
• measurement of cerebral blood flow and metabolism
• establishment of one of the largest, most comprehensive interventional radiology services in the United States
• application of PET for measuring metabolic activity in relation to cardiac blood flow
• early adoption of sequential PET/MR imaging

The Institute occupies more than 400,000 total square feet, comprising its own 12-story building, with satellite facilities in Barnes-Jewish and St. Louis Children’s hospitals; the Clinical Sciences Research and East buildings; the Scott Avenue Imaging Center; the Center for Advanced Medicine; and the Knight Emergency and Trauma Center; and the South County Siteman Cancer Center. The department provides diagnostic radiology, nuclear medicine and radiation physics services for all hospitals in the Washington University Medical Center, Barnes-Jewish West County and Barnes-Jewish St. Peters hospitals. The Institute provides diagnostic radiology for the Washington University Orthopedics and Barnes-Jewish Hospital Outpatient Orthopedic center.

MIR clinical facilities are on the second floor of the Institute (general diagnostic radiology); third floor (neuroradiology); fourth floor (gastrointestinal and genitourinary radiology, and ultrasonography); and the fifth floor (MRI). A comprehensive interventional radiology center occupies the eighth floor. Nuclear medicine is on the ninth floor of the Barnes-Jewish Hospital West Pavilion. Orthopedic imaging and musculoskeletal radiology services are on the sixth floor of the Center for Advanced Medicine. The Breast Health Center, on the fifth floor of the Center for Advanced Medicine, is a multidisciplinary facility that provides a full range of breast imaging services and interventional procedures. In the north wing of St. Louis Children’s Hospital is a complete pediatric radiology facility, offering ultrasound, nuclear medicine, CT and MRI and interventional radiology.

The Institute has 102 examination rooms used for diagnostic radiology. Clinical and research equipment includes two PET/CT scanners, 13 CT scanners, two PET scanners,
1 PET/MR scanner, 15 MR scanners (including an 11.7-Tesla research scanner), 12 high-end ultrasound machines plus seven portable units, nine interventional radiology systems, five digital chest units, 10 computer radiography units, two neurointerventional radiology systems and six mammography units. In addition, as part of the department’s community outreach effort, the Institute cosponsors with the Alvin J. Siteman Cancer Center a mobile mammography van that provides screening services at corporate and public sites in the St. Louis area.

MIR has approximately 200,000 square feet devoted to research, with facilities in the Clinical Sciences Research Building (radiological sciences), in the East Building (electronic radiology), in the Scott Avenue Imaging Center (neurological PET, molecular pharmacology, biomedical MR imaging, optical imaging and cardiovascular imaging), and in the Center for Clinical Imaging Research (a bioimaging facility for basic and translational inpatient and outpatient clinical research).

Administrative, teaching and support functions occupy the sixth floor and the ninth through the twelfth floors of the Institute.

For more information

Please visit the Department of Radiology website for more information.

MD Courses — Radiology

Michelle Miller-Thomas, MD, Coordinator of Radiology Medical Student Education; 362-5949, thomasm@mir.wustl.edu

Second year
Eight hours of lecture are devoted to an introduction to radiology. The majority of the course is devoted to diagnostic radiology, including conventional radiography, computed tomography, ultrasound, nuclear medicine and magnetic resonance imaging. The economics of imaging and radiation biology are introduced. The course also includes review of individual teaching file cases at small group sessions and online.

Third year

M90 701 GENERAL RADIOLOGY CLERKSHIP

Coursemasters: Matthew Parsons, MD, 362-5950, parsonsm@mir.wustl.edu, Michael Friedman, MD, 362-2978, friedmanm@mir.wustl.edu

Contact Person: Melissa Varner, Radiology Staff Library, 362-5139, varnerm@mir.wustl.edu

This four-week introductory radiology elective will be offered to third-year medical students. Each student will rotate through four of the following radiology services: Emergency Department, Pediatric Radiology, Cardiothoracic Imaging, Breast Imaging, Abdominal Imaging, Musculoskeletal Radiology, Neuroradiology, Nuclear Medicine and Interventional Radiology. The primary course objective is to familiarize students with the scope of diagnostic and interventional radiology, including the consulting role radiologists provide to primary care and specialty providers, risks/benefits and cost effectiveness of radiologic examinations, and guidelines for ordering common studies.

Students will report each morning for a service conference. These conferences are both case-based and didactic. Students will have a predominantly observational role in conferences, as they are principally designed for radiology resident teaching. Students will then spend mornings in the reading rooms with residents, fellows and attending radiology faculty. This time will consist of interactive teaching based on daily clinical cases. Each student will keep a log of cases they see to facilitate reading and to provide a vehicle for follow-up of interesting cases. Students will present one case of interest
to their peers each Friday at 3 p.m. during the clerkship. These brief (5 to 10 minutes) presentations will be evaluated by a resident or attending radiologist.

Monday through Thursday at 3 p.m., students will meet with a designated radiology resident who will present either a didactic or case-based lecture appropriate for third-year medical student teaching.

Students will select two of their four presented cases for submission to a digital teaching file. Reading lists, references and textbooks will be provided. The first and final days of the elective are mandatory. No high honors will be awarded if a student is absent for more than five days of the rotation.

The course will accommodate four to 10 students each month. The course will not be offered if enrollment falls below four.

**Fourth year**

**Electives**

**M90 801 / GENERAL RADIOLOGY**

Instructor(s): Michael Friedman, MD, 314-362-2978, and Matthew Parsons, MD, 314-362-5950

Location: Radiology Staff Library (First floor Mallinckrodt Tower, Room 117)

Elective Contact: Missi Varner, 314-362-5139

Other Information: Students meet in Mini-Scarpellino, 1st Floor Mallinckrodt Institute of Radiology Building, 8:00 a.m. first day of elective.

Enrollment limit per period: 5

Valid start weeks for four-week blocks are: Weeks 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This four week introductory radiology elective allows students to rotate through four of the following radiology services; Emergency Radiology, Mammography, Pediatrics,
Chest, Abdominal Imaging, Musculoskeletal, Neuroradiology, Interventional Radiology and Nuclear Medicine. The primary course objective is to familiarize students with the scope of diagnostic and interventional radiology including the consulting role radiologists provide to primary care and specialty providers, risks/benefits and cost effectiveness of radiologic examinations, and guidelines for ordering common studies as well as specific disease entities and their radiologic appearance and work-up.

Students spend the majority of the day in the radiology reading rooms with residents, fellows, and faculty for interactive teaching based on daily clinical cases. Students will attend morning case-based conferences and noon didactic conferences with the residents. The students will have an observational role in conferences and in the clinical setting. At 3:00 p.m., students will convene with a radiology resident for a didactic lecture on a scheduled topic in radiology. An image-based quiz will be given in the final week of the elective covering topics presented in the daily student didactic lectures. Fridays at 3:00 p.m., students present an interesting case from the week in Power-Point format. Two Power-Point presentations will be submitted at the end of the rotation for grading.

Students will keep a logbook of interesting cases seen daily in order to provide a foundation for further reading, as well as an opportunity for clinical or radiologic follow up of cases seen in the reading room. This log will be submitted to the Coursemaster at the end of the elective.

Students taking this elective for a second time who have a special interest in a particular area of radiology pertinent to their intended career choice may tailor their experience to focus on one or more services if desired (i.e. 4th year student going into neurosurgery may spend up to 2 full weeks in neuroradiology). This will be considered on a case by case basis by the Coursemaster. These returning students will be expected to keep a log of cases seen but will be exempt from attending the daily afternoon teaching sessions. Returning 4th year students will be required to present 4 weekly presentations with the other students in the course and take the end of rotation quiz. Please see the separate course listings for Nuclear Medicine and Interventional Radiology.
Reading lists, references and text books will be provided. The first and final days of the elective are mandatory. Grades are based on daily attendance, logbook, end of rotation quiz, and Power-Point presentations. No honors will be awarded if a student is absent for more than 5 days of the rotation.

Student time distribution: Inpatient 40%; Outpatient 30%; Conferences/ Lectures 30%; Subspecialty Care 100%
Major teaching responsibility: Radiology Faculty, Fellows, and Residents
Patients seen/weekly: N/A
On call/weekend responsibility: None

M90 820 / CLINICAL NUCLEAR MEDICINE
Instructor(s): Akash Sharma, MD, 314-362-2809
Location: 956 West Pavilion
Elective Contact: Akash Sharma, MD, 314-362-2809

Other Information: Students report to 956 West Pavilion, 8:00 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This four-week elective will be offered to third and fourth year medical students. The clinical service in Nuclear Medicine is divided into five subsections: outpatient general Nuclear Medicine, in-patient general Nuclear Medicine, PET, Pediatric, and Cardiac Nuclear Medicine. The recommended schedule will be to spend week 1 and 3 on the North Campus, where the emphasis will be on outpatient general and Pediatric Nuclear Medicine with some focused time spent in the PET reading room. Week 2 will be split between the in-patient general Nuclear Medicine and Cardiac services. Week 4 schedule will be determined after a preferences discussion with the student.

The primary objective of this rotation is to provide exposure to the full range of clinical nuclear medicine. Under direct supervision of the clinical staff, the student will be able to participate in the planning and interpreting of imaging studies for patients referred
to the Division. Opportunity also exists to explore instrumentation techniques, including dedicated computer applications in Nuclear Medicine.

In addition to the clinical experience, the student will attend the daily morning conference, held in the Miller Conference Room in 956 West Pavilion, from 8:30-9:30 a.m. From 12-1:00 p.m., the student will be excused to attend the daily department-wide conference. The student is not expected to do any formal presentations but may participate by preparing a case for the Friday follow-up conference. The student will also be excused to attend any conferences within the Department of Radiology, e.g. the 3:00 p.m. medical student didactic lectures, if desired.

Students may keep a log of interesting cases to use as a guide for additional reading, or for discussions with the Coursemaster or the other staff attendings.

A textbook will be provided. The first and final days of the elective are mandatory. No honors will be awarded if a student is absent for more than 5 days of the rotation.

Student time distribution: Inpatient 25%; Outpatient 50%; Conferences/ Lectures 25%; Subspecialty Care 100%
Major teaching responsibility: Attendings, fellows and residents
Patients seen/weekly: ~200
On call/weekend responsibility: None

**M90 830 / INTERVENTIONAL RADIOLOGY**
Instructor(s): Robert Pallow, MD, 314-362-7877
Location: Mallinckrodt Institute of Radiology
Elective Contact: Robert Pallow, MD, 314-362-7877

Other Information: Students should contact Dr. Pallow to discuss meeting location and time for first day of elective.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41
Students will be exposed to all clinical and procedural aspects of interventional radiology including: patient evaluation and consultation, preparation of patients for procedures, performance of a wide range of vascular and non-vascular procedures, post-procedure patient management, and longitudinal patient follow-up. Students will actively participate in interventional procedures. Students will attend the departmental noon conference (daily) and section conferences including didactic lectures, morbidity and mortality conference, and case conferences (3-4 times per week).

Student time distribution: Inpatient 60%; Outpatient 30%; Conferences 10%
Major teaching responsibility: Attending Interventional radiology physicians will provide the majority of teaching. Fellows and residents will provide additional teaching.
Patients seen/weekly: Approximately 150 patients per week are seen in consultation or for procedures in the south campus Interventional facility
On call/weekend responsibility: None

Research — Radiology

Interested students should contact the appropriate individual in each division regarding the types of research projects available.

Tom Conturo, MD, PhD
2nd Floor East Building, Rm 2120
314-362-8421

Magnetic resonance (MR) imaging is a noninvasive means of providing images of the human body at high spatial resolution and contrast sensitivity. The contrast can be manipulated to depend on different properties of tissue water, enabling the study of a
variety of biological processes. In some cases, endogenous or exogenous paramagnetic MR contrast agents are used to alter the MRI contrast by perturbing the tissue water environment. Recently, new MRI hardware has also enabled techniques having high temporal resolution. Using the unique contrast properties of MRI and the higher spatial/temporal resolution, non-invasive techniques can be devised to study neuronal activity, tissue perfusion, water mobility (diffusion), and neuronal fiber pathways in the human brain. The goals of Dr. Conturo's research lab are to develop and apply MR imaging techniques for quantitative imaging of cerebral perfusion, brain function, water diffusion, and neuronal fiber pathways. These techniques utilize the MR signal effects of exogenous bolus-injected contrast agents, endogenous hemoglobin, and microscopic water diffusion. Long-term goals are to apply these methodologies toward imaging and understanding tissue structure, function, and physiology in the brain and other organs in normal and abnormal conditions. The approaches that are used in this laboratory cover a broad range of areas, including MRI physics, MRI pulse sequence development, theoretical derivations, computer simulations, image-processing, computer graphics, custom contrast agent design and syntheois, phantom studies, animal models, human studies, clinical patient studies, and comparison with other imaging modalities.

Farrokh Dehdashti, MD
Nuclear Medicine PET Facility, 10th Floor, Mallinckrodt Institute of Radiology
314-362-1474

Positron emission tomography (PET) is an imaging technique that produces images reflective of biochemical processes of normal and abnormal tissues. PET is complementary to anatomic imaging modalities such as computed tomography (CT) and magnetic resonance imaging (MRI). The ability of PET to quantify fundamental processes, such as blood flow, oxygen metabolism, glucose metabolism, and receptor density, makes this technique very desirable to both investigators and clinicians. Dr. Dehdashti’s research utilizes the conventional PET radiopharmaceutical, F-18 fluorodeoxyglucose (FDG), as well as a variety of unique PET radiopharmaceuticals such as Cu-64-diacetyl-bis[N4-methylthiosemicarbazone (Cu-64 ATSM), a hypoxic imaging tracer, and 18F-labeled 3'-deoxy-3'fluorothymidine (FLT), a proliferative
imaging tracer. Below is a partial list of the research projects relating to PET: (1) PET assessment of progesterone receptors in patients with newly diagnosed breast cancer with a new progesterone-receptor imaging tracer, 21-[18F]Fluoro-16,17-[(R)-1’-furylmethylidene)dioxy]-19-norpregn-4-ene-3,20 dione (FFNP); (2) assessment of cell proliferation with a new tracer, N-(4-(6,7-dimethoxy-3,4-dihydroisoquinolin-2(1H)-yl)butyl)-2-(2-[18F]fluoroethoxy)-5-methylbenzamide ([18F]3c), also called [18F]ISO-1 by imaging sigma receptors in patients with various solid cancers; (3) PET assessment of tumor hypoxia using 64Cu-ATSM in patients with cervical cancer (the major goal of this project is to predict prognosis); (4) FDG-PET/CT study in cervical cancer to evaluate the change in tumor FDG heterogeneity and SUVmax during chemoradiation and whether these changes are predictive of response to therapy; (5) PET using [18F]FHBG (9-[4-fluoro-3-hydroxymethyl-butyl]guanine), analog of Penciclovir, an acycloguanosine derivative and antiviral drug, for possible tracking of GvHD in patients who were prior recipients of unrelated allogeneic bone marrow transplant for any hematologic malignancy, (6), FLT-PET/CT to assess tumor cell proliferation in patient must have histologically or cytologically confirmed ER+ stage IV or metastatic invasive breast cancer.

Rob J. Gropler, MD
Room 1307 East Building
314-747-3878

Cardiovascular Imaging Research. The research in the Cardiovascular Imaging Laboratory is designed to better understand the relationship between myocardial perfusion, intermediary metabolism and mechanical function in both normal and abnormal cardiac states. The research involves the integration of several imaging techniques with diverse strengths such as PET, MRI, CT and echocardiography. The success of the research requires several paths of investigation to be pursued in parallel. For example, in order to image the biologic processes of interest requires continued technical developments for each of the imaging methods listed above. There are ongoing efforts to permit more accurate PET measurements of myocardial substrate metabolism. They include the development of novel tracers of extracted substrates, the development of acquisition schemes to assess endogenous substrate
Research interests lie in the general area of labeled tracer development for nuclear medicine imaging, especially positron-emission tomography (PET). Developmental effort begins with synthesis of target structures, preclinical screening that involves in vitro biochemistry and pharmacological testing, and ex vivo biodistribution studies in small animals. Promising tracers are then examined by in vivo imaging of animal subjects and tracer kinetic modeling. The final step in the transition of a radiochemical into a labeled drug takes into account radiation dosimetry, pharmaceutical quality, and the development of automated production and GMP production processes to
streamline delivery to human subjects. Each of these aspects of radiopharmaceutical development are investigated, with a primary emphasis in novel agents for evaluation of pathological processes in neurology and oncology.

Marc Raichle, MD
2nd Floor East Building
314-362-6907

We use functional imaging techniques, both positron emission tomography and functional magnetic resonance imaging, to study the normal organization of the human brain and the effect of selected diseases. The research focuses on both the methodology (imaging and experimental) and specific questions in cognitive neuroscience.

Faculty — Radiology

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MD Washington Univ in St. Louis 2004
BS Saint Louis University 2000
Dennis M Balfe, MD Professor of Radiology (primary appointment)
MD Medical College of Wisconsin 1975
BS Santa Clara University 1968
Adam Quentin Bauer, PHD, MS Instructor in Radiology (primary appointment)
PHD Washington Univ in St. Louis 2009
BS Truman State University 2001
BS Washington Univ in St. Louis 2005
Tammie Lee Smith Benzinger, MD, PHD Associate Professor of Radiology (primary appointment)
Associate Professor of Neurological Surgery
MD University of Chicago 2000
BA Williams College 1993
PHD University of Chicago 1998
Mikhail Y Berezin, PHD, MS Assistant Professor of Radiology (primary appointment)
PHD Moscow Institute of Oil & Gas 1991
MS Moscow Institute of Oil & Gas 1987
Sanjeev Bhalla, MD Professor of Radiology (primary appointment)
MD Columbia College of Phy & Surg 1994
BS Yale University 1990
Andrew J Bierhals, MPH, MD Associate Professor of Radiology (primary appointment)
MPH University of Pittsburgh 1996
MD University of Pittsburgh 2000
BS University of Pittsburgh 1993
Joelle Biernacki, MD Instructor in Radiology (primary appointment)
MD University of MO Kansas City 1989
BA University of MO Kansas City 1988
Kevin J. Black, MD Professor of Psychiatry (primary appointment)
Kelly N Botteron, MD
Professor of Psychiatry (Child Psychiatry) (primary appointment)
Professor of Radiology
BA University of Kansas 1984
MD University of Kansas Medical 1988
G. Larry Bretthorst, MS
Associate Professor of Radiology (primary appointment)
MS University of MO St Louis 1980
Steven L Brody, MDD
Dorothy R and Hubert C Moog Professor of Pulmonary Diseases in Medicine
(primary appointment)
Professor of Radiology
MD University of Michigan 1980
Frank Brooks, PHD
Instructor in Radiology (primary appointment)
PHD Washington Univ in St. Louis 2008
Meredith S Byers, MD
Assistant Professor of Radiology (primary appointment)
BA University of Texas Austin 1993
MD University of Texas Southwest 1997
Meghan Clark Campbell
Assistant Professor of Neurology (primary appointment)
Assistant Professor of Radiology
BS University of Illinois 1999
Mario Castro, MD, M PHD
Professor of Medicine (primary appointment)
Professor of Radiology
Alan A and Edith L Wolff Distinguished Professor
MD University of Missouri 1988
BA University of MO Kansas City 1988
M PH Saint Louis University 1998
Ajay Rama Chapa, MS
Instructor in Radiology (primary appointment)
BS Bradley University 2001
MS CHICAGO MEDICAL SCHOOL 2001
Delphine L. Chen, AB
Associate Professor of Radiology (primary appointment)
Associate Professor of Medicine
MD1 Washington Univ in St. Louis 1999
BA Harvard Radcliffe 1995
AB Harvard Radcliffe 1995
Wenhua Chu, MS, PHD
Instructor in Radiology (primary appointment)
BS Quigdao Ocean Univ 1982
MS Academia Sinica China 1985
PHD Academia Sinica China 1988
Andrew Richard Coggan, MS, PHD
Adjunct Assistant Professor of Radiology (primary appointment)
MS Ball State University 1983
PHD University of Texas Austin 1986
BS Ball State University 1981
Paul Kevin Commean
Assistant Professor of Radiology (primary appointment)
Assistant Professor of Physical Therapy
BS Georgia Tech 1982

Thomas E Conturo
Associate Professor of Radiology (primary appointment)
Adjunct Associate Professor of Physics

Maurizio Corbetta, MD
Norman J. Stupp Professor of Neurology (primary appointment)
Professor of Radiology
Associate Professor of Psychological & Brain Sciences
Professor of Neuroscience
MD University of Pavia 1985

Constance Stone Courtois, MD
Assistant Professor of Radiology (primary appointment)
BS Wofford College 1980
MD Medical University of Sth Car 1985

James P Crane, MD
Associate Vice Chancellor for Clinical Affairs (primary appointment)
Chief Executive Officer-Faculty Practice Plan
Professor of Obstetrics and Gynecology
Professor of Radiology
Associate Professor of Genetics
MD Indiana University Bloomington 1970
BS Indiana University Bloomington 1966

Dewitte T Cross III, MD
Professor of Radiology (primary appointment)
Professor of Neurological Surgery
BA Vanderbilt University 1975
MD University of Alabama 1980

Michael G Crowley
Instructor in Radiology (primary appointment)

Joseph P Culver, PhD
Professor of Radiology (primary appointment)
Professor of Physics (Courtesy)
PHD University of Pennsylvania 1997
BA Whitman College 1985

Michael D Darcy, MD
Professor of Radiology (primary appointment)
Associate Professor of Surgery (General Surgery)
MD Ohio State University 1979

Victor G Davila-Roman, MD
Professor of Medicine (primary appointment)
Professor of Radiology
Professor of Anesthesiology
MD University of Puerto Rico 1981
BS University of Puerto Rico 1977

Gene Layton Davis Jr, MBA, MD
Assistant Professor of Clinical Radiology (primary appointment)
BA University of Virginia 1968
MBA Webster University 1991
MD University of Virginia 1972

Farrokh Dehdashti
Professor of Radiology (primary appointment)

Jennifer Lee Demertzis, MD
Associate Professor of Radiology (primary appointment)
MD Emory University 2003
BS University of Notre Dame 1999

Steven Don
Associate Professor of Radiology (primary appointment)
BA Johns Hopkins University 1981

James R Duncan, MD, PhD
Professor of Radiology (primary appointment)
MD Washington Univ in St. Louis 1988
BS Davenport University 1982
PHD Washington Univ in St. Louis 1988  
**Adam Thomas Eggebrecht, PHD, MS** Instructor in Radiology (primary appointment)  
PHD Washington Univ in St. Louis 2009  
MS Washington Univ in St. Louis 2005  
**Sarah Ann Eisenstein, PHD** Assistant Professor of Psychiatry (primary appointment)  
Assistant Professor of Radiology  
PHD University of Georgia 2008  
**Eric Paul Eutsler, MD** Instructor in Radiology (primary appointment)  
MD Drexel University 2008  
BS Wilkes University 2004  
**Keith C Fischer, MD** Associate Professor of Radiology (primary appointment)  
BA Oberlin College 1967  
MD Johns Hopkns University Medic 1971  
**Gretchen Marie Foltz, MD** Assistant Professor of Radiology (primary appointment)  
Assistant Professor of Surgery (General Surgery)  
MD Medical College of Wisconsin 2007  
BS Univ of Wisconsin Milwaukee 2002  
**Kathryn Fowler, MD** Assistant Professor of Radiology (primary appointment)  
BS University South Carolina 2001  
MD Univ of Wisconsin Madison 2005  
**Michael V Friedman** Assistant Professor of Radiology (primary appointment)  
**H Michael Gach, PHD** Associate Professor of Radiation Oncology (primary appointment)  
Associate Professor of Radiology  
PHD University of Pittsburgh 1998  
**Joel Richard Garbow, PHD** Professor of Radiology (primary appointment)  
PHD University of CA Berkeley 1983  
**Heather Vallhonrat Garrett** Assistant Professor of Radiology (primary appointment)  
BA University of Virginia 1996  
**Charles F Garvin** Instructor in Clinical Radiology (primary appointment)  
BA University of MO Columbia 1980  
**Edward M Geltman, MD** Professor of Medicine (primary appointment)  
Assistant Professor of Radiology  
BS Mass Inst of Technology (MIT) 1967  
MD New York University 1971  
**Joseph Giardina, MD** Instructor in Radiology (primary appointment)  
BA Williams College 2004  
MD New York Medical College 2010  
**David S Gierada** Professor of Radiology (primary appointment)  
BS Davenport University 1983  
**Harvey S Glazer** Professor of Radiology (primary appointment)  
BA Washington Univ in St. Louis 1971  
**Brian A Gordon, MS PSYC, PHD** Instructor in Radiology (primary appointment)  
MS PSYC University of Illinois 2006  
PHD University of Illinois 2010  
BS University of Illinois 2003  
**Jennifer E Gould, MD** Associate Professor of Radiology (primary appointment)  
BA Cornell University 1993  
MD Washington Univ in St. Louis 1997
Manu Shri Goyal, MD, MS Assistant Professor of Radiology (primary appointment)
MD University of Chicago 2005
MS Oxford University 2001
BS University of Illinois Chicago 2000
Diana Lee Gray Professor of Obstetrics and Gynecology (primary appointment)
Professor of Radiology
Associate Dean for Faculty Affairs
Professor of Engineering
BS University of Illinois 1977
Deanna Greene, PHD, MS Assistant Professor of Psychiatry (primary appointment)
Assistant Professor of Radiology
PHD University of CA Los Angeles 2010
BA University of CA San Diego 2003
MS University of CA Los Angeles 2006
Perry W Grigsby, MD Professor of Radiation Oncology (primary appointment)
Professor of Radiology
Professor of Obstetrics and Gynecology
BS University of Kentucky 1974
MD University of Kentucky 1982
Robert John Gropler, MD Professor of Radiology (primary appointment)
Associate Professor of Medicine
Associate Professor of Biomedical Engineering
BS Allegheny College 1977
MD University of Cincinnati 1981
Robert L Grubb Jr, MD Professor of Neurological Surgery (primary appointment)
Professor of Radiology
BA University of North Carolina 1961
MD University of North Carolina 1965
Punita Gupta, MPH, MD Instructor in Radiology (primary appointment)
MPH Saint Louis University 1996
BA Washington Univ in St. Louis 1995
MD University of Illinois 2000
Fernando R Gutierrez Professor of Radiology (primary appointment)
Jay Paul Heiken, MD Professor of Radiology (primary appointment)
Cheryl R Herman, MD Assistant Professor of Radiology (primary appointment)
MD Meharry Med College 1990
BS Loma Linda University 1986
Pilar Herrero, MS, ME Associate Professor of Radiology (primary appointment)
MS Vanderbilt University 1984
ME Washington Univ in St. Louis 1997
BS Loyola University Chicago 1981
Tamara G Hershey Professor of Psychiatry (primary appointment)
Adjunct Professor of Psychological & Brain Sciences (Courtesy)
Professor of Neurology
Professor of Radiology
BA Earlham College 1988
Albert E Hesker, MD
Assistant Professor of Clinical Radiology (primary appointment)
MD University of MO Columbia 1964

Travis J Hillen
Assistant Professor of Radiology (primary appointment)
Sumner Holtz
Associate Professor of Clinical Radiology (primary appointment)
Rebecca L Hulett
Assistant Professor of Radiology (primary appointment)

Joseph Edward Ippolito, MD, PHD
Instructor in Radiology (primary appointment)
BS Cornell University 1998
MD Washington Univ in St. Louis 2007
PHD Washington Univ in St. Louis 2007

William P James, MD
Assistant Professor of Radiology (primary appointment)
MD University of MO Columbia 1993
BA Washington Univ in St. Louis 1989

Cylene Javidan, MD
Associate Professor of Radiology (primary appointment)
MD Iran Univ of Medical Sciences 1994

Jack W Jennings, MS, PHD
Associate Professor of Radiology (primary appointment)
MS Ohio State University 1995
PHD University of South Florida 1999

Hongjun Jin
Instructor in Radiology (primary appointment)
BS Lanzhou University 1994

R. Gilbert Jost, MD
Professor of Radiology (primary appointment)
BA Harvard University 1964
MD Yale University 1969

James A Junker
Instructor in Clinical Radiology (primary appointment)

Akash Pravin Kansagra
Assistant Professor of Radiology (primary appointment)

Pavan Kumar Kavali, MD
Instructor in Radiology (primary appointment)
BS Georgia Tech 2003
MD Morehouse College 2010

James E. Kelly
Assistant Professor of Radiology (primary appointment)
BS University of Notre Dame 1999

Geetika Khanna, MS, MBBS
Associate Professor of Radiology (primary appointment)
MS University of Iowa 2006
MBBS All-India Inst of Medical Sci 1997

Joong Hee Kim, PHD, MS
Instructor in Neurology (primary appointment)
Instructor in Radiology
PHD Washington Univ in St. Louis 2006
BS Kangwon National University 1996
PHD1 Washington Univ in St. Louis 2006
MS Kangwon National University 2000

Seung Kwon Kim
Assistant Professor of Radiology (primary appointment)

Assistant Professor of Surgery (General Surgery)

Joseph W. Klaesner, PHD, MS
Professor of Physical Therapy (primary appointment)
Professor of Radiology
BS1 Marquette University 1987
BS Marquette University 1987
PHD Vanderbilt University 1995
MS Vanderbilt University 1993

Richard Laforest, PHD, MS
Associate Professor of Radiology (primary appointment)
PHD University of Laval 1994
Susan M Langhorst, ME, PHD  
Director Office of Radiation Safety  
(Primary appointment)

Assistant Professor of Radiology
ME University of MO Columbia 1979  
BS MO S&T (formerly UofMO Rolla) 1976  
PHD University of MO Columbia 1982

Suzanne Elizabeth Lapi, MS, PHD  
Adjunct Associate Professor of Radiology  
(Primary appointment)

Assistant Professor of Radiology
BS Simon Fraser University 2001  
MS Simon Fraser University 2003  
PHD Simon Fraser University 2007

Daniel Joseph Leary Jr, MD  
Assistant Professor of Clinical Radiology  
(Primary appointment)

MD Washington Univ in St. Louis 1966  
BS Saint Louis University 1962

Jin-Moo Lee, MD  
Professor of Neurology  
(Primary appointment)

Professor of Radiology
MD Cornell University 1993

Michelle Lee  
Assistant Professor of Radiology  
(Primary appointment)

Paula M Leiva, MD  
Instructor in Radiology  
(Primary appointment)

MD Univ Nacional de Cuyo 2000

Michael Fu-Yen Lin  
Assistant Professor of Radiology  
(Primary appointment)

BS Northwestern University 1995

Yongjian Liu, PHD, MS  
Assistant Professor of Radiology  
(Primary appointment)

PHD University of Missouri Columbi 2007  
MS Zhejiang Medical University 2000  
BS Henan Normal University 1997

Jeremiah Robert Long, MD  
Assistant Professor of Radiology  
(Primary appointment)

BS University of Notre Dame 1999  
MD Georgetown University 2004

Naganathan B Mani, MBBS, MS  
Assistant Professor of Radiology  
(Primary appointment)

MBBS Tamilnadu Medical University 1995  
MS PGIMER 1999

Daniel Scott Marcus, PHD  
Associate Professor of Radiology  
(Primary appointment)

BS Washington Univ in St. Louis 1995  
PHD Washington Univ in St. Louis 2001  
BA Washington Univ in St. Louis 1995

Joanne Markham, MS  
Associate Professor of Radiology  
(Primary appointment)

BA Centre College 1963  
MS Washington Univ in St. Louis 1973

Ben R Mayes Jr, MD  
Assistant Professor of Clinical Radiology  
(Primary appointment)

MD Washington Univ in St. Louis 1966

William H McAlister  
Professor of Radiology in Pediatrics

Mark P. McAvoy, MEE, PHD  
Assistant Professor of Radiology  
(Primary appointment)

MEE Southern Illinois University 1993  
PHD Southern Illinois University 1998  
BS University of Illinois 1991

Jonathan E McConathy, PHD, MD  
Adjunct Assistant Professor of Radiology  
(Primary appointment)

PHD Emory University 2003
BS University of North Carolina 1995
MD Emory University 2004
Robert Carolin McKinstry III Professor of Radiology (primary appointment)

Professor of Pediatrics
Vincent Michael Mellnick, MD Assistant Professor of Radiology (primary appointment)

BS University of Notre Dame 2002
MD University of Texas Houston 2006
Christine Onsy Menias, MD Adjunct Professor of Radiology (primary appointment)

BS1 Marquette University 1990
MD George Washington University 1995
Mary Ann Middleton, MD Assistant Professor of Radiology (primary appointment)

MD Medical College of Wisconsin 1982
BS Univ of Wisconsin Whitewater 1974
William D Middleton, MD Professor of Radiology (primary appointment)

MD Duke University 1981
BS Duke University 1977
Francis M Miezin, MS Associate Professor of Neurology (primary appointment)

BS1 Washington Univ in St. Louis 1974
BS Washington Univ in St. Louis 1981
MEE Washington Univ in St. Louis 1984
Christopher J Moran, MD Professor of Radiology (primary appointment)

BS1 Washington Univ in St. Louis 1981
BS Washington Univ in St. Louis 1981
MEE Washington Univ in St. Louis 1984

Jennifer Lynn Nicholas, MA, MD, MHA Assistant Professor of Radiology (Pending Executive Faculty Approval) (primary appointment)
BA Miami University 1991
MA University of Colorado Boulder 1994
MD Duke University 2004
MHA University of North Carolina 2003
John Hart Niemeyer Instructor in Clinical Radiology (primary appointment)
Gary H Omell, MD Assistant Professor of Clinical Radiology (primary appointment)
MD University of Tennessee 1967
Matthew S Parsons, MD Assistant Professor of Radiology (primary appointment)
MD University of Cincinnati 2000
BA Miami University 1995
Michael K Pasque, MD Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Professor of Radiology
Professor of Biomedical Engineering
MD University of Oklahoma 1978
Michael W Penney, MD Associate Professor of Radiology (primary appointment)
MD University of AR Little Rock 1996
BS University of Arkansas 1992
Joel S Perlmutter, MD Professor of Neurology (primary appointment)
Professor of Radiology
Professor of Occupational Therapy
Professor of Neuroscience
Professor of Physical Therapy
MD University of MO Columbia 1979
BA Princeton University 1975
Steven E Petersen, PhD James S McDonnell Professor of Cognitive Neuroscience in Neurology (primary appointment)
Professor of Neuroscience
Professor of Radiology
Professor of Psychology
Professor of Biomedical Engineering
Associate Professor of Neurological Surgery (Neuropsychology)
PHD California Institute Technolo 1982
BA University of Montana Missoula 1974
Linda R Peterson, MD Associate Professor of Medicine (primary appointment)
Associate Professor of Radiology
BS Georgetown University 1986
MD Washington Univ in St. Louis 1990
Daniel D Picus, MD Professor of Radiology (primary appointment)
Professor of Surgery (General Surgery)
Vice Chair for Diagnostic Radiology in Radiology
MD University of Chicago 1981
BS1 University of Illinois 1977
BS University of Illinois 1977
David Gerard Politte, MEE, D SC Assistant Professor of Radiology (primary appointment)
MEE Washington Univ in St. Louis 1983
BS Washington Univ in St. Louis 1981
D SC Washington Univ in St. Louis 1999
Maria Rosana Ponisio, MD Instructor in Radiology (primary appointment)
MD La Plata University 1990
Steven Paul Poplack, MD Associate Professor of Radiology (primary appointment)
BS Stanford University 1984
MD Boston University 1988

John R. Pruett Jr, PHD Associate Professor of Psychiatry (Child Psychiatry) (primary appointment)
Associate Professor of Radiology
Associate Professor of Psychological & Brain Sciences (Courtesy)
PHD Washington Univ in St. Louis 2000
BA Princeton University 1990

James D Quirk, MA Assistant Professor of Radiology (primary appointment)
BS Mass Inst of Technology (MIT) 1994
MA Washington Univ in St. Louis 1998

Edward Floyd Ragsdale, MD Instructor in Clinical Radiology (primary appointment)
MD Washington Univ in St. Louis 1964
BA University of Arkansas 1960

Marcus E Raichle, MD Professor of Radiology (primary appointment)
Professor of Neuroscience
Professor of Neurology
Alan A and Edith L Wolff Distinguished Professor of Medicine
Professor of Psychological & Brain Sciences
Professor of Biomedical Engineering
BS University of Washington 1960
MD University of Washington 1964

Raja Ramaswamy Assistant Professor of Radiology (primary appointment)
Assistant Professor of Surgery (General Surgery)
BA Emory University 2004

Constantine A Raptis, MD Assistant Professor of Radiology (primary appointment)
BS University of Chicago 1999
MD University of Pennsylvania 2004

David E Reichert, PHD Associate Professor of Radiology (primary appointment)
PHD University of Illinois 1994
BS Roanoke College 1986

Kathryn Ann Robinson, MD Assistant Professor of Radiology (primary appointment)
MD State Univ of NY Stonybrook 2001

Buck Edward Rogers, PHD, MA Professor of Radiation Oncology (primary appointment)
Professor of Radiology
BS Loyola University Chicago 1989
PHD Washington Univ in St. Louis 1995
MA Washington Univ in St. Louis 1991

Henry D Royal, MD Professor of Radiology (primary appointment)
BS Providence College 1970
MD Saint Louis University 1974

Brian G Rubin, MD Professor of Surgery (General Surgery) (primary appointment)
Professor of Radiology
MD University of Vermont 1984
BA Colgate University 1979

David A Rubin, MD Professor of Radiology (primary appointment)
BA Brown University 1984
MD University of Pennsylvania 1988
Chara Elaine Rydzak, MD, PHD 
Assistant Professor of Radiology (primary appointment) 
MD Harvard University 2010 
PHD Harvard University 2010 

Nael E. A. Saad, MBBC 
Associate Professor of Radiology (primary appointment) 
Associate Professor of Surgery (General Surgery) 
MBBC Ain Shams University 1998 
Luis A Sanchez 
Professor of Surgery (General Surgery) (primary appointment) 
Gregorio A. Sicard Distinguished Professor 
Professor of Radiology 
Robert F Scheible, MD 
Assistant Professor of Clinical Radiology (primary appointment) 
BA Johns Hopkins University 1968 
MD Washington Univ in St. Louis 1972 
Bradley L Schlaggar, PhD, MDA 
Ernest and Jane G Stein Professor of Neurology (primary appointment) 
Professor of Radiology 
Professor of Psychiatry 
Professor of Pediatrics 
Professor of Neuroscience 
BS Brown University 1986 
PHD Washington Univ in St. Louis 1994 
MD Washington Univ in St. Louis 1994 
Sally J Schwarz 
Professor of Radiology (primary appointment) 
Janice Semenkovich, MD 
Associate Professor of Radiology (primary appointment) 
MD Washington Univ in St. Louis 1981 
Aseem Sharma, MBBC 
Associate Professor of Radiology (primary appointment) 
MBBC All-India Inst of Medical Sci 1992 
Vijay Sharma, MS, PHD 
Professor of Radiology (primary appointment) 
MS Panjab University 1983 
PHD Panjab University 1987 
Anup Shashindra Shetty, MD 
Instructor in Radiology (primary appointment) 
BS Duke University 2003 
MD University of Texas Southwest 2007 
Joshua S Shimony, MD, PHD 
Associate Professor of Radiology (primary appointment) 
MD University of Illinois 1995 
BS Technion - Israel Inst. of Tec 1982 
PHD University of Tennessee 1988 
Kooresh Isaac Shoghi, MS, PHD 
Associate Professor of Radiology (primary appointment) 
MS University of CA Los Angeles 2000 
PHD University of CA Los Angeles 2005 
BS University of CA Los Angeles 1996 
Monica Shokeen, PHD 
Assistant Professor of Radiology (primary appointment) 
PHD Washington Univ in St. Louis 2006 
BS School Not Listed 1997 
Hui Hua Shu, MD 
Instructor in Radiology (primary appointment) 
MD University of MO Kansas City 1987 
BA University of MO Kansas City 1986 
Barry Alan Siegel 
Professor of Radiology (primary appointment) 
Vice Chair for Nuclear Medicine in Radiology
Professor of Medicine
BA Washington Univ in St. Louis 1966

Cary Lynn Siegel, MD Professor of Radiology (primary appointment)
MD Davenport University 1987
BS Davenport University 1983
Marilyn J Siegel Professor of Radiology (primary appointment)

Professor of Radiology in Pediatrics
Celette Sugg Skinner, MA Adjunct Assistant Professor of Radiology (primary appointment)
BA Furman University 1980
MA Wheaton College 1982

Christopher D Smyser Assistant Professor of Neurology (primary appointment)

Assistant Professor of Radiology
Abraham Z Snyder, MD, PHD Professor of Radiology (primary appointment)

Associate Professor of Neurology
BA Columbia University 1970
MD State University of New York 1981
PHD Rockefeller University 1977

Steven Lee Solomon, MD Assistant Professor of Clinical Radiology (primary appointment)
MD University of Chicago 1985
BA Northwestern University 1981

Sheng-Kwei Song, MS, PHD Professor of Radiology (primary appointment)
MS University of Alabama 1986
PHD Washington Univ in St. Louis 1990
BS Tamkang University 1981

William Marshall Spees, PHD Assistant Professor of Radiology (primary appointment)
BS Truman State University 1993
PHD Washington Univ in St. Louis 1999

Robert Peter Stachecki, MD Instructor in Radiology (primary appointment)
BS University of Notre Dame 2003
MD Georgetown University 2007

James Derek Stensby, MD Assistant Professor of Radiology (primary appointment)
MD Emory University 2008
BS Emory University 2003

Yi Su, PHD Assistant Professor of Radiology (primary appointment)
BS University of Science & Tech 1999
PHD Mayo Clinic 2006

Alexander L Sukstansky, MS, D SC Associate Professor of Radiology (primary appointment)
MS Kharkov State University 1971
D SC Donetsk State University 1991

Peng Sun, PHD, MS Instructor in Radiology (primary appointment)
PHD Beijing University 2005
MS Beijing Inst Of Technology 2002
BS Harbin Engineering University 1999

Yuan-Chuan Tai, MEE, PHD Associate Professor of Radiology (primary appointment)
BS National Tsing Hua University 1988
MEE University of Texas Arlington 1992
PHD University of CA Los Angeles 1998

Chandrakant Tailor, MD Assistant Professor of Clinical Radiology (primary appointment)
MD Medical College of India 1970
Rui Tang, PHD, MS Instructor in Radiology (primary appointment)
PHD Wayne Community College 2009
MS Washington Univ in St. Louis 2004
BS University of Science & Tech
Sharlene A Teefey Professor of Radiology (primary appointment)

Robert W Thompson, MD Professor of Surgery (General Surgery) (primary appointment)
Professor of Cell Biology and Physiology

Professor of Radiology
BA Hope College 1979
MD University of Michigan 1983

Malcolm Tobias Instructor in Radiology (Pending Dean's Approval) (primary appointment)

Jerry Tobler, MD, PHD Instructor in Clinical Radiology (primary appointment)
MD Yale University 1983
PHD California Institute Technolo 1978
BS Cornell University 1973

Zhude Tu, MS, PHD Associate Professor of Radiology (primary appointment)
MS Beijing Normal University 1991
PHD Beijing Normal University 1995
MS1 University of St Thomas 2000
BS Beijing Normal University 1988

Suresh Vedantham, MD Professor of Radiology (primary appointment)
Professor of Surgery (General Surgery)
BA Northwestern University 1988
MD University of Chicago 1992

Andrei G Vlassenko, MD, PHD Assistant Professor of Radiology (primary appointment)
MD Moscow Med Stomatology Inst 1987
PHD Institute of Neurology 1991

Katie Dieu Thu Vo Associate Professor of Radiology (primary appointment)
BS Mass Inst of Technology (MIT) 1986
BA Wellesley College 1986

Jerold W Wallis, MS, MD Associate Professor of Radiology (primary appointment)
Associate Professor of Biomedical Engineering
MS Stanford University 1981
MD Stanford University 1981
BS Yale University 1976

Yong Wang Assistant Professor of Obstetrics and Gynecology (primary appointment)
Assistant Professor of Radiology

Jie Wen, PHD Instructor in Radiology (primary appointment)
PHD University of Science & Tech 2012

Philip J Weyman, MD Associate Professor of Clinical Radiology (primary appointment)
BA Yale University 1968
MD Yale University 1972

Kimberly N Wiele, MD Assistant Professor of Radiology (primary appointment)
BA University of MO Kansas City 1981
MD University of MO Kansas City 1981

Franz J Wippold II, MD Professor of Radiology (primary appointment)
BA Westminster College 1973
MD Saint Louis University 1977
**Pamela K Woodard, MD** Professor of Radiology (primary appointment)
BA Duke University 1986
MD Duke University 1990

Jinbin Xu, ME Instructor in Radiology (primary appointment)
BS Taiyuan University of Tech 1991
ME Taiyuan University of Tech 1994

Dmitriy A Yablonskiy, D SC, PHD, MSEPProfessor of Radiology (primary appointment)
Adjunct Professor of Physics
D SC Institute for Physics and Eng 1981
PHD Institute for Physics and Eng 1973
MS Kharkov State University 1970

Motoyo Yano, MD, PHDAssistant Professor of Radiology (primary appointment)
BS Tufts University 2000
MD University of Chicago 2007
PHD University of Chicago 2005

Catherine A Young, JD Instructor in Radiology (primary appointment)
JD University of Texas Austin 1995

Allyson R Zazulia, MDProfessor of Neurology (primary appointment)
Associate Dean for Continuing Medical Education

Shiying Zhao, PHD, MME Adjunct Associate Professor of Radiology (primary appointment)
PHD University of South Carolina 1991
BA University of Science & Tech 1982
MME Shanghai jiao Tong University 1984

Jie Zheng, PHD Associate Professor of Radiology (primary appointment)
PHD University of Cincinnati 1994
BS Beijing University 1986

Dong Zhou, PHD, MS Instructor in Radiology (primary appointment)
BS1 Shandong University 1990
PHD Washington Univ in St. Louis 2004
MS1 Shandong University 1995
MS School Not Listed 1995
BS School Not Listed 1990

Dequan Zou, D SC, MS, MEPProfessor of Physical Therapy (primary appointment)
Professor of Radiology
BS Harbin Engineering University 1982
D SC Washington Univ in St. Louis 1993
MS Washington Univ in St. Louis 1991
ME Harbin Engineering University 1984

Darryl Adam Zuckerman, MDAssistant Professor of Radiology (primary appointment)
Assistant Professor of Surgery (General Surgery)
MD State Univ of NY Syracuse 1983
BA New York University 1979

No entries found
Mary Culver Department of Surgery

The formal instruction in surgery begins in the third year with the required, 12-week Integrated Surgical Disciplines Clerkship. During this surgical clerkship, students are assigned to clinical rotations, mostly within the Department of Surgery, with some exposure to other surgical-related disciplines outside the department. The clerkship allows students opportunities to participate in the care of surgical patients, both in- and outpatient; spend time in the operating rooms; and attend seminars, teaching conferences and didactic sessions on a regular basis. In the fourth year, students may select “subinternship” electives within the Division of General Surgery, which include a variety of general surgical specialties. In addition to the general surgery subinternships, electives are available in pediatric surgery, transplant surgery, vascular surgery, cardiovascular and thoracic surgery, urologic surgery, and plastic and reconstructive surgery.

For more information

Please visit the Department of Surgery website for more information.

MD Courses — Surgery

Third year

M95 790 INTEGRATED SURGICAL DISCIPLINES CLERKSHIP

During the 12-week surgery clerkship, students are assigned to three 4-week rotations,
one of which is a required 4-week general surgery rotation at Barnes-Jewish Hospital (plus one option at the Veterans Administration Medical Center). In addition to the general surgery rotation, each student is assigned two four-week elective rotations from a variety of surgical specialties and/or related disciplines. The 12-week clerkship focuses on the diagnosis, care, and management of surgical patients. The student is an active participant in the daily care of patients on each service and attends clinics, rounds, operating rooms, call nights, and teaching conferences. Central to the 12-week clerkship are small-group didactic sessions with assigned faculty members and a lecture/workshop series that covers a wide range of surgical topics and specialties as well as provides opportunity for practice of basic clinical skills in simulated settings.

Fourth year

There is ample opportunity for fourth-year students to participate in elective rotations within each division of the Department of Surgery. Many of the fourth-year surgery electives are structured to allow the student to participate as a “subintern,” facilitating experiences in preoperative, intraoperative and postoperative patient management. Generally, the minimum duration of a fourth-year elective rotation in the Department of Surgery is four weeks. Research electives are also available.

Electives

**M95 814 / ACTING INTERNSHIP, TRAUMA SERVICE**

Instructor(s): Stephen Eaton, MD; John Kirby, MD; Douglas Schuerer, MD; and Kareem Husain, MD

Location: 1411 Queeny Tower

Elective Contact: Jennifer Richter, 314-362-7775

Other Information: This is NOT a “preceptor” elective. However, students may elect to make prior arrangements to work more closely with particular attendings on this service (based on availability).

Enrollment limit per period: 1

Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.
The student on this elective will function as a subintern on the Trauma and Acute Care Surgical Service within the Section of Acute and Critical Care Surgery. Student involvement in all aspects of clinical surgery is accomplished by student attendance in the outpatient office, preoperative patient evaluation, in-hospital patient management, and postoperative outpatient follow-up after discharge. Practical experience will focus on the initial evaluation and resuscitation of traumatized patients and other emergency care patients. The student will also participate in regular rounds, conferences, and in-house call. Note: If a student desires to work more closely with a “specific attending,” he/she must make special arrangements with the faculty member prior to beginning this elective. If you have any questions regarding this notice, please call Doug Brown in the Surgical Education Office 314-362-8029.

Student time distribution: Inpatient 80%, Outpatient 10%, Conferences/ Lectures 10%; Primary Care 20%, Subspecialty Care 80%
Major teaching responsibility: Attendings, residents and fellows
Patients seen/weekly: 30
On call/weekend responsibility: Yes

M95 818 / SURGICAL NIGHT FLOAT & ER SUBINTERNSHIP
Instructor(s): John Kirby, MD; and L. Michael Brunt, MD
Location: ER
Elective Contact: Doug Brown, 314-362-8029

Other Information: Student should contact instructor prior to first day of elective.
Enrollment limit per period: 2
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This subinternship is specifically designed to give senior medical students an intern level experience in managing acute on-call problems in surgical patients and in evaluating urgent and emergent problems in the ED. The rotation will be divided into two, two week segments – one segment in the ED and the second on night float call on the surgical floors. Students will gain experience evaluating and managing the types of acute problems they will encounter as surgical interns as first responders to
patients with acute abdominal pain, chest pain, hypotension, mental status changes, and other ER/on-call type problems. They will be assigned to the on call surgical resident and will have a structured experience in order to maximize development of their diagnostic, management, and case presentation skills in the acute care setting so that they may more smoothly make the transition to a surgical internship.

Student time distribution: Inpatient 50%, Outpatient 50%, Conferences/ Lectures TBD; Primary Care 100%
Major teaching responsibility: John Kirby, MD and Surgical Residents
Patients seen/weekly: 20-30 each week
On call/weekend responsibility: No weekend call, rotation is nighttime based Tuesday through Friday for Floor two-week component and Tuesday, Wednesday, and Friday for ED two-week component

**M95 820 / CARDIOTHORACIC SURGERY**
Instructor(s): Hersh Maniar, MD; Michael Avidan, MBBCH; Umar Boston, MD; Stephen Broderick, MD; Traves Crabtree, MD; Ralph Damiano, MD; Charl De Wet, MD; Pirooz Eghtesady, MD, PhD; Dan Kreisel, MD, PhD; Sasha Krupnick, MD; Jennifer Lawton, MD; Bryan Meyers, MD; Marc Moon, MD; Michael K. Pasque, MD; G. Alexander Patterson, MD; Varun Puri, MD; Stephano Schena, MD; and Scott Silvestry, MD
Location: 3106G Queeny Tower
Elective Contact: Hersh Maniar, MD; Secretary, Leslie Wiley at 314-362-7431

Other Information: Students should contact Leslie Wiley at 314-362-7431 prior to the first day of elective. Students should report to 3106G Queeny Tower, 9:30 a.m. first day of elective.
Enrollment limit per period: 3
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37 and 41.

The senior elective in cardiothoracic surgery is a four-week clinical rotation with two week blocks divided between adult cardiac, pediatric cardiothoracic, and general thoracic surgery according to the student's preference. Students will participate in morning work rounds, attend the operative procedures of their choice, and attend
weekly conferences and teaching rounds. Students will be introduced not only to the surgical procedures but also to the postoperative care of the surgical patients.

On the pediatric and adult cardiac services, students will be introduced to the principles of cardiopulmonary bypass, repair of congenital heart defects, ventricular assist devices, cardiac transplantation, coronary artery bypass surgery (on and off pump), valve repair and replacement, complex aortic surgery, the MAZE procedures and others.

On the adult cardiac surgery service, students will function as subinterns under the direct supervision of a faculty member.

On the thoracic surgical rotation students will have the opportunity of performing bronchoscopy, esophagoscopy, gastroscopy, and participate in surgical resections of lung cancer and esophageal cancer, as well as surgery for emphysema and for benign esophageal conditions. Students will also participate in lung transplantation surgery.

Student time distribution: Inpatient 80%, Outpatient 10%, Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attendings and residents
Patients seen/weekly: 20
On call/weekend responsibility: One in three, no weekend call

**M95 830 / PLASTIC RECONSTRUCTIVE SURGERY**
Instructor(s): Kamlesh Patel, MD
Location: 11th Floor Northwest Tower
Elective Contact: Mary Darden, 314-747-1193

Other Information: Mary will e-mail the student a schedule approximately 10 days before the start date. The student will meet with Dr. Patel @ 6:30 a.m. on the first day of the rotation unless other arrangements have been made. Enrollment limit per period: 4 per block weeks 1-13; 2 per block weeks 17-41
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.
The period on plastic surgery may either be spent as a clinical clerkship or conducting a research project. The purpose of the clinical clerkship is to familiarize the student with the basic principles of Plastic Surgery. The student will have successive assignments to each of the attending staff and the ward resident services during the four weeks. This will expose the student to the breadth and depth of plastic surgery. Alternatively, if the student has identified a focus of interest, the student may participate on those services of special interest, such as hand or pediatric plastic surgery. The student will assume an active role on the plastic surgery service and will participate in the total management of a wide variety of surgical problems including congenital anomalies, microvascular surgery, surgery of the upper extremity, peripheral nerve surgery, cosmetic surgery, and general reconstructive plastic surgery.

Research projects should be student-motivated and need to be approved prior to scheduling and confirming the research rotation. Student will perform a 10-15 minute case presentation.

Student time distribution: Inpatient 70%, Outpatient 20%, Conferences/ Lectures 10%; Subspecialty Care 100%

Major teaching responsibility: Attendings and residents

Patients seen/weekly: 12

On call/weekend responsibility: One day per week, one weekend per month.

M95 832 / PLASTIC SURGERY EXTERNSHIP (Visiting Students Only)

Instructor(s): Kamlesh Patel, MD, 314-747-0541
Location: 11th Floor Northwest Tower
Elective Contact: Mary Darden, 314-747-1193

Other Information: Mary will e-mail the student a schedule approximately 10 days before the start date. The student will meet with Dr. Patel at 6:30 a.m. on the first day of the rotation unless other arrangements have been made.
Enrollment limit per period: Varies
Flexible start days for 3 to 4-week blocks are available beginning July 1, through December 31. Certain rotation dates/weeks may be limited depending on the number of students requesting rotations.
Students rotate on four different Plastic Surgery Services for one week each to maximize exposure to all faculty. If the student has transportation, they will travel to Barnes West County office on two days. Services include: breast reconstruction, hand, nerve, cosmetic and general reconstruction. Participation in conferences is expected. Student will perform a 10-15 minute case presentation.

Student time distribution: Inpatient 70%, Outpatient 20%, Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attendings and residents
Patients seen/weekly: 12
On call/weekend responsibility: one day per week, one weekend per month

M95 850 / UROLOGY
Instructor(s): Gerald Andriole, MD, 314-362-8212
Location: Wohl Hospital
Elective Contact: Sally Wahlbrink, 314-362-8212

Other Information: Students should contact Dr. Andriole’s office at 314-362-8212 prior to first day for room assignment.
Enrollment limit per period: 2
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

A four-week clinical clerkship in pediatric and/or adult urology will offer the interested student experience with a spectrum of problems in clinical urology. The student will learn the basic diagnostic procedures and management of surgical and non-surgical aspects of patient care under the supervision of the attending staff and house staff. Clinical conferences are held three days per week.

Student time distribution: Inpatient 65%, Outpatient 25%, Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Several attendings, chief resident and resident staff
Patients seen/weekly: >20
On call/weekend responsibility: Two Saturdays per month
**M95 862 / ACTING INTERNSHIP, COLON AND RECTAL SURGERY**

Instructor(s): Steve Hunt, MD; Elisa Birnbaum, MD; Matthew Mutch, MD; Paul Wise, MD; Matthew Silviera, MD; and Sekhar Dharmarajan, MD  314-747-6156

Location: 14102 Queeny Tower, South Campus

Elective Contact: Emily Stroisch, 314-454-7182

Other Information: This is NOT a “preceptor” elective. However, students may elect to make prior arrangements to work more closely with a specific attending on this elective (based on availability).

Enrollment limit per period: 1

Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This subinternship elective is designed to give students in-depth experience in the clinical management of patients on the Colorectal Surgery Service. Students work closely with the attendings within the Section of Colon and Rectal Surgery, and clinical exposure is focused on a wide range of benign and malignant colorectal diseases.

There is exposure to radiation oncology and the specialized areas of nursing related to care of patients with colorectal cancer and inflammatory bowel disease. The course will offer opportunities for students to gain experience in preoperative, intraoperative and postoperative, patient management under house staff, fellows, and faculty guidance, as well as ample opportunity to attend and participate in conferences.

Notice: If a student desires to work more closely with a specific attending, he/she must make special arrangements with the Colorectal Surgery Office prior to beginning this elective.

Student time distribution: Inpatient 75%, Outpatient 20%, Conferences/ Lectures 5%; Subspecialty Care 100%

Major teaching responsibility: Steven Hunt, MD, and colorectal fellows

Patients seen/weekly: 25-50

On call/weekend responsibility: Every fifth night or negotiable

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**M95 863 / ACTING INTERNSHIP, SURGICAL ONCOLOGY AND ENDOCRINE SURGERY**

Instructor(s): Timothy Eberlein, MD; Rebecca Aft, MD; Amy Cyr, MD; William
This subinternship elective is designed to give students in-depth experience in the clinical management of patients on the Endocrine and Surgical Oncology Service (Unit I Service). Students will serve as clerks and will be responsible for patient management with house staff under the guidance of the chief resident and attending surgeons. Clinical exposure is focused on thyroid, parathyroid and adrenal surgery, as well as breast oncology, melanoma, and soft-tissue sarcomas. The course will offer opportunities for students to gain experience in preoperative, intraoperative, and postoperative patient management. There will be opportunity for students to evaluate patients, decide on a diagnostic and management strategy and provide care under house staff and faculty guidance, as well as ample opportunity to attend and participate in conferences. Note: If a student desires to work more closely with a “specific attending,” he/she must make special arrangements with the faculty member prior to beginning this elective. If you have any questions regarding this notice, please call Doug Brown in the Surgical Education Office 314-362-8029.

Student time distribution: Inpatient 75%, Outpatient 15%, Conferences/ Lectures 10%
Major teaching responsibility: Attendings, chief resident, and junior residents
Patients seen/weekly: 20-40 (varies)
On call/weekend responsibility: Every third or fourth night with a resident who will directly supervise

**M95 864 / ETHICAL CHALLENGES IN SURGERY AND MEDICINE**
Instructor(s): Mary Klingensmith, MD
This elective will involve exploration of the ethical challenges discussed during didactic conferences and in clinical settings within the Department of Surgery at Washington University in St. Louis School of Medicine. The student will be guided through readings, discussions, and projects by department faculty members with expertise in clinical ethics. The elective will result in a finished manuscript to be published, with the student as co-author, in the journal Surgery. This elective provides the opportunity to work closely with faculty mentors and should appeal to any student interested in the ethical and humanitarian challenges facing physicians in particular and society in general.

Student time distribution: Conferences/Lectures 100%
Major teaching responsibility:
Patients seen/weekly: NA
On call/weekend responsibility: NA

M95 871 / ACTING INTERNSHIP, VASCULAR SURGERY
Instructor(s): Chandu Vemuri, MD; Nanette Reed, Luis A. Sanchez, Gregorio A. Sicard, Mohammed Zayed, Jeffrey Jim, Patrick J. Geraghty, Brian G. Rubin and Robert W. Thompson, 314-362-3511
Location: 5103 Queeny Tower
Elective Contact: Students should contact Dr. Vemuri’s office prior to the start of this rotation at 314-362-3511
Assistant: Theresa Belgeri, 314-362-5707, belgerit@wudosis.wustl.edu

Other Information: This is NOT a “preceptor” elective. However, students may elect to make prior arrangements to work more closely with Dr. Vemuri 314-362-7841 or other
This subinternship elective is designed to give students in-depth experience in the clinical management of patients on the Vascular Surgery Service. The elective will offer opportunities for students to gain experience in preoperative, intraoperative and postoperative, management of patients with surgically treated vascular diseases/conditions. Students will serve as clerks and will be responsible for patient management with house staff under the guidance of the chief resident and attending surgeons. There will be opportunity for students to evaluate patients, decide on a diagnostic and management strategy and provide care under house staff and faculty guidance, as well as ample opportunity to attend and participate in conferences. Notice: If a student desires to work more closely with a “specific attending,” he/she must make special arrangements with the faculty member prior to beginning this elective. If you have any questions regarding this notice, please call Doug Brown in the Surgical Education Office 314-362-8029.

Student time distribution: Inpatient 70%, Outpatient 20%, Conferences/ Lectures 10%; Primary Care 10%, Subspecialty Care 90%
Major teaching responsibility: Attending, fellows, chief resident, and junior residents
Patients seen/weekly: 100+ (varies)
On call/weekend responsibility: Student’s option

**M95 879 / ACTING INTERNSHIP, HEPATOBILIARY PANCREATIC SURGERY**
Instructor(s): Steven Strasberg, MD; William Hawkins, MD; Ryan Fields, MD; and Majella Doyle, MD
Location: 11th Floor Northwest Tower
Elective Contact: Chelsey Hermann, 314-454-5625

Other Information: This is NOT a “preceptor” elective. However, students may elect to make prior arrangements to work more closely with a specific attending on this service (based on availability).
Enrollment limit per period: 1
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This subinternship elective is designed to give students in-depth experience in the clinical management of patients on the Hepatobiliary/Pancreatic (Unit II) Service. The Unit II Service is a busy upper gastrointestinal service with a focus on hepatobiliary and pancreatic diseases and their treatment. The course will offer opportunities for students to gain experience in preoperative, intraoperative, and postoperative patient management. Students will serve as clerks and will be responsible for patient management with house staff under the guidance of the fellow, chief resident and attending surgeons. There will be opportunity for students to evaluate patients, decide on a diagnostic and management strategy, and provide care under house staff and faculty guidance, as well as ample opportunity to attend and participate in conferences. Note: If a student desires to work more closely with a specific attending, he/she must make special arrangements with the faculty member prior to beginning this elective.

Student time distribution: Inpatient 75%, Outpatient 15%, Conferences/ Lectures 10%; Primary Care 100%
Major teaching responsibility: Attending, chief resident, fellow and junior residents
Patients seen/weekly: Varies
On call/weekend responsibility: Every third or fourth night with a resident who will directly supervise.

**M95 880 / PEDIATRIC SURGERY**
Instructor(s): Kate Bernabe, M.D; Martin Keller, M.D.; Jacqueline Saito, M.D.; Pat Dillon, M.D.; Brad Segura, MD, and Brad Warner, MD.
Location: 5540 St. Louis Children's Hospital
Elective Contact: Stacy Pokorny, 454-4169

Other Information: Students should report at 6:00 a.m. on the first day of the rotation.
Enrollment limit per period: 1
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.
The student will participate as a subintern in all aspects of pediatric surgical patient care and will be exposed to a wide variety of pediatric surgical cases. This includes the preoperative and postoperative evaluation of patients as well as the care of pediatric trauma patients. Daily rounds are made with both the resident and attending staff and active participation is expected in the pediatric surgery clinic and the operating room. Weekly conferences include Mortality and Morbidity, Radiology, Pathology and case presentations with the student expected to prepare a conference presentation on a topic of interest.

Student time distribution: Inpatient 60%, Outpatient 30%, Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attendings
Patients seen/weekly: 35
On call/weekend responsibility: Optional

**M95 891 / ORGAN TRANSPLANTATION**

Instructor(s): William Chapman, MD; Surendra Shenoy, MD, PhD; Majella Doyle, MD; Yiing Lin, MD; and Jason Wellen, MD
Location: Barnes-Jewish Hospital
Elective Contact: Mary Hampton 314-362-7792, Kiesha Cleark 314-747-2456

Other Information: Student should contact instructor if interested in scheduling elective.
Enrollment limit per period: 2
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The care of transplant patients requires the integration of multiple diverse medical and surgical disciplines. This elective clerkship in organ transplantation encompasses the preoperative evaluation and management of adult and pediatric recipients of liver, kidney, and pancreas. Students participate in procurement of allografts from cadaveric or living donors, organ preservation, and transplantation. Emphasis is also placed on postoperative care, multimodality immunosuppression and management of allograft rejection. Basic hepatic and renal physiology, fluid and electrolyte balance, and
transplantation immunology are stressed. Rotation provides an elaborate exposure to different facets of management of end stage renal and liver disease. Management of the complications of diabetes, hypertension, portal hypertension, and infectious problems are an integral part of pre- and post-transplant care. This course is designed to offer the student an overview of the field of organ transplantation, however, in addition to transplant surgery, students will also get some exposure to vascular access and hepatobiliary surgery. The student functions as a member of the transplant team and assumes appropriate responsibilities under supervision.

Student time distribution: Inpatient 80%, Outpatient 10%, Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Full attending and resident staff
Patients seen/weekly: 40
On call/weekend responsibility: Yes

M95 893 / ACTING INTERNSHIP, MINIMALLY INVASIVE SURGERY
Instructor(s): L. Michael Brunt, MD 314-454-8877
Location: 11th Floor Northwest Tower
Elective Contact: Student should contact Dr. Brunt at 314-454-8877 prior to the first day of the elective

Other Information: This is NOT a “preceptor” elective. However, students may elect to make prior arrangements to work more closely with Dr. Brunt on this elective (based on availability).
Enrollment limit per period: 1
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This subinternship elective in minimally invasive surgery is offered by L. Michael Brunt, MD, a member of the Section of Minimally Invasive Surgery in the General Surgery Division. Surgeons in the Minimally Invasive Surgery group regularly perform the following procedures laparoscopically: cholecystectomy, splenectomy, adrenalectomy, hiatal hernia repair, inguinal hernia repair, ventral hernia repair and gastric bypass for morbid obesity. The medical student electing this rotation will
participate in the outpatient office and direct patient care, assist and observe in a wide range of laparoscopic procedures and participate in teaching rounds and conferences. During this rotation, the student will also have the opportunity to observe and participate in minimally invasive surgical procedures performed by various surgeons within the Division of General Surgery and will function as an acting intern. Notice: If a student desires to work more closely with a “specific attending,” he/she must make special arrangements with the faculty member prior to beginning this elective. If you have any questions regarding this notice, please call Doug Brown in the Surgical Education Office 314-362-8029.

Student time distribution: Inpatient/Operating Room 60%, Outpatient 30%, Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attending and residents
Patients seen/weekly: ~25 (varies)
On call/weekend responsibility: One call weekend which consists of morning rounds and home call. No in-house call.

**M10 820 / CRITICAL CARE**
Instructor(s): Heidi Atwell, DO, 314-362-1196, Course Master; Walter Boyle, MD; Grant Bochicchio, MD; Stephanie Bonne, MD; Anne Drewry, MD; Stephen Eaton, MD; Daniel Emmert, MD; Alex Evers, MD; Brian Fuller, MD; Thomas J. Graetz, MD; Richard Hotchkiss, MD; Kareem Husain, MD; Jacob Keeperman, MD; Paul Kerby, MD; John Kirby, MD; Isaac Lynch, MD; John Mazuski, MD; Tiffany Osborn, MD; Patricia Penkoske, MD. Adnan Sadiq, MD; Doug Schuerer, MD; Jessica Smith, MD; Robert Southard, MD; George Tseng, MD; Brian Wessman, MD; and Robert Winfield, MD
Location: Barnes-Jewish Hospital, South Campus
Elective Contact: Barbara McKinney, 314-747-3581

Other Information: Students should meet in the 4400 Surgical Intensive Care Unit, 4th Floor of Barnes-Jewish Hospital, at 7:30 a.m. on the first day of the elective.
Enrollment limit per period: 4
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.
Students on this rotation are integral members of the multidisciplinary intensivist-led critical care team in the Surgical Intensive Care Unit (SICU). Students learn an organ systems-based approach for evaluation and management of critically ill and injured patients, and application of evidence-based principles in delivery of state-of-the-art critical care. Emphasis is placed on critical care knowledge and techniques used at the bedside in the clinical management of serious traumatic and surgical conditions. Students become familiar with resuscitation and cardiopulmonary support, including methods for non-invasive and invasive hemodynamic monitoring, and techniques for airway management and pulmonary support in respiratory failure. Basic knowledge and skills in the management of neurologic injuries, liver and/or renal failure, and life-threatening infections in the surgical patient are also taught, as is the importance of treatments to alleviate anxiety and pain, maintain fluid and electrolyte balance, and provide adequate nutrition. Practical experience is gained in placement of vascular access devices, interpretation of laboratory data, and use of guidelines, protocols and quality assurance tools in the management of critically ill patients.

Student time distribution: Inpatient 80%, Conferences/Lectures 20%; Subspecialty Care 100%
Major teaching responsibility: ICU Attendings
Patients seen/weekly: 50
On call/weekend responsibility: Variable

Research — Surgery

L. Michael Brunt, MD
1160 Northwest Tower, Barnes-Jewish Hospital
314-454-8877
Minimally invasive surgery, including endocrine applications. Minimum rotation length:
four weeks. Under the auspices of the Washington University Institute for Minimally Invasive Surgery (WUIMIS), a number of surgeons are investigating the physiologic consequences of laparoscopic surgery and new applications for procedures and technologies. Dr. Brunt is currently investigating clinical outcomes of various laparoscopic surgical procedures, laparoscopic hiatal hernia surgery and adrenal surgery, and is carrying out education related research of skills training for senior medical students planning to enter a surgical internship.

Division of Plastic and Reconstructive Surgery
660 S. Euclid, Box 8238
314-747-0541

The Division of Plastic Surgery offers many opportunities for research projects on various topics related to plastic surgery. A project will be designed with the student prior to his/her rotation on plastic surgery so that all of the materials and methods will be available at the beginning of the rotation. The basic science laboratories investigate primarily nerve injury and regeneration including nerve transplantation. The student will be encouraged to design and complete his/her own research study during the elective. Minimum rotation length is six weeks. The research rotation can be conducted in the plastic surgery laboratories under the direction of Drs. Moore, Snyder-Warwick, Wood or Mackinnon.

Ongoing projects include:
(1) influence of growth factors and blood flow on nerve regeneration;
(2) neural tissue engineering;
(3) diagnostic potential of biomarkers to identify nerve injury; and
(4) investigation of glial cells at the neuromuscular junction during development, maintenance, aging, and following nerve injury.

Additional clinical and educational research opportunities in various fields of plastic surgery are available with Drs. Fox, Myckatyn, Patel, Tung, and Woo.

These various projects include:
(1) in vivo tissue generation and tissue differentiation;
(2) the mechanical, structural and biochemical effects of stress on scar tissue
maturation;
(3) in vivo anatomy of craniofacial deformities;
(4) outcome analysis of methods of cleft lip and palate management;
(5) breast reconstruction (3D imaging of breasts after cosmetic or reconstructive surgery, interpretation of angiograms of the breast to measure nipple perfusion);
(6) use of nerve transfer to improve hand function in patients with cervical spinal cord injury/quadriplegia; and
(7) surgical education (specifically web-based multi-media strategies for peripheral nerve surgery education).

Faculty — Surgery

Timothy J Eberlein, MD, MA
Bixby Professor of Surgery (General Surgery) (primary appointment)
Head of the Department of Surgery
Director of The Alvin J. Siteman Cancer Center
Professor of Pathology and Immunology
Spencer T. and Ann W. Olin Distinguished Professor
MD University of Pittsburgh 1977
MA Harvard University 1996
BS University of Pittsburgh 1973

Rebecca L Aft, PHD, MD
Professor of Surgery (General Surgery) (primary appointment)
PHD Univ of Wisconsin Madison 1983
BS Univ of Wisconsin Madison 1978
MD Washington Univ in St. Louis 1992

Olaguoke Kelechi Akinwande, MD
Assistant Professor of Radiology (primary appointment)
Assistant Professor of Surgery (General Surgery)
MD Ross University 2009

Dorothy A Andriole
Associate Professor of Surgery (General Surgery) (primary appointment)
Assistant Dean for Student Affairs and Medical Education
BA New York University 1976

Gerald L Andriole, MD
Robert Killian Royce, M.D. Distinguished Professor of Urologic Surgery (primary appointment)
MD Jefferson Medical College 1978
BS Pennsylvania State University 1976

Jeffrey Michael Arbeit, MD
Professor of Surgery (Urologic Surgery) (primary appointment)
Professor of Cell Biology and Physiology
BS Boston University 1972
MD Rush University 1976

Christopher Thomas Arett, MD
Assistant Professor of Surgery (Urologic Surgery) (Pending Executive Faculty Approval) (primary appointment)
MD Washington Univ in St. Louis 2003
BS Washington Univ in St. Louis 1999

Kenneth J Arnold, MD
Assistant Professor of Clinical Surgery (General Surgery) (primary appointment)
MD Washington Univ in St. Louis 2003
BA University of Notre Dame 1964

Paul F Austin, MD
Professor of Surgery (Urologic Surgery) (primary appointment)
BA Murray St University 1987
MD University of Kentucky 1991

Michael Simon Avidan, MBBCH
Professor of Anesthesiology (primary appointment)
Professor of Surgery (Cardiothoracic Surgery)
MBBCH University of the Witwatersra 1991

Michael Magdi Awad, PHD, MD
Associate Professor of Surgery (General Surgery) (primary appointment)

Associate Dean for Medical Education
PHD Brown University 2001
MD Brown University 2001
BS Brown University 1994

Jeffrey Allen Bailey, MD, M PA
Adjunct Assistant Professor of Surgery (General Surgery) (primary appointment)
MD Saint Louis University 1996
M PA Golden Gate University 1986
Parul Bakhshi
Assistant Professor of Occupational Therapy (primary appointment)

Assistant Professor of Surgery (Public Health Sciences)
Keki Rohonton Balsara, MD
Assistant Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
BS1 University of Pennsylvania 1998
MD University of Pennsylvania 2003

Joaquin Barnoya, MS, MD
Associate Professor of Surgery (General Surgery) (primary appointment)
Associate Professor of Medicine
MS Harvard University 2001
MD Universidad de San Carlos 1998

Kenneth J Bennett, MD
Associate Professor of Clinical Surgery (General Surgery) (primary appointment)
MD Tulane University 1965

Sam B Bhayani, MD
Professor of Surgery (Urologic Surgery) (primary appointment)
BS Cornell University 1992
MD Washington Univ in St. Louis 1996

Lawrence J Billy
Instructor in Clinical Surgery (General Surgery) (primary appointment)
BA Youngstown St University 1962

Elisa H Birnbaum, MD
Professor of Surgery (General Surgery) (primary appointment)
MD University of Illinois 1985
BS Univ of Wisconsin Madison 1981
Jeffrey Alan Blatnik, MD Assistant Professor of Surgery (General Surgery) (primary appointment)
MD Case Western Reserve Univ 2007

Grant Bochicchio, MD, M PH Professor of Surgery (General Surgery) (primary appointment)
MD Pennsylvania State University 1993
M PH University of Pittsburgh 1989

Walter A Boyle III, MD Professor of Anesthesiology (primary appointment)
Assistant Professor of Developmental Biology
Professor of Surgery (General Surgery)
MD University of CA San Francisco 1977

Keith E Brandt, MD William G. Hamm Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
MD Univ Texas Health Science Ctr 1983
BS Texas A&M University 1979

Anoop k Brar, PHD Instructor in Surgery (Cardiothoracic Surgery)(Pending Dean's Approval) (primary appointment)
PHD University of Edinburgh 1983
BS University of Edinburgh 1979

L. Michael Brunt, MD Professor of Surgery (General Surgery) (primary appointment)
MD Johns Hopkns University Medic 1980
BA University of Mississipi 1976

Donald William Buck, MD Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
BS Indiana University Bloomington 2002
MD Johns Hopkins University 2006

Sara Anne Buckman, MD, PHARMD Assistant Professor of Surgery (General Surgery) (primary appointment)
MD Univ of Wisconsin Madison 2008
PHARMD Univ of Wisconsin Madison 1999

John B Buettner, MD Instructor in Clinical Surgery (General Surgery) (primary appointment)
MD Washington Univ in St. Louis 1967

Arnold D Bullock, MD Professor of Surgery (Urologic Surgery) (primary appointment)

Alan A and Edith L Wolff Distinguished Professor
MD Johns Hopkins University 1987
BS Xavier University Lousiana 1983

David Anthony Caplin, MD Instructor in Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)
MD University of Cincinnati 1975
BA Kenyon College 1971

Kenneth R Carson Assistant Professor of Medicine (primary appointment)
Assistant Professor of Surgery (Public Health Sciences)

Ebony Boyce Carter, MS, MD Assistant Professor of Obstetrics and Gynecology (primary appointment)
Assistant Professor of Surgery (Public Health Sciences)
MS University of Michigan 2002
BS Stanford University 2000
MD Duke University 2006

Diego Casali Assistant Professor of Surgery (Cardiothoracic Surgery) (Pending Executive Faculty Approval) (primary appointment)
Su-Hsin Chang, MA Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
MA Mass Inst of Technology (MIT) 2004
BA National Chengchi University 1995
Will C Chapman, MD Eugene M. Bricker Professor of Surgery (General Surgery) (primary appointment)
MD University of South Carolina 1984
BA University of North Carolina 1980
Alexander Chi Chen, MD Associate Professor of Medicine (primary appointment)
Associate Professor of Surgery (Cardiothoracic Surgery)
MD University of MO Kansas City 2001
Heidi Atwell Coco, DOST Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
BS Truman State University 2000
DOST Kirksville College of Osteopath 2005
John E. Codd, MD Professor of Clinical Surgery (Cardiothoracic Surgery) (primary appointment)
BA Gonzaga University 1954
MD Saint Louis University 1963
Graham A Colditz, MBBS, DRPH Niess-Gain Professor of Surgery (General Surgery) (primary appointment)
Professor of Medicine
Deputy Director for the Institute of Public Health
BS University of Queensland 1977
MBBS University of Queensland 1979
DRPH Harvard University 1986
H. Groves Cooke III, MS, DDENT Instructor in Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)
MS George Washington University 1975
BA De Paul University 1967
DDENT Washington Univ in St. Louis 1971
Douglas E Coplen, MD Associate Professor of Surgery (Urologic Surgery) (primary appointment)
BA Wabash College 1981
MD Indiana University Bloomington 1985
James L Cox, MD Evarts A. Graham Professor Emeritus of Surgery (Cardiothoracic Surgery) (primary appointment)
Evarts A. Graham Prof Emer of Surg (Card Surg) (primary appointment)
BS University of Mississippi 1964
MD1 University of Tennessee 1967
MD University of Tennessee 1967
UNKNOWN Duke University 1978
Michael Crittenden Associate Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Brian P. Cupps, PHD Associate Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
PHD Texas A&M University 1994
Amy Cyr, MD Assistant Professor of Surgery (General Surgery) (primary appointment)
BA Creighton University 1997
MD Univ of Nebraska Med Center 2002
Ralph James Damiano Jr, MD Evarts Ambrose Graham Professor of Surgery (Cardiothoracic
Michael D Darcy, MD  
**Professor of Radiology** (primary appointment)  
**Associate Professor of Surgery (General Surgery)**  
MD Duke University 1980  
BA Dartmouth College 1976  
Charl Johan De Wet  
**Associate Professor of Anesthesiology** (primary appointment)  
**Associate Professor of Surgery (Cardiothoracic Surgery)**  
MD Ohio State University 1979  

Patrick A Dillon  
**Associate Professor of Surgery (Pediatric Surgery)** (primary appointment)  
MD Ohio State University 1979  
BS Marquette University 1977  

Julianne Elizabeth Donnelly, MD  
**Assistant Professor of Anesthesiology** (primary appointment)  
**Assistant Professor of Surgery (Cardiothoracic Surgery)**  
MD University of Kansas 2009  

Maria Bernadette Majella Doyle, MD  
**Associate Professor of Surgery (General Surgery)** (primary appointment)  
MD Trinity College Dublin 1996  
BS Trinity College Dublin 1990  

Eleanor Lynn Powell Drew, AB  
**Assistant Professor of Surgery (General Surgery)** (primary appointment)  
AB Brown University 2005  

Joseph W Eades  
**Assistant Professor of Clinical Surgery (Plastic and Reconstructive Surgery)** (primary appointment)  

J. Chris Eagon, MD, MS  
**Associate Professor of Surgery (General Surgery)** (primary appointment)  
MD Harvard University 1988  
MS University of Utah 1997  
BA Williams College 1984  

Stephen Ray Eaton, MD  
**Assistant Professor of Surgery (General Surgery)** (primary appointment)  
BS1 Southern Illinois University 1997  
MS1 Southern Illinois University 2000  
MD Ross University 2005  

Shaina Rose Eckhouse, MD  
**Assistant Professor of Surgery (General Surgery) (Pending Executive Faculty Approval)** (primary appointment)  
MD Univ Texas Health Sci San Anto 2008  

Pirooz Eghtesady, MD, MS, D SC  
**Professor of Surgery (Cardiothoracic Surgery)** (primary appointment)  
Professor of Pediatrics  
MD University of CA Los Angeles 1993  
MS University of CA Los Angeles 1987  
BS University of CA Los Angeles 1987  
D SC University of CA Los Angeles 1993
Daniel Emmert, MD
Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
MD Saint Louis University 2005

Sean Jason English
Assistant Professor of Surgery (General Surgery) (Pending Executive Faculty Approval) (primary appointment)

Christopher R. Erwin, MS, PHD
Associate Professor of Surgery (Pediatric Surgery) (primary appointment)
MS University of CA Davis 1978
PHD University of Iowa 1983
BS University of CA Davis 1976

John Matthew Felder III
Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (Pending Executive Faculty Approval) (primary appointment)

Ryan Courtney Fields, MD
Assistant Professor of Surgery (General Surgery) (primary appointment)
BS Davenport University 1998
MD Duke University 2003

Robert S Figenshau, MD
Taylor Family and Ralph V. Claman, M.D. Professor of Surgery (Urologic Surgery) (primary appointment)
MD University of Minnesota 1987
BS Macalester College 1981

Timothy Peter Fleming
Professor of Surgery (General Surgery) (primary appointment)

Gretchen Marie Foltz, MD
Assistant Professor of Radiology (primary appointment)

Ida K Fox, MD
Associate Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
BS Haverford College 1994
MD University of Rochester 1999

Bradley D. Freeman, MD
Professor of Surgery (General Surgery) (primary appointment)
MD Duke University 1988
BS University of Central Florida 1984

Anja G. Fuchs, PHD
Assistant Professor of Surgery (General Surgery) (primary appointment)
BS School Not Listed 1994
PHD University of Manchester 2006

Feng Gao, PHD
Associate Professor of Surgery (Public Health Science) (primary appointment)
Associate Professor of Biostatistics
Associate Professor of Medicine
PHD Emory University 2003

Andrew E. Gelman, PHD
Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Professor of Pathology and Immunology
PHD University of Pennsylvania 2006
BS University of CA Los Angeles 1996

Patrick J Geraghty, MD
Professor of Surgery (General Surgery) (primary appointment)
BS Northwestern University 1989
MD Northwestern University 1991

William Ewald Gillanders, MD, MS
Professor of Surgery (General Surgery) (primary appointment)
Vice Chair for Research, Department of Surgery
MD Duke University 1991
BA Williams College 1987  
MS Medical University of South Carolina 2006  
**Sean C. Glasgow, MD**  
Assistant Professor of Surgery (General Surgery) (Pending Executive Faculty Approval) (primary appointment)  
BS Duke University 1995  
MD Duke University 1999  
Katherine LuBell Glover-Collins  
Assistant Professor of Surgery (General Surgery) (Pending Executive Faculty Approval) (primary appointment)  
Simon P Goedegebuure, PHD, MA  
Associate Professor of Surgery (General Surgery) (primary appointment)  
PHD Erasmus University Rotterdam 1989  
MA School Not Listed 1985  
BS School Not Listed 1982  
**Melody Serene Goodman, MS, PHD**  
Assistant Professor of Surgery (Public Health Sciences) (primary appointment)  
BS State Univ of NY Stonybrook 1999  
MS Harvard University 2003  
PHD Harvard University 2006  
**Thomas J Graetz, MD**  
Assistant Professor of Anesthesiology (primary appointment)  
Assistant Professor of Surgery (Cardiothoracic Surgery)  
MD Saint Louis University 2005  
Robert Lee Grubb III, MD  
Associate Professor of Surgery (Urologic Surgery) (primary appointment)  
MD Emory University 1996  
BS Davidson College 1992  
**Jun Guo, PHD, MS**  
Assistant Professor of Surgery (Pediatric Surgery) (primary appointment)  
PHD Shanghai Medical University 2000  
MS Dalian Medical University 1997  
Steven William Guyton  
Associate Professor of Clinical Surgery (Cardiothoracic Surgery) (primary appointment)  
**Bruce Lee Hall, MD**  
Professor of Surgery (General Surgery) (primary appointment)  
Professor of Health Care Management (Olin School of Business)  
Fellow in the Center for Health Policy  
BA Princeton University 1984  
MD Duke University 1992  
David A. Hardy  
Instructor in Surgery (Urologic Surgery) (primary appointment)  
**William G. Hawkins, MD**  
Professor of Surgery (General Surgery) (primary appointment)  
Neidorff Family and Robert C Packman Professor  
MD State Univ of NY Stonybrook 1995  
BA New York University 1991  
**Michael E Hayek, MS, MD**  
Instructor in Clinical Surgery (General Surgery) (primary appointment)  
BA Saint Louis University 1976  
MS Saint Louis University 1978  
MD University of Missouri 1982  
Mark Francis Heiland  
Assistant Professor of Clinical Surgery (General Surgery) (primary appointment)  
**Mohammad Anas Helwani, MD**  
Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
MD Damascus University 1998

Virginia M Herrmann, MD
Professor of Surgery (General Surgery) (primary appointment)

Professor of Medicine
MD Saint Louis University 1974

Elizabeth Hilliker, MA
Assistant Professor of Emergency Medicine in Medicine (primary appointment)

Assistant Professor of Surgery (General Surgery)
BA Washington Univ in St. Louis 1965
MA Washington Univ in St. Louis 1970
Richard S Hotchkiss
Professor of Anesthesiology (primary appointment)

Professor of Surgery (General Surgery)
Professor of Developmental Biology

Professor of Medicine
Steven R Hunt, MD
Associate Professor of Surgery (General Surgery) (primary appointment)
BA Dartmouth College 1992
MD Stanford University 1997

Kareem D. Husain
Assistant Professor of Surgery (General Surgery) (primary appointment)
BS University of Notre Dame 1995

Mohsen Ibrahim
Instructor in Surgery (Cardiothoracic Surgery) (primary appointment)

Obeid Noor Ilahi, MD
Associate Professor of Surgery (General Surgery) (primary appointment)
MD Aga Khan University 1992

Akinobu Itoh
Assistant Professor of Surgery (Cardiothoracic Surgery) (primary appointment)

Aimee S. James, PHD, MA, M PH
Associate Professor of Surgery (General Surgery) (primary appointment)
PHD University of Houston 1999
MA University of Houston 1998
M PH University of Texas Houston 2000
BA Goucher College 1995

David P. Jaques
Professor of Surgery (General Surgery) (primary appointment)

Jeffrey Jim, MS, MD
Associate Professor of Surgery (General Surgery) (primary appointment)
BS University of Southern Calif 1996
MS University of Southern Calif 1999
MD University of CA Irvine 2003

Cassandra Johnson, PHD
Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
BS1 University of Maryland 1998
PHD Harvard University 2003
MS1 Harvard University 2000

Puja Kachroo, MD, MS
Instructor in Surgery (Cardiothoracic Surgery) (primary appointment)
BS Boston University 2001
MD Ross Univ School of Medicine 2007
MS Columbia University 2003

Demetrios Katsikas, MD
Instructor in Clinical Surgery (Urological Surgery) (primary appointment)
BS University of Michigan 1985
MD Wayne State University 1989

Martin S Keller, MD
Associate Professor of Surgery (Pediatric Surgery) (primary appointment)
Associate Professor of Pediatrics
Andrew M Kim, MS, DDENT Assistant Professor of Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)
Instructor in Clinical Otolaryngology

Seung Kwon Kim Assistant Professor of Radiology (primary appointment)
Assistant Professor of Surgery (General Surgery)

Allison A King, MD Associate Professor of Occupational Therapy (primary appointment)
Associate Professor of Pediatrics
Associate Professor of Pediatrics
Associate Professor of Education (Courtesy)
Associate Professor of Surgery (General Surgery)
Associate Professor of Medicine
Associate Professor of Medicine

John P. Kirby, MD, MS Associate Professor of Surgery (General Surgery) (primary appointment)

Grant Michael Kleiber Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)

Mary E Klingensmith, MD Professor of Surgery (General Surgery) (primary appointment)
Mary Culver Distinguished Professor
Vice Chairman for Education, Department of Surgery
Sr Associate Dean for Education
Sr Associate Dean for Education

Benjamin D. Kozower, MD Professor of Surgery (Cardiothoracic Surgery) (Pending Executive Faculty Approval) (primary appointment)

David Paul Krajcovic, MD Instructor in Clinical Surgery (General Surgery) (primary appointment)

Daniel Kreisel, MD, PHD Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Professor of Pathology and Immunology

Hing Hung H Lai, MD Associate Professor of Surgery (Urologic Surgery) (primary appointment)
Associate Professor of Anesthesiology

John M Lasala, MD Professor of Medicine (primary appointment)
Professor of Surgery (Cardiothoracic Surgery)
BA Drew University 1975
MD University of Connecticut 1983

Constance Wye Leng Lee, MD Instructor in Surgery (Pediatric Surgery) (primary appointment)
MD University of Virginia 2006
BS University of Virginia 2001
Jerome F Levy Professor Emeritus of Surgery (General Surgery) (primary appointment)
Prof Emeritus of Surgery (General Surg) (primary appointment)

Wenjun Li Assistant Professor of Surgery (Cardiothoracic Surgery) (primary appointment)

Yiing Lin, PHD, MD Assistant Professor of Surgery (General Surgery) (primary appointment)
PHD Washington Univ in St. Louis 2005
MD Washington Univ in St. Louis 2005
BS Duke University 1997

Erin Lynn Linnenbringer, PHD Instructor in Surgery (Public Health Sciences) (primary appointment)
BS1 Washington Univ in St. Louis 2000
MS1 Northwestern University 2003
PHD University of Michigan 2014

Ying Liu, MD, PHD Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
MD Southeast U Medical School 1995
PHD Texas Tech University 2006

Rebecca Lobb, PHS Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
PHS Harvard University 2009

Alan M Londe, MD Instructor in Clinical Surgery (General Surgery) (primary appointment)
MD Washington Univ in St. Louis 1961

Stanley L London, MD Associate Professor Emeritus of Clinical Surgery (General Surgery) (primary appointment)
Assoc Prof Emeritus of Clin Surg (Gen Surg) (primary appointment)
MD Washington Univ in St. Louis 1949

Esther Jiaxin Lu, PHD, MS Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
Assistant Professor of Biostatistics
PHD Medical College of Wisconsin 2007
MS National Univ of Singapapore 2002
BS Nankai University 1997

Mark A Ludwig, MD Instructor in Clinical Surgery (General Surgery) (primary appointment)
MD University of Chicago 1976
BA Emory University 1972

Jingqin Luo, PHD, MS Assistant Professor of Surgery (Public Health Sciences) (primary appointment)

Susan E Mackinnon, MD Sydney M., Jr. and Robert H. Shoenberg Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
Professor of Otolaryngology
Professor of Occupational Therapy
BA Queens College 1971
MD Queen's University 1975
Hersh Maniar, MD
Associate Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Associate Professor of Medicine
MD University of Illinois 1998
BS University of Michigan 1994
Peter Bruce Manning, MD
Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
BS Bucknell University 1978
MD University of Michigan 1982
Scott R. Manson, PHD
Instructor in Surgery (Urologic Surgery) (primary appointment)
BS University of Illinois 1999
PHD Washington Univ in St. Louis 2007
Julie Ann Margenthaler, MD
Professor of Surgery (General Surgery) (primary appointment)
MD Southern Illinois University 1997
BA Boston University 1993
Muhammad Faraz Masood, MD
Assistant Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
MD Dow Medical College Karachi 2001
John E. Mazuski, PHD, MD
Professor of Surgery (General Surgery) (primary appointment)
PHD University of Minnesota 1993
MD University of CA Los Angeles 1981
Patricia A McGuire, MD
Instructor in Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)
MD University of Missouri 1985
Spencer J Melby
Assistant Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
BS Brigham Young University 1997
Bryan F Meyers, MD
Patrick and Joy Williamson Endowed Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
MD University of Chicago 1986
Jerry R Meyers, MD
Assistant Professor of Clinical Surgery (General Surgery) (primary appointment)
MD Washington Univ in St. Louis 1966
BA University of Texas Austin 1962
Kevin Joseph Mitchell
Instructor in Clinical Surgery (General Surgery) (primary appointment)
BS Howard University 1981
Jeffrey F Moley, MD
Professor of Surgery (General Surgery) (primary appointment)
MD Columbia University 1980
BA Harvard University 1976
Marc R Moon, MD
John M Shoenberg Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
BS University of Michigan 1983
MD Wayne State University 1988
Amy M. Moore, MD
Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
MD Virginia Comm University 2004
Julian C Mosley, MD
Instructor in Clinical Surgery (General Surgery) (primary appointment)
Nabil A Munfakh, MD  
Professor of Surgery (Cardiothoracic Surgery) (primary appointment)  
MD University of Michigan 1985  
BS University of Michigan 1981  

Matthew G Mutch, MD  
Professor of Surgery (General Surgery) (primary appointment)  
MD Washington Univ in St. Louis 1994  
BA St Olaf College 1990  

Terence M. Myckatyn, MD  
Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)  
BS Univ of Northern British Colu 2003  
MD Univ of Northern British Colu 1997  

Neal Neuman  
Instructor in Clinical Surgery (Urologic Surgery) (primary appointment)  
MD Washington Univ in St. Louis 1994  
BA St Olaf College 1990  

Richard James Nissen, DDS, MS  
Assistant Professor of Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)  
DDENT University of Iowa 1983  
MS Washington Univ in St. Louis 1985  
BS Iowa State University 1979  

Anthony Ian Nunez  
Instructor in Clinical Surgery (Cardio Surgery) (primary appointment)  
MS Washington Univ in St. Louis 1994  
BA St Olaf College 1990  

Nadia Mariana Obeid, MS, MD  
Instructor in Surgery (General Surgery) (primary appointment)  
BS University of Michigan 2003  
MS Wayne State University 2005  
MD Wayne State University 2009  

George A Oliver, MD  
Assistant Professor Emeritus of Clinical Surgery (General Surgery) (primary appointment)  
Asst Prof Emeritus of Clin Surg (Gen Surg) (primary appointment)  
Asst Prof Emeritus of Clin Surgery (Gen Surg) (primary appointment)  
BA Washington Univ in St. Louis 1948  
MD Washington Univ in St. Louis 1952  

Margaret Olsen, PhD, MPH  
Professor of Medicine (primary appointment)  
Professor of Surgery (Public Health Sciences)  
PHD University of Pennslyvania 1986  
MPH Saint Louis University 2001  
BS Southern Illinois University 1976  

Tiffany Medlin Osborn, M PH, MD  
Associate Professor of Surgery (General Surgery) (primary appointment)  
Associate Professor of Emergency Medicine in Medicine  
M PH London Hygiene & Tropical Med 2009  
BS University of Houston 1992  
MD Univ Texas Health Sci San Anto 1997  

Sharad P Parikh  
Instructor in Clinical Surgery (General Surgery) (primary appointment)  
UNKNOWN University of Pune 1967  

Yikyung Park, PhD  
Associate Professor of Surgery (Public Health Sciences) (primary appointment)  
MS1 EWHA Womans University 1996  
PHD Harvard University 2005
BS EWHA Womans University 1994

Charles L Parks, Instructor in Clinical Surgery (General Surgery) (primary appointment)

BS University of South Dakota 1967

Diana C. Parra Perez, MS, PHD, Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Surgery (Prevention and Control)

MS Saint Louis University 2008
PHD Washington Univ in St. Louis 2013
BA Universidad del Rosario 2001

Jeffrey Andrew Parres, MD, Instructor in Clinical Surgery (Urologic Surgery) (primary appointment)

MD University of Missouri 1987

Michael K Pasque, MD, Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Professor of Radiology
Professor of Biomedical Engineering

MD University of Oklahoma 1978

Kamlesh Babulal Patel, MD, Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)

MD University of Arizona 2005
BS University of MO Kansas City 2000

G. Alexander Patterson, Joseph C Bancroft, Professor of Surgery (Cardiothoracic Surgery) (primary appointment)

Enrique Pedro Perinetti, PHD, MD, Instructor in Clinical Surgery (Urologic Surgery) (primary appointment)

PHD School Not Listed 1975
MD School Not Listed 1969

Orlando Petrucci, MD, PHD, MS, Assistant Professor of Surgery (Cardiothoracic Surgery) (Pending Executive Faculty Approval) (primary appointment)

MD University of Campinas 1991
PHD University of Campinas 2004
MS University of Campinas 2001

Daniel D Picus, MD, Professor of Radiology (primary appointment)
Professor of Surgery (General Surgery)
Vice Chair for Diagnostic Radiology in Radiology

MD University of Chicago 1981
BS1 University of Illinois 1977
BS University of Illinois 1977

Mary Politi, M PHIL, Associate Professor of Surgery (General Surgery) (primary appointment)

M PHIL George Washington University 2004
BS Barnard College 2001

William G Powderly, MD, J. William Campbell, Professor of Medicine (primary appointment)
Director for the Institute of Public Health

MD National University of Ireland 1979

Laurie Jean Punch, Assistant Professor of Surgery (General Surgery) (primary appointment)

Varun Puri, MD, MS, Associate Professor of Surgery (Cardiothoracic Surgery) (primary appointment)

MD Washington Univ in St. Louis 2009
MS Creighton University 2007

Raja Ramaswamy, Assistant Professor of Radiology (primary appointment)
Assistant Professor of Surgery (General Surgery)
Ricardo Rao, MD  
Instructor in Clinical Surgery (General Surgery) (primary appointment)

Antonella Luisa Rastelli, MD  
Associate Professor of Medicine (primary appointment)

Associate Professor of Surgery (General Surgery)

Nanette Rahee Reed, MD  
Assistant Professor of Surgery (General Surgery) (Pending Executive Faculty Approval) (primary appointment)

MD Baylor College of Medicine 2004
BS University of Notre Dame 2000

Frank O Richards  
Assistant Professor Emeritus of Clinical Surgery (General Surgery) (primary appointment)

Asst Prof Emeritus of Clin Surg (Gen Surg) (primary appointment)

Clare H Ridley, MD  
Assistant Professor of Anesthesiology (primary appointment)

Assistant Professor of Surgery (Cardiothoracic Surgery)

MD Washington Univ in St. Louis 2008
BA Columbia College of Phy & Surg 2002

Shale M Rifkin, MD  
Assistant Professor of Clinical Surgery (General Surgery) (primary appointment)

MD Washington Univ in St. Louis 1948

Brian G Rubin, MD  
Professor of Surgery (General Surgery) (primary appointment)

Professor of Radiology

Nael E. A. Saad, MBBCH  
Associate Professor of Radiology (primary appointment)

Associate Professor of Surgery (General Surgery)

Adnan Sadiq, MD  
Assistant Professor of Anesthesiology (primary appointment)

Assistant Professor of Surgery (Cardiothoracic Surgery)

MD Royal College of Surgeons 2001
BS State Univ of NY Buffalo 1996

Jacqueline Mitsouko Saito, MD  
Assistant Professor of Surgery (Pediatric Surgery) (primary appointment)

BS Harvard Radcliff 1989
MD Columbia University 1993

Arghavan Salles, MD, PHD  
Assistant Professor of Surgery (General Surgery) (Pending Executive Faculty Approval) (primary appointment)

MD Stanford University 2006
BA University of Southern Calif 2002
PHD Stanford University 2014

Luis A Sanchez  
Professor of Surgery (General Surgery) (primary appointment)

Gregorio A. Sicard  
Distinguished Professor

Professor of Radiology

Donald C Sauer, MD  
Assistant Professor Emeritus of Clinical Surgery (General Surgery) (primary appointment)
Asst Prof Emeritus of Clin Surg (Gen Surg) (primary appointment)
MD Washington Univ in St. Louis 1960
Stefano Schena Assistant Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Douglas J Schuerer, MD Professor of Surgery (General Surgery) (primary appointment)
BS Allegheny College 1991
MD University of Pittsburgh 1995
Richard B Schuessler, MS, PhD Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Associate Professor of Biomedical Engineering
BS University of Missouri 1973
MS University of Missouri 1974
PHD Clemson University 1977
Maryls E Schuh, MD Instructor in Clinical Surgery (General Surgery) (primary appointment)
BS1 University of North Dakota 1977
BS University of North Dakota 1973
MD Washington Univ in St. Louis 1979
Homayoun Sedighi, DDS Assistant Professor of Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)
BA Indiana University Bloomington 1983
DDENT Washington Univ in St. Louis 1987
Debra L Seoane, MD Instructor in Clinical Surgery (General Surgery) (primary appointment)
MD University of Miami 1986
Courtney Shands III, MD Instructor in Clinical Surgery (Urologic Surgery) (primary appointment)
MD Vanderbilt University 1982
BA Stanford University 1978
Surendra Shenoy, MD Professor of Surgery (General Surgery) (primary appointment)
BS Kasturba Medical College 1980
MD Kasturba Medical College 1984
Matthew Leon Silviera, MD Assistant Professor of Surgery (General Surgery) (primary appointment)
MS1 Temple University 2010
BS Pennsylvania State University 2001
MD Temple University 2005
David Siroospour, MD Assistant Professor of Clinical Surgery (General Surgery) (primary appointment)
MD School Not Listed 2000
Jason Andrew Snyder Assistant Professor of Surgery (General Surgery) Pending Executive Faculty Approval (primary appointment)
Alison K Snyder-Warwick, MD Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
MD Washington Univ in St. Louis 2004
Dirk M Spitzer, PhD Assistant Professor of Surgery (General Surgery) (primary appointment)
BS School Not Listed 1995
PHD Technische U Braunschweig 1999
Alan Joel Stein, MD Assistant Professor of Clinical Surgery (Urologic Surgery) (primary appointment)
BS Univ of Wisconsin Madison 1972
Daniel Charles Stoeckel, Instructor in Clinical Surgery (primary appointment)
MD Wayne State University 1976

Steven M Strasberg, MD, Pruett Professor of Surgery (General Surgery) (primary appointment)
Associate Professor of Cell Biology and Physiology
MD University of Toronto 1963

Herbert Sunshine, MD, Instructor in Clinical Surgery (Urologic Surgery) (primary appointment)
BA Washington Univ in St. Louis 1950
MD Washington Univ in St. Louis 1954

Siobhan Sutcliffe, MHS, PHD, MS, Associate Professor of Surgery (Public Health Sciences) (primary appointment)
MHS Johns Hopkins University 2001
BS Princeton University 1998
PHD Johns Hopkins University 2005
MS Johns Hopkins University 2004

Marissa Morningstar Tenenbaum, MD, Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
BS Univ of Wisconsin Madison 1998
MD Washington Univ in St. Louis 2002

Robert W Thompson, MD, Professor of Surgery (General Surgery) (primary appointment)
Professor of Cell Biology and Physiology
BA Hope College 1979
MD University of Michigan 1983

Adetunji Toriola, PhD, Assistant Professor of Surgery (General Surgery) (primary appointment)
PHD University of Tampere 2011

Ralph J Torrence, MD, Assistant Professor of Surgery (Urologic Surgery) (primary appointment)
MD Georgetown University 1983

Erica J Traxel, MD, Assistant Professor of Surgery (Urologic Surgery) (primary appointment)
BS Texas A&M University 1998
MD Beaufort Technical College 2002

Thomas H Tung, Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
MD Washington Univ in St. Louis 2008
MS Washington Univ in St. Louis 2008
BS University of Oregon 1998

Suresh Vedantham, MD, Professor of Radiology (primary appointment)
Professor of Surgery (General Surgery)
BA Northwestern University 1988
MD University of Chicago 1992

Ramakrishna Venkatesh, MS, Professor of Surgery (Urologic Surgery) (primary appointment)
MS1 School Not Listed 1991
MS Bangalore University 1991

Gino J Vricella, MD, Assistant Professor of Surgery (Urologic Surgery) (primary appointment)
BS Saint Louis University 2012
MD University of MO Columbia 2006

Howard S Walker, MD, Instructor in Clinical Surgery (Cardiothoracic Surgery) (primary appointment)
BA Citadel 1971
Jean S Wang, PHD
Associate Professor of Medicine (primary appointment)
Associate Professor of Surgery (General Surgery)

PHD John Hopkins University 2009

Brad W. Warner
Jessie L. Ternberg, M.D., PhD. Distinguished Professor of Pediatric Surgery in Surgery (Pediatric Surgery) (primary appointment)
Professor of Pediatrics

Erika Waters, M PH, MS PSYC
Associate Professor of Surgery (Public Health Sciences) (primary appointment)

M PH Johns Hopkins University Medics 2007
MS PSYC Rutgers University 2003
BS Arizona State University 1999

Leonard B Weinstock
Associate Professor of Clinical Medicine (primary appointment)
Assistant Professor of Clinical Surgery (General Surgery)

BA University of Vermont 1977

Michael D Weiss, MD
Assistant Professor of Surgery (General Surgery) (primary appointment)

MD Ohio College of Podiatric Medicine 1981
BS1 Ohio State University 1977

Brad C White, MD
Instructor in Clinical Surgery (Urologic Surgery) (primary appointment)

BS Illinois State University 1986
MD Loyola University Chicago 1993

Bruce I White
Instructor in Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)

Anke Christiane Winter, MD, MS
Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
Assistant Professor of Anesthesiology

MD RWTH Aachen University, 2006
MS Harvard University 2010

Paul Edward Wise, MD
Associate Professor of Surgery (General Surgery) (primary appointment)

BS Georgetown University 1992
MD John Hopkins University 1996

Matthew D Wood, MS, PHD
Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)

MS Washington University in St. Louis 2008
BS Saint Louis University 2005
BS Washington University in St. Louis 2009
PHD Washington University in St. Louis 2009

Yan Yan, MHS, MD
Professor of Surgery (Public Health Sciences) (primary appointment)
Professor of Biostatistics

MHS Johns Hopkins University 1995
MD Nanjing Medical University 1983

William D Yates, MD
Instructor in Clinical Surgery (General Surgery) (primary appointment)

MD Northwestern University 1985
BA Northwestern University 1983

Robert A Young, MD, MS, JD
Instructor in Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)
Policies

The information provided here is intended to assist university students, faculty and staff in locating university policies related to the educational mission. These policies, procedures and guidelines exist to assist Washington University students, faculty and administrators in doing the business of Washington University in St. Louis in ways that are effective, consistent and compliant and to provide a safe, effective and supportive environment in which to learn, teach and work.

Washington University Policies

Organized here are the university-wide policies, procedures and guidelines available to
assist School of Medicine students, faculty, staff and administrators in doing the business of Washington University in St. Louis in ways that are effective, consistent and compliant. Additional university-wide policies are available on the Washington University website.

Non-Discrimination Statement

Washington University encourages and gives full consideration to all applicants for admission, financial aid, and employment. The University does not discriminate in access to, or treatment or employment in, its programs and activities on the basis of race, color, age, religion, sex, sexual orientation, gender identity or expression, national origin, veteran status, disability or genetic information. Inquiries about compliance should be addressed to the University’s Vice Chancellor for Human Resources, Washington University, Campus Box 1184, One Brookings Drive, St. Louis, MO 63130. The School of Medicine is committed to recruiting, enrolling and educating a diverse student body.

Sexual Harassment Policy

Washington University's Sexual Harassment Policy is available on the Human Resources website.
Drug and Alcohol Policy

Washington University’s Drug and Alcohol Policy is available on the Human Resources Website.

Discriminatory Harassment Policy

Washington University’s Discriminatory Harassment Policy is available on the Human Resources website.

HIPAA Policies


Computer Use Policy
Washington University’s Computer Use Policy is available in the Compliance and Policies section of the university’s website.

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**Academic Integrity Policy for Graduate Students**

The Academic Integrity Policy for Graduate Students Policy is available on the Graduate School of Arts & Sciences website.

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**Disability Resource Center**

Learn about disability resources at Washington University on the Cornerstone Center for Advanced Learning website.

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**Policy Governing Alcohol Service at Events Sponsored by Graduate Student Organizations**
The Policy on Alcohol Service at Graduate Student Events is available on the Professional and Graduate Student Coordinating Committee website.

Policy on Consensual Faculty-Student Relationships

The Policy on Consensual Faculty-Student Relationships is available on the Compliance and Policies section of the Washington University website.

University Judicial Code

The University Judicial Code is available in the Policies section of the Washington University website.

Washington University School of Medicine Policies

Washington University School of Medicine is committed to providing a safe,
professional and supportive environment in which to learn. The policies organized here pertain to professionalism, appropriate conduct and student rights. They exist to protect students and employees as they conduct their daily responsibilities.

Policies Related to Professionalism and Conduct

Research Integrity Policy

Policy Against Abusive Conduct

Guidelines for Professional Conduct in Teacher/Learner Relationships and Policy Against Medical Student Mistreatment

Tobacco-Free Policy

Research Integrity Policy

<< Back to Policies Related to Professionalism and Conduct

Allegations of breach of research integrity policy are the primary responsibility of the Research Integrity Committee of the School of Medicine. Complaints regarding students enrolled for the M.D. degree will be directed promptly to that committee. The
Research Integrity Committee will promptly investigate the charges and report its conclusions and recommendations to the Dean, who will refer the issue to CAPES as a breach of professional integrity if further action is warranted.

For further information, visit the Research Integrity Policy posted on the Washington University website.

Policy Against Abusive Conduct

Please visit the Human Resources website for the Policy Against Abusive Conduct.

Guidelines for Professional Conduct in Teacher/Learner Relationships and Policy Against Medical Student Mistreatment

Washington University School of Medicine Guidelines for Professional Conduct in Teacher/Learner Relationships and Policy against Medical Student Mistreatment.
I. Preamble

The goal of the Washington University Medical Center is to provide patient care, medical education, and biomedical research of the highest quality. Accomplishing this goal depends in part on an atmosphere of mutual respect and collegiality among all those who work and study here. The current document focuses on the special issues presented by the teacher/learner relationship, and applies to all years of the medical school curriculum.

II. The Teacher and Learner Relationship

Effective learning is possible only in an environment where students can trust their teachers to treat them fairly and with respect. For purposes of this policy, a teacher shall be defined as any person subject to School of Medicine policies, such as a member of the School of Medicine faculty, to whom a student is assigned during a course or clinical rotation. A teacher may also be defined as an attending physician, fellow, resident, research mentor, student, nurse or other person charged with supervising the education of a student.

One manner in which the teacher/learner relationship is unique is that students may be vulnerable, depending on many of their teachers for evaluations and recommendations. In addition, medical education includes mastering not just pathophysiology but also the essentials of professional behavior, as set forth in our Guiding Principles of Professionalism.

We also recognize that students learn professional behavior primarily by observing the actions of their teacher role models. Unprofessional, offensive, disrespectful or abusive behavior by teachers is antithetical to standards of professional conduct that medical students are expected to master. These behaviors by teachers may also be self-perpetuating, as students come to believe that such behavior is appropriate when they assume the role of teacher. As we strive to create an environment of mutual respect, all faculty, staff and students are expected to abide by the Policy Against Abusive Conduct.
Behaving in ways that embody the ideal student-teacher relationship fosters respectful behavior, minimizes the likelihood of student mistreatment, and optimizes the educational experience for students. The following practices are examples of ways in which teachers and learners can encourage a positive learning environment conducive to the exchange of ideas among all who participate in the learning process:

**A. Teachers**

- Be prepared and on time.
- Provide learners with most current materials.
- Treat students fairly, respectfully, and without bias related to their race, color, age, religion, sex, sexual orientation, gender identity or expression, national origin, veteran status, disability or genetic information.
- Give students timely, constructive and accurate feedback.
- Distinguish between the Socratic method, where insightful questions are a stimulus to learning and discovery, and over-aggressive questioning, where detailed questions are repeatedly presented with the endpoint of embarrassment or humiliation of the student.

**B. Learners**

- Treat teachers, peers, patients and members of the health care team fairly, respectfully, and without bias related to their race, color, age, religion, sex, sexual orientation, gender identity or expression, national origin, veteran status, disability or genetic information.
- Treat fellow students as colleagues, not competitors.
- Take responsibility for maximizing your educational experience by addressing conflicts and discomforts which may impede your learning.
- Be an enthusiastic learner.
- Be trustworthy and honest.
Be prepared and punctual

Know your limitations and ask for help when needed.

Put the patients welfare first and ahead of your educational needs

Know and understand your patients’ medical history, diagnoses, treatment and status.

Take the initiative to educate yourself about your patients’ illness.

Be compassionate.

Respect patients’ privacy.

III. Student Mistreatment

The School of Medicine prohibits behavior that is abusive or which mistreats students or others in the learning environment. We take issues of mistreatment seriously and aspire to a culture of zero tolerance for instances of abuse, mistreatment, and disrespect. WUSM is committed to maintaining an environment free from discrimination, harassment of any type, and abuses of authority. The Association of American Medical Colleges (AAMC) has defined Mistreatment in previous Graduation Questionnaires as follows: Mistreatment arises when behavior shows disrespect for the dignity of others and unreasonably interferes with the learning process. It can take the form of physical punishment, sexual harassment, psychological cruelty, and discrimination based on race, religion, ethnicity, sex, age or sexual orientation. The behaviors listed below are provided as examples of mistreatment and offensive behavior by the AAMC. However, we recognize that there are nuances to interpersonal interactions. Students who feel they may have been subjected to mistreatment are encouraged to follow the procedures outlined in Section IV of this policy. The goal of this process is to provide the best learning environment possible.

Examples of Potential Mistreatment

- Public humiliation
• Threats of physical harm
• Physical harm (e.g., hit, slapped, kicked)
• Requirements to perform personal services (e.g., shopping, babysitting)
• Offensive sexist remarks/names
• Denial of opportunities for training or rewards based solely on gender, race, sexual orientation or ethnicity
• Lower evaluations or grades because of gender, race, sexual orientation or ethnicity rather than performance
• Unwanted sexual advances
• Being asked to exchange sexual favors for grades or other rewards
• Racially or ethnically offensive remarks/names
• Offensive remarks/names related to sexual orientation

IV. Steps for Reporting Student Mistreatment

The University takes allegations of student mistreatment by faculty, residents, staff or other students very seriously and strongly encourages its faculty, staff, and students who are witness to such conduct to report it immediately, without fear of retaliation, to any of the following three deans: the Senior Associate Dean for Education, the Associate Dean for Student Affairs, or the Associate Dean for Medical Student Education. These individuals will offer guidance and support to the student and discuss informal and formal options to resolve the matter, which are described below. (See section VI. Additional Resources).

Students may also consult with the Student Ombudsperson as a confidential resource. The Student Ombudsperson can provide guidance as well as mediation, directly or indirectly, between the student and the offender.

Students may also choose to report student mistreatment via a link on the Canvas learning management system student commons homepage or via the Oasis
curriculum management system. The end of clerkship and elective surveys have questions regarding mistreatment where incidents can be reported in real time. These reports are confidential. The Office of Medical Student Affairs will receive all reports and will follow up with the reporting individual, if identified, to offer guidance, support and options for resolution to the student. If sufficient information is provided, the report will be passed on to the clerkship director and department chair after student evaluations are finalized for the course or clerkship in which the event occurred. Reports will be reviewed quarterly by a Learning Climate Committee. This committee will be chaired by the Associate Dean of Student affairs and will consist of a medical student, advisory dean or deans, the director of GME (or designee), a hospital staff member, and the student ombudsperson. Aggregate reports will generally be forwarded to department chairs quarterly for monitoring purposes.

Confidentiality and Anonymous Reporting:

The University will strive to protect, to the greatest extent possible, the confidentiality of persons reporting mistreatment and of those accused of mistreatment. Because the University may have certain legal obligations, e.g. in response to allegations of sexual harassment, the University cannot guarantee complete confidentiality where it would conflict with the University's obligation to investigate meaningfully or, where warranted, take corrective action. Even when some disclosure of the University's information or sources is necessary, it will be limited to the extent possible. The University will keep confidential all records of complaints, responses and investigations, to the extent permitted by law.

If the student is not comfortable reporting to one of the individuals identified above, the student may choose an intermediary that can then directly communicate the incident with these individuals while maintaining anonymity. Students may also submit anonymous reports via the Oasis curriculum management system in real time or when filling out course evaluations. Anonymous reports will be shared with the clerkship director and department chair.

If a student insists on confidentiality or anonymity, the University may be limited in
its ability to respond and take action with respect to the report.

*Bias Report and Support System (BRSS)*

In addition, Washington University developed a system through which students, faculty, staff and community members who have experienced or witnessed what they perceive as incidents of bias, prejudice or discrimination involving a student can report their experiences to the university's Bias Report and Support System (BRSS) team. If, for any reason, students want to provide identifying information when filing a report, they have the option to fill out the **BRSS form** anonymously online by selecting the “For Information Only” option. Please note that a brief description of the incident will be included in the quarterly summary report. If an individual submitting a report selects the “For Support and Referral” option, a member of the BRSS team will meet with the individual and refer that person to the appropriate university policy and administrator. *Note that these non-anonymous BRSS reports on the WUSM campus are sent to the Assistant Provost, who assists WUSM students in navigating their programs and connects them with the relevant policies and contacts within those programs.*

**V. Informal and Formal Options for Possible Resolution**

**Informal Options**

If you feel comfortable dealing with the situation without assistance, you can communicate either orally or in writing with the person whose behavior is offensive. The most useful communication will have three parts:

1. A factual description of the incident(s) including date, time, place and specific action.

2. A description of the writer’s feelings, including any consequences of the incident.

3. A request that the conduct cease.

Frequently, such a communication will cause the offensive behavior to stop,
particularly when the person may not be aware that the conduct is offensive.

If you would like to proceed informally, but with the assistance of someone else, you may:

1. Ask the person's supervisor, e.g., department chair, dean, director, housing office representative, academic advisor, or a trained WUSM faculty member to speak to the person whose behavior was offensive. The purpose of such conversations is the cessation of offensive behavior. You should note that these individuals may be obligated to report the incident or conduct you disclose to the University for further investigation and action.

2. Consult with one of the Advisors listed in Additional Resources who are specifically charged with responding to mistreatment inquiries and complaints. These individuals are thoroughly familiar with WUSM's mistreatment policy and are available to consult with victims, those accused of engaging in mistreatment, witnesses and supervisors of parties to a complaint. They can provide information about informal actions that might remedy the situation and discuss University policies and procedures for resolving complaints.

3. Ask the Advisor to mediate or arrange for mediation. Mediation is discussion and negotiation, with the help of a third party, designed to permit the parties to reach a mutually agreeable resolution of a dispute. If a person complaining of mistreatment seeks mediation, the person accused of mistreatment agrees, and the Advisor concludes that the mediation would be consistent with the University's legal obligations in responding to and preventing discrimination or discriminatory harassment, then the Advisor may mediate or arrange for mediation.

**Formal Options**

Should informal resolution be unsuccessful or inappropriate under the particular circumstances alleged, the student will be referred to the applicable University policies and procedures for filing a formal complaint. The University will initiate an
investigation into the allegations under the appropriate policy and take disciplinary action as contemplated by the applicable procedures. For example, if a student asserts that a faculty member has engaged in mistreatment in the form of sexual harassment, the University’s Sexual Harassment Policy would be followed.

VI. Education

The School of Medicine will provide ongoing education to promote a respectful and positive learning environment. The purpose of this education will be to provide definitions and standards for an optimal learning environment, to inform students and educators of policies and processes for reporting offensive behavior and learner mistreatment. This educational information will be provided by the Learning Climate Committee. The policy will be posted in the Bulletin, clerkship and course master handbooks and will be reviewed with students at orientations. In addition, educational sessions may be provided at departmental and division meetings, resident sessions, staff meetings and curriculum committee meetings.

VII. Additional Resources

List of Advisors

Tessa Madden, MD, MPH

Evan Schwarz, M.D.

Yumi Turmelle, MD, MPH

Senior Associate Dean for Education

Associate Dean for Medical Student Education

Associate Dean for Student Affairs

Student Ombudsperson (Confidential Advisor)
Related Policies

Washington University Discrimination and Discriminatory Harassment Policy

Washington University Sexual Assault Policy

Washington University Sexual Harassment Policy

Washington University School of Medicine Abusive Conduct Policy

WUSTL/Diversity Bias Report Form

Assessing Academic Achievement and Professionalism (MD Program)

Tobacco-Free Policy

<< Back to Policies Related to Professionalism and Conduct

Please visit the Healthy Living website for the Tobacco-Free Policy.

Policies Related to Student Rights, Procedures and Services

Students with Disabilities Policy
It is the goal of Washington University to assist students with disabilities in removing the barriers their disabilities may pose and provide support in facing the challenge of pursuing an education at Washington University.

Washington University recognizes and accepts its professional, legal and moral responsibility to avoid discrimination in the acceptance and education of qualified students with disabilities and to provide reasonable accommodations to such students consistent with the principles embodied in the law. These guidelines apply to students seeking admittance as well as to those who become disabled while they are enrolled. Washington University makes every effort to insure that all qualified applicants and students can participate in and take full advantage of all programs and opportunities offered within the University. Washington University encourages and gives full consideration to all applicants for admission. Washington University does not discriminate in access to its programs and activities on the basis of age, sex, sexual orientation, race, disability, religion, color, or national origin.

All students in educational programs at the School of Medicine, those seeking
admittance, as well as those who become disabled while they are enrolled, must possess those intellectual, ethical, physical, and emotional capabilities required to undertake the full curriculum and to achieve the levels of competence required by the faculty and the profession.

In this regard, we will be guided by the principles outlined below.

A. Responsibilities of the student

1. Disclosure of disability
   It is the responsibility of a student who has a disability to disclose it and request accommodation from the Dean for Student Affairs or Program Director. The School encourages students with disabilities to identify themselves as early as possible in order to optimize the mobilization of resources and available accommodations.

2. Diagnosis of disability
   Students who are in academic difficulty that might be a consequence of a disability are encouraged to avail themselves of diagnostic services that may lead to accommodations. Furthermore, such students are encouraged to explore with the administration of their academic unit the possibility of a disability if the inquiry is relevant to educational performance and there is evidence of educational performance problems.

3. Documentation of disability and request for accommodation
   The disability, its functional impact and requested accommodation(s) must be documented. If the student discloses a disability and requests accommodation, the School requires documentation of the disability from a qualified professional. The student is financially responsible, unless there are extraordinary and compelling circumstances, for the costs related to the documentation by an appropriately educated and trained professional. The information provided by the professional must be factual, objective and technically valid, and must establish clearly that the disability substantially limits one or more of the student’s major life activities. The professional(s) who evaluate the student should identify options for management of the disability. Based on this
information, the affected student then should request in writing the accommodations which he or she requests be made. The Dean for Student Affairs or Program Director and the student should work together to arrive at reasonable accommodations. The School may also require a second expert opinion for which the School may be financially responsible under extraordinary and compelling circumstances. The School reserves the right to request as much detailed information from the student and/or the professional(s) as is necessary to assess the scope of the disability and/or the reasonable accommodations.

B. Responsibilities of the school

1. Review of requests for accommodation

Requests for accommodations will usually be reviewed by the Dean for Student Affairs or Program Director. An ad hoc assessment team may be convened which may include the Dean for Student Affairs, the educational Program Director (or curriculum supervisor), selected members of the Disabilities Oversight Committee (See Section B.5 below) and other consultants as appropriate to the individual circumstances. The assessment team usually should include: (1) individuals who understand the curriculum in question; (2) a person who is knowledgeable about the Americans with Disabilities Act; (3) a person with authority to authorize accommodations and cause them to be implemented.

2. Responsibilities for accommodation

The School of Medicine is responsible for the costs incurred in making accommodations which are not unduly burdensome or unreasonable. Accommodations may include but may not be limited to academic modifications which do not fundamentally alter the nature of the program, auxiliary services, modifications of the circumstances and methods of qualification examinations, classroom modifications and others. The School's responsibility to accommodate ends when a student with a disability: (1) refuses reasonable accommodations; (2) is unable, with reasonable accommodations, to fulfill the essential requirements of the program; (3) fulfills the essential requirements and graduates; or (4) transfers to another institution. The School is not required to
provide an accommodation which fundamentally alters the nature of the program, is unduly burdensome or is unreasonable.

3. **Confidentiality**
Information pertaining to a student’s disability and accommodations will be maintained in a file that is kept confidential and separate from the student’s academic record. Appropriate faculty, staff and administrators may be informed regarding the disability, limitations, restrictions, and accommodations when they have a need to know such information.

4. **Application of the CAPES policies**
The policies and procedures of the School regarding promotion and retention are contained in the CAPES Policies for each academic unit. These policies and procedures govern the relationship between the School and all students, including those with disabilities. The School is not obligated to retain a student with a disability who poses a significant threat to the health or safety of others when there is no reasonable accommodation that either eliminates or sufficiently reduces that risk.

5. **Disabilities Oversight Committee**
There shall exist a standing Disabilities Oversight Committee composed of members designated by the Dean of the School of Medicine. The committee shall have the following responsibilities: periodic review of requests for accommodations and accommodations granted, provide recommendations regarding accommodations for disabilities, to serve as requested on disability appeals committee. This group serves as a resource regarding issues of significance to the institution and to students with disabilities.

C. **Appeals**
A student with a disability who believes that a request for accommodation has been improperly denied or who perceives that he or she has been discriminated against on the basis of a disability should direct his or her appeal to the Dean of the School of Medicine. As needed, the Dean of the School of Medicine may assemble an advisory group to review appeals and make recommendations. This group may include, but
may not be limited to, the following: the chair of the committee that oversees academic evaluation and advancement of students for the particular academic unit, students, and/or representatives of the Disabilities Oversight Committee.

Policy on Student Rights Under Family Educational Rights and Privacy Act (FERPA)

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. They are:

1. The right to inspect and review the student’s education records within 45 days of the day the University receives a request for access. Students should submit to the registrar, dean, head of the academic department or other appropriate official, written requests that identify the record(s) they wish to inspect. The University official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the University official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.

2. The right to request the amendment of the student’s education records that the student believes are inaccurate or misleading. Students may ask the University to amend a record that they believe is inaccurate or misleading. They should write the University official responsible for the record, clearly identify the part of the record they want changed, and specify why it is inaccurate or
misleading. If the University decides not to amend the record as requested by the student, the University will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

3. **The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent.** One exception which permits disclosure without consent is disclosure to school officials with legitimate educational interests. A school official is a person employed by the University in an administrative, supervisory, academic, research, or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the University has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks. A school official has a legitimate educational interest if that official needs to review an education record in order to fulfill his or her professional responsibility. Upon request, the University discloses education records without consent to officials of another school in which a student seeks or intends to enroll.

4. **The right to file a complaint with the U.S. Department of Education concerning alleged failures by the University to comply with the requirements of FERPA.**

The name and address of the Office that administers FERPA is:

Family Policy Compliance Office
U.S. Department of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202-4605
The Family Educational Rights and Privacy Act of 1974 (FERPA) provides current and former students of the University with specific rights of access to and control over their student record information. In compliance with the statute, appropriate federal regulations, and guidelines recommended by the American Association of Collegiate Registrars and Admission Officers (AACRAO), the University has adopted procedures that implement these rights.

A copy of the University policies regarding educational records and the release of student record information may be obtained online.

Transcript requests may be made in person or by writing to the Registrar’s Office. The written request must include your name, signature, date of birth and approximate dates of attendance. Either fax to (314) 362-4658 or a scanned request with signature can be sent via email to wusmregistrar@wustl.edu. Note: The School of Medicine does not presently charge for transcripts.

Bloodborne Pathogens Policy

In 1992, the Executive Faculty of the School of Medicine formally adopted a Medical
Campus policy on Human Immunodeficiency Virus (HIV) and Hepatitis B Virus (HBV) infections. This policy was updated in 2001 to include Hepatitis C Virus (HCV) infections. The purpose of the policy is to provide guidelines to prevent or reduce the transmission of these infectious agents between patients and health care workers (HCWs). It is an ethical and moral obligation for the student/employees to report BBP infections.

The policy deals with 1) the University’s responsibilities to infected patients (including obligation to treat, confidentiality and appropriate serologic testing), 2) appropriate health and safety precautions and procedures for faculty, students and staff (including compliance with CDC guidelines, blood and body fluid precautions and handling of needles or sharp instruments), and 3) the University’s responsibilities to faculty, staff, or students who are infected with HIV, HBV, or HCV infection – including admission to medical school, participation in clinical rotations, serologic testing confidentiality and medical treatment.

The policy makes a distinction between Category I activities – those involving no risk of transmission from infected HCWs to patients, such as routine history/physical examinations, minor surface suturing, elective phlebotomy; and Category II – procedures for which bloodborne virus transmission is theoretically possible but unlikely such as minor local procedures, central venous lines, other specialty procedures; and Category III – procedures for which there is definite risk of bloodborne virus transmission such as General Surgery, CT surgery, Neurosurgery, etc. and non-elective procedures performed in the Emergency Department.

In 2012 a committee was formed including representation from Administration, Legal – Risk Management, Infectious Disease, Occupational Health, and the Director of Student Health. The SHS Director meets with the infected student and discusses the need for restricted activities and proper follow-up.
Liability Insurance

Standards for Satisfactory Academic Progress for Financial Aid Eligibility

When a student is enrolled in the curriculum of the MD program, the following policy applies regarding standards for Satisfactory Academic Performance (SAP).

NOTE (for Non-MD students): Students enrolled in other School of Medicine degree programs should refer to the policies of their primary program (Applied Health Behavior Research, Audiology and Communication Sciences, Biostatistics, Clinical Investigation, Genetic Epidemiology, Occupational Therapy, Physical Therapy, and Population Health Sciences) or through the links in the Admission section.

Federal law and regulations require that all students receiving financial assistance from Federal Title IV funds maintain Satisfactory Academic Progress (SAP). This policy presents the standards adopted by the Washington University School of Medicine and applies to all MD students.

Annually, at the end of each spring term, the School of Medicine at Washington University in St. Louis evaluates SAP. If a student is not maintaining progress, they will be notified by the Committee on Academic and Professional Evaluation of Students (CAPES) and the Director of Financial Aid and will be ineligible, or ‘suspended’, for federal aid for future terms unless you appeal your status and it is approved by CAPES and the Director of Financial Aid.
In order to be compliant in maintaining SAP, and thus eligible for financial aid, students must be satisfactorily progressing toward their academic objectives. Federal regulations require the following measurements for determining SAP: time frame and quantitative/qualitative requirements.

**Time frame requirement:**

The Maximum Time Frame of full-time enrollment for completion of each program is as follows:

- Four-year MD program: 6 years
- Five-year MD program: 7.5 years
- MA/MD program: 7.5 years (or nine years if a two-year MA is pursued)

Periods of non-enrollment are NOT counted in the measurement of satisfactory academic progress but all periods of attendance, regardless of whether or not the student received Title IV aid, are counted.

This policy is applied in the context of each individual student’s enrollment status in order to accommodate the student who does not enroll on a full-time basis. For example, if a student enrolls in a four-year program, the full-time student would meet the 150 percent maximum rule (as per Title IV guidelines) after six years of full-time enrollment, and the half-time student is expected to complete in twelve years. If a student vacillates between full-time and half-time enrollment, that student would have a maximum time frame between six and 12 years, and the maximum time frame for that student would be continuously adjusted.

If a student reaches a point where they cannot complete their program within the 150% maximum, the student becomes ineligible for aid.

**Quantitative/qualitative requirement:**

Academic requirements for the MD degree include the satisfactory completion of the
curriculum designated by the faculty. The progress of each student working toward an MD degree is monitored carefully by the Committee on Academic and Professional Evaluation of Students (CAPES). Refer to the Assessing Academic Achievement section in the Bulletin under ‘Policies’ for more information.

A student failing to meet the standards of satisfactory progress as determined by CAPES shall be placed on financial aid suspension. The student will be eligible for aid when they achieve SAP or the student may appeal. Students who choose to appeal must state the reasons for failing to meet SAP (e.g. injury/illness of the student, death in the family or other special circumstance) and what has changed in the student’s situation so that he or she can now make SAP. If the student successfully appeals, the student will be placed on financial aid probation and may receive financial assistance for one semester. At the conclusion of this period, the student must have achieved compliance with each standard or be progressing per their individual academic plan to receive additional aid. A student who does not achieve compliance with each standard by the conclusion of the probationary period is suspended from financial aid eligibility.

The Office of Student Financial Aid must notify a student of implementation of probationary status and/or suspension.

The Director of Student Financial Aid shall have primary responsibility for enforcement of this policy. The Office of Student Financial Aid shall ascertain at the time of each disbursement of funds and prior to certification of a financial aid application that the student is in compliance with the policy.

Standards for Satisfactory Academic Progress for Financial Aid Eligibility: MD
When a student is enrolled in the curriculum of the MD program, the following policy applies. Students enrolled in other School of Medicine degree programs should refer to the policies of their primary program through the links to the left.

Federal law and regulations require that all students receiving financial assistance from Federal Title IV funds maintain satisfactory academic progress (SAP). This policy presents the standards adopted by the Washington University School of Medicine and applies to all MD students.

The School of Medicine at Washington University in St. Louis evaluates SAP annually, at the end of each spring term. If you are not maintaining progress, you will be notified by the Committee on Academic and Professional Evaluation of Students (CAPES) and the Director of Financial Aid and will be ineligible, or ‘suspended’, for federal aid for future terms unless you appeal your status and it is approved by CAPES and the Director of Financial Aid.

In order to be considered to be maintaining SAP, and thus eligible for financial aid, students must be satisfactorily progressing toward their academic objectives. Federal regulations require three measurements for determining SAP; qualitative, quantitative and timeframe.

The Maximum Time Frame of full-time enrollment for completion of each program is as follows:

- Four-year MD program: 6 years
- Five-year MD program: 7.5 years
- MA/MD program: 7.5 years (or nine years if a two-year MA is pursued)

Periods of non-enrollment are NOT counted in the measurement of satisfactory academic progress but all periods of attendance, regardless of whether the student
received Title IV aid, are counted.

This policy is applied in the context of each individual student’s enrollment status in order to accommodate the student who does not enroll on a full-time basis. For example, if a student enrolls in a four-year program, the full-time student would meet the 150 percent maximum after six years of full-time enrollment, and the half-time student is expected to complete in twelve years. If a student vacillates between full-time and half-time enrollment, that student would have a maximum time frame between six and 12 years, and the maximum time frame for that student would be continuously adjusted.

If you reach a point where you cannot complete your program within the 150% maximum, students become ineligible for aid.

**Quantitative/qualitative requirement:**

Academic requirements for the MD degree include the satisfactory completion of the curriculum designated by the faculty. The progress of each student working toward an MD degree is monitored carefully by the Committee on Academic Evaluation of Students (CAES). Refer to the Assessing Academic Achievement section in the Bulletin under ‘Policies’ for more information.

A student failing to meet the standards of progress as determined by CAPES shall be placed on financial aid suspension. The student will be eligible for aid when they achieve SAP or the student may appeal. Students who choose to appeal must state the reasons for failing to meet SAP (e.g. injury/illness of the student, death in the family or other special circumstance) and what has changed in the student’s situation so that he or she can now make SAP. If the student successfully appeals, the student will be placed on financial aid probation and may receive financial assistance for one semester. At the conclusion of this period, the student must have achieved compliance with each standard or be progressing per their individual academic plan to receive additional aid. A student who does not achieve compliance with each standard by the conclusion of the probationary period is suspended from financial aid eligibility.
The Office of Student Financial Aid must notify a student of implementation of probationary status and/or suspension.

The Director of Student Financial Aid shall have primary responsibility for enforcement of this policy. The Office of Student Financial Aid shall ascertain at the time of each disbursement of funds and prior to certification of a financial aid application that the student is in compliance with the policy.

Other Policies — School of Medicine

Needle Stick/Human Blood and Body Fluid Exposure Policy

Pharmaceutical and Medical Device Industry Policy

Student Constitution and Bylaws

Needle Stick/Human Blood and Body Fluid Exposure Policy

<< Back to Other Policies

All exposures to human blood and body fluids will be reported immediately to the Health Service. The Health Service maintains a 24 hour reporting system. During
working hours, 8 a.m. – 4 p.m., the office can be reached at 362-3523 or 362-3528. After hours the Health Service can be contacted through a digital beeper at 871-2966.

**Procedure**

Cleanse wound immediately with soap and water. If a mucous membrane has been exposed, rinse with copious amounts of water.

1. Identify the source of exposure.
2. Call the Health Service for further instructions. Source patient will be evaluated for HIV, Hepatitis B and Hepatitis C. The responsibility of acquiring patient consent for testing will be the responsibility of the physician in charge of the case. The employee will notify the physician. All source patient charges will be the responsibility of the Health Service.
3. Complete the Injury/Exposure Report form
4. Employees and students will report to the Health Service for follow-up. Individuals will be evaluated for:
   1. HIV or Serum Sample Save
   2. Hepatitis B Vaccination
   3. HbsAB (+test in past eliminates further testing)
   4. HCV
   5. Td
   6. PEP Prophylaxis

**Human blood and body fluid exposures**

**Procedure**

1. Clean area with soap and water.
2. Call Employee Health (362-3528) or Student Health (362-3523) or after hours call the Digital Beeper (871-2966).

3. Keep source or patient available for HIV, HbsAg, and HCV testing.

4. Follow the instruction given by the Health Service. Complete an incident report.

Always wear Personal Protective Equipment (PPE)!

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Pharmaceutical and Medical Device Industry Policy

<< Back to Other Policies

For the Pharmaceutical and Medical Device Industry Policy, please visit the Faculty Practice Plan website.

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Student Constitution and Bylaws

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MD Program Policies
Provided here are policies related to students in the medical degree program. Included are policies covering professionalism, student evaluation, absences and leaves, payment and technical standards. Additional School of Medicine policies are available within the Washington University School of Medicine section.

Assessing Academic Achievement and Professionalism

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Committee on Academic and Professional Evaluation of Students (CAPES)

Responsibility of the committee

Overall academic and professional evaluation of students at the Washington University School of Medicine will be made by the Committee on the Academic and Professional Evaluation of Students (CAPES). The deliberations of the CAPES are generally positive in approach and are committed to the ultimate aim of assisting students to successfully complete the courses of study required by the School. The principle that careful selection of students will minimize attrition from the School is strongly endorsed by the CAPES. The CAPES has several important roles, including but not limited to:

A. At the annual end-of-year CAPES meeting, the Committee will vote to recommend promotion of students who have successfully completed all of the requirements of the current academic year to the studies of the subsequent year.

B. Recommending to the Executive Faculty those students who have successfully completed all the prescribed requirements of the School and are qualified to
receive the Doctor of Medicine degree;

C. Requiring entry of a student into an individualized program of study (ISP);

D. Deciding upon matters of disciplinary action, including instances of unprofessional behavior, brought to the CAPES; and

E. Deciding upon matters of student status and remediation as contemplated by these procedures.

It is also the ultimate responsibility of the CAPES to decide whether each student meets the academic and ethical standards necessary to enter the profession of medicine.

The rules governing operation of the CAPES apply to students in the following categories:

A. Students who are engaged in the preclinical and clinical education requirements for the MD degree;

B. Students in dual and joint degree programs including but not limited to the MD and MPH, the MD/MS, the MA/MD and the MD/PhD (MSTP) programs taking the pre-clinical or clinical portion of their MD education.

C. Students in all years of the Five Year MD program.

Membership of the CAPES

A. Appointed and ex officio membership

There will be 12 voting faculty members of the CAPES, and membership will be appointed for a four-year term by the Dean of the School of Medicine following
nomination of suitable individuals by the department heads and Associate Deans.

A faculty member may be reappointed to serve on the CAPES. Membership will include both clinical and preclinical departments. In addition, the CAPES membership will include, in ex officio capacity, the Registrar (non-voting) and the Associate Dean for Student Affairs (non-voting). The Senior Associate Dean, the Associate Deans for Medical Student Education, Admissions and Diversity Programs and the Director of the Student Health Service may attend the CAPES meetings as non-voting participants.

B. Chair

A faculty member will be appointed by the Dean from within the CAPES committee to serve as chair. The term of the chair will be four years. The chair may be reappointed.

C. Guests

1. A course master who is not a member of the CAPES but who has submitted a Fail/Incomplete grade for a student which is to be discussed at a meeting of the CAPES will be present at the meeting to provide information concerning the students performance. Alternatively, a course master may send a designated representative or may submit additional information in writing. In the event that a course master or designated representative is not present or sufficient information has not been forwarded, final action for that student will be deferred until adequate information concerning the students performance is available.

2. Similarly, when the committee is addressing issues of professionalism, the individual filing the professionalism concern form will be present for the meeting or in some instances may instead be allowed to submit information in writing. Any faculty, administrator or staff may be invited at the discretion of the chair.
Meeting frequency

The CAPES meetings must occur in a timely manner after final examinations or re-examinations (i.e., as soon as practical after grades are submitted to the Registrar). Generally, grades will be submitted to the Registrar within 10 days of the completion of an examination. A meeting of the Committee also may be convened at any time such that timely review of a matter to be determined by CAPES and action thereupon is provided.

Quorum for the CAPES meetings

Seven voting members must be present to consider academic or disciplinary actions.

Procedures for making changes to this document

Major revisions in this document will be approved by the Academic Affairs Committee.

The Academic and Professional Evaluation of Students

In order to continue their studies at the Washington University School of Medicine, students must demonstrate the ability to synthesize and apply knowledge and the capability of becoming a safe and effective physician. In addition, they must demonstrate the principles of professionalism including sound judgment, honesty and integrity, responsibility, a sensitivity and compassion for individual needs, and compliance with applicable laws, policies and regulations. Serious or repeated breaches of these principles will be referred to the CAPES for review. See Guiding...
Grading System

<< Back to Assessing Academic Achievement and Professionalism

A. First and Second year

Courses in the first-year and second-year curriculum are evaluated on a Pass (P) or Fail (F) basis. For purposes of the final official grade records of the School of Medicine, grades used for the first year and second year are:

- **P** = Pass, indicating satisfactory performance
- **F** = Fail, any grade of F remains on the students academic record. When the course is repeated or remediated the new grade will appear as a separate entry in addition to the failing grade.
- **L** = Successful audit
- **NG** = Course credit earned, students not graded
- **W** = Withdrawal from a course
- **Z** = Unsuccessful audit

Valid temporary grades include:

- **E** = Temporary grade, makeup of failed exam pending
- **I** = Incomplete, temporary grade pending completion of course requirements, replaced with an F if not removed within one year. In rare instances, the CAPES
may grant an extension. Incomplete indicates that, because of a delay excused by the course master, the student has not completed the requirements to pass a course.

B. Subsequent years

For purposes of the final official grade records of the School of Medicine, the following grades are used for subsequent years:

- **H** = Honors, reflecting a truly outstanding performance
- **HP** = High Pass, awarded for excellent/very good work
- **P** = Pass, indicating satisfactory performance
- **F** = Fail, any grade of F remains on the students academic record. In clinical clerkships that have a subject examination, students must score at or above the 10th percentile of the national pool of students taking the examination to pass the clerkship. If a student fails a shelf examination for the second time in a third year clerkship an F is recorded on the permanent record.

When the course is repeated or remediated the new grade will appear as a separate entry in addition to the failing grade.

- **Cr/NCr** = Credit/No Credit for select second and fourth-year courses
- **L** = Successful audit
- **NG** = Course credit earned, students not graded
- **W** = Withdrawal from a course
- **Z** = Unsuccessful audit

Valid temporary grades include:

- **E** = Temporary grade, makeup of failed exam pending. Does not apply to block long courses in second year. In clinical clerkships that have a subject
examination, students must score at or above the 10th percentile of the national pool of students taking the examination to pass the clerkship. If a student fails the subject examination once, the grade of E will be recorded. Upon successfully retaking the subject examination the new grade will replace the grade of E on the permanent academic record. If the shelf examination is failed a second time, the grade of F is recorded on the permanent academic record.

- I = Incomplete, temporary grade pending completion of course requirements, replaced with an F if not removed within one year. In rare instances, the CAPES may grant an extension. Incomplete indicates that, because of a delay excused by the course master, the student has not completed the requirements to pass a course.

C. Grade reporting

Final grades will be submitted to the Registrar by course masters within 10 working days (Monday through Friday excluding university holidays) of the final examination or final class meeting for the first two years. For third and fourth years, grades are due within 10 working days of the receipt of standardized examination scores or the last day of the rotation if no examination is given. A web-based University system, WEBSTAC, provides timely access to grades for the first two years. Grades and evaluations of student clinical performance are submitted on a standardized form and are available for review in the Office of the Registrar throughout the academic year. Final grades for the clinical clerkships and electives are recorded in the University student information system at the end of the academic year and are subsequently available on WEBSTAC and appear on the transcript.

D. Grade point average, class ranking and grade distributions

The School of Medicine does not calculate grade point averages. Hours of credit appearing on the transcript reflect clock hours scheduled for the course or clinical rotation. For the purpose of residency applications only, students are placed in the upper, middle or lower third of the class according to a formula which considers weighting of courses and each academic year. This ranking is not recorded on the
permanent academic record and therefore does not appear on transcripts. It may appear in the Medical Student Performance Evaluation (MSPE)/students deans letter. At the conclusion of the academic year, when all the official grades have been received, the official transcript, in addition to listing courses and grades achieved, gives the grade distribution in each course with the exception of elective and selective courses.

**E. Grade appeals**

A student who wishes to appeal his/her grade with the course master should file his/her request for review by completing the grade appeal form which includes the basis for the appeal. This should be filed within 10 working days after the grade is posted. If reasons beyond the students control delay the resolution of the appeal past the deadline, the Registrar must be notified so that the final transcripts, grade distributions and class rankings for match can be held pending resolution of the matter. If this notice is not received by the Registrar prior to the deadline, the new grade cannot be accepted. Students participating in the residency match should also notify the office of career counseling that a grade appeal is in process. The course master will consider the appeal. He/she will indicate the resolution of the appeal on the grade appeal form and forward it to the Registrar and Associate Dean for Student Affairs. A copy of the grade appeal form is available in the Registrars Office and is also included in this document.

**NO GRADE CHANGES ARE PERMITTED FOR THE ACADEMIC YEAR AFTER JULY 15.**

**F. Remediation**

A. Occasionally, in order to remediate a failed course in the first or second year, students are permitted to complete equivalent coursework at other institutions with the permission of the responsible department and written notification to the Registrar.

B. When a students performance indicates review by the CAPES, with input from
course master(s) concerned, the CAPES may invoke requirements for the remediation of individual courses that are different from those determined by individual course masters concerned. In such cases, the CAPES determination will supersede the course masters as the CAPES is considering the students global academic performance and history. The CAPES may also require the student repeat an academic year or portion thereof if it is judged necessary given the academic history.

Individual Study Program

The educational program is designed to assist the specialized needs of all medical students in an individualized and personalized manner. Tutorial assistance is available to any student at any time as detailed below. Occasionally students who have difficulty in handling the normal academic course load will enter an Individual Study Program (ISP), requiring five years to complete rather than four years.

The following rules govern students engaged in an ISP:

A. The intent of an ISP is to optimize the prospect that the student will successfully complete the curriculum. Entry into an ISP may occur in one of three ways: 1) a student may request an ISP, or after careful consideration of the students academic performance at intervals throughout the curriculum, the CAPES may either 2) recommend or 3) require entry into an ISP.

B. The specific program of any ISP (i.e. the content and sequences
of courses) will be determined by the Associate Dean for Student Affairs with input from the student, relevant course masters and the CAPES. The specific recommendations of the CAPES will generally be adopted. The plan for execution of an ISP, once established, will be recorded in the students file in the Registrars office and a copy provided to the student.

C. Unless extenuating circumstances exist, ISP students are required to take the examinations for a particular course in their usual temporal relationship to the coursework. Requests for exceptions due to unusual circumstances should be recorded in the students file in the Office of the Associate Dean for Student Affairs. Approval of such requests is considered according to the Washington University School of Medicine Guidelines for Exam Administration found in the Policies section of the School of Medicine website.

D. In the event that a single Fail or Incomplete grade is recorded for a student after entry into an ISP, the CAPES will again review the students record. The consequences may include remediation, repeat of the course, or dismissal from the School.

E. Students on an ISP who have not successfully completed and received a grade of Pass or above in all required courses of the first- and second-year curricula by the start of the second six-week period in the year of the clinical clerkship may be dismissed from the School.

Tutorial Assistance Program

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Students experiencing difficulty in any course may request tutorial assistance. Such requests should initially be directed toward the course masters and thereafter to the Associate Dean for Student Affairs. Students who are repeating courses will be offered the opportunity for tutorial assistance. The CAPES may also require it. There is no charge to the student for tutorial assistance.

Indications for Review of Academic Performance

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General

Indications for Academic Review refers to guidelines used at the School in the event that a student fails a course or fails to complete a course in the requisite time.

A. In the event of any initial failure of a course offered at the School, the student will meet with the Associate Dean for Student Affairs to formulate a plan to remediate such failure, in coordination with the course master.

B. If the Registrar has recorded a Fail or Incomplete grade in two or more courses in a single year or cumulatively three courses between years, the student’s academic performance will be referred to the CAPES for review and determination of a course of action.

C. Refer to The Individual Study Program (ISP) section for additional guidelines pertaining to students engaged in an ISP.
D. When the performance of a student is referred to the CAPES for potential academic review, the following rules will apply:

1. No student may take more than three years to complete the coursework required for the first two years. Time periods included in a leave of absence are not counted in these three years. See the section entitled Individualized Study Program for more information.

2. In the absence of extenuating circumstances, or an approved leave of absence no student may take more than two academic years to complete the coursework required in any individual curricular year.

3. The maximum number of attempts to pass any individual course during enrollment in the School will be three.

E. Throughout the enrollment of a student, it is within the jurisdiction of the CAPES to terminate the enrollment of a student who has demonstrated serious academic failure or breaches of professionalism.

F. If a student enrolled in a joint or dual degree program is found in violation of the other programs academic or professional integrity policy or is found to have committed any disciplinary violations, including violations of the University Judicial Code, such matters may be brought to the attention of CAPES for review and further action. Notwithstanding decisions made by the other schools or programs, CAPES reserves the right to take further action against a student found in violation of such policies. If a student enrolled in a joint or dual degree program is not making satisfactory academic progress or is not meeting academic performance expectations of the other program or school such that the students status in that school or program may be impacted, CAPES reserves the right to determine whether any action should be taken with respect to the students status at WUSM.

G. It is the responsibility of students who feel that personal concerns, health problems, or any other factors may be adversely affecting their academic performance to bring such matters to the attention of the Director of the Student
Health Service or the Associate Dean for Student Affairs for possible accommodations.

First year

A. Failure of any examination that comprises a significant portion of the final grade (typically 20% or more) must be reported by the course master to the Associate Dean for Student Affairs. In the event of a failure of a single exam within the course, the course master may allow one attempt at remediation of this examination at a time prescribed by the course master. The scheduling of a remedial examination will be agreed upon by the course master and student but in general should not extend beyond 30 days after the end of the course. Days of recess for Winter Break or Spring Break will not be counted in the 30 days. A grade of E will be submitted by the course master if the remedial examination is not accomplished within the course dates. This grade will stand on the academic record until it is replaced with a valid final grade of Pass or Fail. Grades of E that are not resolved within 30 days will be replaced with a grade of Fail (F). In rare circumstances the Associate Dean for Student Affairs may approve an extension of this deadline. If the student successfully remediates the examination, and has otherwise passed the course, a Pass (P) will be recorded by the Registrar. A student may remediate only one examination in any course.

B. If a student has received a Fail/Incomplete grade in a single first-year course, the Associate Dean for Student Affairs will meet with the student to formulate a plan from the following options:

1. Enroll in and successfully complete, at the level designated by the course master, a summer course at a different institution, such course being completed and passed by the beginning of classes for the second year.

2. A student who, for a single course, fails the re-examination taken to remediate a failed course or fails to successfully complete an approved summer course will be referred for the CAPES to review and propose a recommended course of action. The CAPES may require such a student
A student for whom the Registrar has recorded a Fail/Incomplete grade in two or more courses during the first year will be referred to the CAPES for determination of a course of action. The Committee may decide to permit the student to take re-examinations, if a re-examination has not already been taken, in the courses for which Failed/Incomplete grades have been recorded. Such re-examinations will generally occur during the inter-academic year break. If such a re-examination is failed, the student may be required to enter an ISP or be dismissed from the School.

D. The Associate Dean for Student Affairs may also request that the CAPES review performance of a student who has demonstrated poor academic performance by failing two or more examinations.

In such instances, the CAPES may recommend a course of action.

E. All first year courses must be completed before the start of the second year curriculum in the next academic year.

Second year

A. The Associate Dean for Student Affairs will meet with students in the following categories regarding taking a re-examination, according to the schedule listed under the next section (B):

1. a student for whom an Incomplete or a final grade of Fail has been recorded in a single interval examination in a year-long course, OR

2. a student for whom a Fail or Incomplete grade has been recorded in one block-long course.
B. The schedule for re-examinations:

1. in year-long courses will generally be offered during the inter-academic year break, prior to entry into the third year.

2. for students who have failed one block-long course will be generally offered at a time determined by the course master and the Associate Dean for Student Affairs. All re-examinations must be offered to students and completed by them prior to the start of the next academic year.

3. for students who fail a re-examination of a single block-long course will be referred to the CAPES to determine a course of action. The CAPES may decide that the student must enter an ISP. Alternatively, a second re-examination may be offered. If the examination is failed for a third time, enrollment will be terminated.

C. Students in the second year for whom the Registrar has recorded Fail/Incomplete grades under the following categories will be referred to the CAPES for review and resolution of a recommended course of action:

1. one year-long course OR

2. two or more block-long courses OR

3. an interval examination in one year-long course and one block-long courses OR

4. two interval examinations in year-long courses OR

5. students for whom the Registrar has recorded a Fail/Incomplete grade in any re-examination.

D. At review by the CAPES for students referred to above, the Committee may decide to permit the student to take re-examinations, if a re-examination has not already been taken, in the courses for which Failed/Incomplete grades have been recorded. Such re-examinations will generally occur during the inter-academic year break. The CAPES may allow the student to defer beginning the clinical
rotations so that re-examinations may be taken up to six weeks after the beginning of the usual cycle of clinical clerkships. Such extra time, used for study and preparation, will ordinarily mean that the student will not have the usual unscheduled time in the elective year. In the event that a Fail/Incomplete grade is recorded at a re-examination, the CAPES may require that a student enter an Individualized Study Program or that enrollment in the School of Medicine be terminated.

In the event that the CAPES decides not simply to permit re-examination, the CAPES may require that the student enter an Individualized Study Program as detailed previously, or that the student will be dismissed from the School.

E. No student will be permitted to begin clinical rotations of the third year until all first- and second-year courses have been successfully completed.

Cumulative academic review/academic warning

Prior to promotion to the clerkship year, the CAPES will review the cumulative academic record of each student brought forth by the Associate Dean for Student Affairs to determine whether the student’s academic performance justifies advancement to the clinical phase of the medical education without warning. Typically, multiple remediated examinations and/or failing grades during the first two years of the curriculum would raise concerns about the student’s fund of knowledge and readiness to participate in clinical care of patients. Students with overall records indicating globally poor performance may be dismissed, may be required to repeat specific preclinical course work, may be advanced to the third year with academic warning or may be placed on probation.

Upon written notification of advancement with academic warning into the clerkship year, the student must meet with the Associate Dean for Student Affairs:

A. to review the planned clerkship schedule in order to consider schedule changes
to facilitate successful clinical experiences;

B. to pursue available resources for academic intervention; and

C. to address any additional problems that may arise. It is recommended that these students seek tutorial assistance through each clerkship course master.

A third-year student who has received an academic warning after the first two years and then fails any component of a clinical clerkship may be dismissed from the School.

Contingencies for continued enrollment on probationary status and for return to good standing will be specified by the CAPES in each individual case.

**Third and subsequent years**

A. Regarding performances beyond the second year, the Associate Dean for Student Affairs will meet with a student for whom a single Fail/Incomplete/E grade has been entered regarding the requirements stipulated by the relevant course master to remediate the academic encumbrance. Options will generally include a re-examination or repeating all or a portion of the course. If a Fail grade has been entered following the prescribed remediation, the student will be referred to the CAPES to determine a course of action. When such a student is referred to the CAPES, the CAPES may permit a re-examination or re-taking or repeating all or a portion of the course. If the course is failed a third time, the student will be dismissed from the School.

B. Any student who fails to achieve a passing grade (defined as greater than or equal to 10th percentile as reported by the NBME) on any two or more subject (shelf) examinations conducted as part of the evaluation of clerkships will be referred to the CAPES for review and course of action.

C. A student for whom the Registrar has recorded a single failing grade in the clinical clerkships or electives maybe referred to the CAPES for review and course
of action.

D. A student who fails any clinical component of a clerkship or elective will have a Fail recorded on the Permanent Academic Record. At the discretion of the course master or CAPES, the student must repeat either the portion failed or the entire clerkship or elective in order to remove the academic encumbrance. The failing grade will remain on the academic record. If the course is remediated the second grade will also be recorded.

E. A failing grade for clinical clerkships will be recorded on the Permanent Academic Record when a student fails the subject examination (defined as scoring at less than the 10th percentile as reported by the NBME) for the second time. A failing grade will be recorded when a student fails any clinical portion of the clinical clerkship or elective. In both events, the failing grade remains on the Permanent Academic Record. When the course is remediated the new grade will also appear on the Permanent Academic Record.

F. The Associate Dean for Student Affairs may also request that the CAPES review performance of a student who has demonstrated poor academic performance in two or more courses at interval evaluations conducted throughout the course when such performance has been reported to the Associate Dean. In such instances, the CAPES may determine a course of action.

G. For students referred to the CAPES, the Committee may endorse or amend the remediation recommendations of course masters from whom Fail/Incomplete grades have been entered. In the event that a student fails such a course of remediation, as defined by the course master and approved by the CAPES, the CAPES may require that the rotation be repeated or that enrollment of a student in the School be terminated. Students will generally be permitted three attempts to achieve a passing grade in any clerkship course. If three failing examination grades or final clerkship grades have been submitted for a course, the student will be dismissed from the School.
H. A student who advances to the clinical years with academic warning and who fails any component of a clerkship will be referred to the CAPES for action including possible dismissal from the School. See Cumulative Academic Review/Academic Warning.

Procedures Concerning Review of Academic Performance

Actions for Academic Review shall be referred to the CAPES for consideration by the Associate Dean for Student Affairs or Registrar.

A. The Associate Dean for Student Affairs will convene a meeting of the CAPES. He/she shall notify the student in writing of the course(s) for which Academic Review is scheduled and the date and time at which the CAPES will address the matter.

B. The Associate Dean for Student Affairs, the Registrar, the course master(s) or their designated representatives, shall present the matter to the CAPES in a closed and confidential CAPES meeting.

C. For students referred for course or examination failure, the CAPES meetings will have, in addition to the grade report forms for the course for which the student is referred to the CAPES, a complete record of the student's academic performance and the student file.

D. All students to be considered at a CAPES meeting will be asked to be available
to appear before the Committee to provide additional information relevant to the concern. If the student fails to be available to appear at the meeting, the Committee may postpone the meeting or may conduct the meeting and impose sanctions without the student present. Failure of a student to appear or provide information requested by the CAPES may result in the committee's filing a professionalism concern form. Meetings may be rescheduled at the discretion of the CAPES Chair.

E. If there are extenuating circumstances or contributing factors that the student feels the CAPES should consider, it is the student's responsibility to bring them to the attention of CAPES in a timely manner before a determination is made regarding the student's status.

F. The student shall be permitted, upon request in advance of the CAPES meeting, to appear before the CAPES on his or her own behalf. At the student's request, he or she may be accompanied by a member of the faculty or staff of the School of Medicine for guidance and support. Alternatively, again following request, the student may be accompanied by a fellow student enrolled in the School of Medicine.

G. A record of the CAPES meeting shall be preserved for purposes of review by the School of Medicine's Appeals Committee, as necessary.

H. When a student is considered by CAPES, their entire academic and professionalism record will be considered in deliberations regarding student status.

I. Action taken by the CAPES for poor academic performance may include dismissal. Sanctions short of dismissal from the school include but are not limited to warning, probation, defined penalty, and suspension. Additional consequences may include a program of remediation or additional oversight. The CAPES may also rule that the Dean's letter/MSPE should include a citation regarding the matter. The CAPES decision shall be by simple majority vote unless the vote is for
dismissal, in which case, a three-fourths majority will be required. The decision of the CAPES shall be communicated, in writing, to the student by the Registrar’s office.

J. After the meeting, the Associate Dean for Student Affairs will inform the student verbally of the decision of the CAPES. The Registrar will inform the student in writing of the result within ten working days.

Indications for Review of Professional Integrity

Matters involving possible breaches of professional integrity shall be brought to the attention of the Associate Dean for Student Affairs. The individual(s) raising the questions of possible misconduct shall present them in writing to the Associate Dean for Student Affairs by completing a Professionalism Concern Form providing other detailed written information as necessary. Individuals submitting such forms are reminded of the need for confidentiality regarding all matters of misconduct.

Behaviors inappropriate to the medical profession shall include, but are not limited to breaches of personal confidence and trust including cheating or unauthorized use of materials during examinations; abuse, misrepresentations or other seriously improper conduct in relation to patients or colleagues including breaches of confidentiality; other misconduct in violation of University policies or the University Student Judicial Code; illegality; substance abuse; failure of judgment including that related to non-compliance in the treatment of any personal medical condition; and misrepresentation or failure in personal actions or in meeting
obligations, so as to raise serious unresolved doubts about the integrity of the student to enter the practice of medicine. See the Guiding Principles of Professionalism link under the Policies section on the School of Medicine website.

**Procedures Concerning Review of Professional Integrity**

At the discretion of the Associate Dean for Student Affairs, in cases of serious or repeated breaches of professionalism raising concern about a pattern of behavior, the Associate Dean for Student Affairs will convene a meeting with the Associate Dean for Admissions, the Associate Dean for Medical Student Education or the Senior Associate Dean for Medical Education to review the complaint(s) and to decide whether further action is necessary.

If further inquiry is deemed necessary, the Associate Dean for Student Affairs and either the Associate Dean for Medical Student Education or Admissions, or the Senior Associate Dean for Medical Education will discuss the complaint with the student. If the two Associate Deans deem that further action is warranted, the Associate Dean for Student Affairs will follow the procedures below:

A. The Associate Dean for Student Affairs will convene a meeting of the CAPES. If the person bringing the complaint is a member of CAPES, he or she will not vote but may participate in the discussion. If the person bringing the complaint is not a member of CAPES, he or she will be asked to present the complaint and will then be excused. The CAPES chairperson will be responsible for overseeing the procedure of the meeting. The Registrar will attend the meeting to record the
minutes. The CAPES shall, whenever possible, convene within one to two weeks after the initial meeting between the student and the Associate Dean for Student Affairs.

B. The purpose of the CAPES meeting is to provide fair and prompt review of the inquiry. The Committee is not positioned in an adversarial role against the student, but simply serves to review the evidence as presented and determine its decision regarding disciplinary action, if necessary.

C. Prior to the meeting, the Associate Dean for Student Affairs will forward information concerning the matter to the Committee. In addition, the Associate Dean for Student Affairs will inform the student in writing regarding the time, date and place of the meeting. A copy of the complaint will be provided to the student. Such notification shall also state that the proceedings are confidential, and that the student may bring a faculty member, staff member or fellow student of the School of Medicine for guidance and support. If this person is not a fact witness to the complaint he/she may not address the committee.

D. Any student to be considered at a CAPES meeting will be asked to be available to appear before the Committee to provide additional information relevant to the concern. If the student fails to be available for the meeting, the Committee may postpone the meeting or may conduct the meeting and impose sanctions without the student present. Failure of a student to appear or provide information requested by the CAPES may result in the committee's drawing adverse conclusions. Meetings may be rescheduled at the discretion of the CAPES Chair.

E. The CAPES will consider evidence which tends to prove or disprove the alleged conduct. If the CAPES finds that the student engaged in misconduct, it may consider additional evidence of prior conduct, evidence as to the charged student's character, the student's entire academic and disciplinary record, or any other evidence which could assist the CAPES in determining an appropriate sanction. The Chair of the CAPES will rule on whether or not evidence or testimony will be considered. The CAPES has neither the advantages nor limitations inherent
in a court of law.

F. During the meeting the student will have access to the written evidence presented and may present evidence and fact witness(es) on his or her own behalf. The student should be prepared to discuss the circumstances of the complaint after which the CAPES will excuse the student from the room.

G. The decision as to whether the student committed the alleged act will be made solely on the basis of evidence and testimony presented at the meeting. Innocence of the student will be presumed. A CAPES member must find in favor of the student unless the member is persuaded that it is more likely than not that the student engaged in the misconduct alleged.

H. Action taken by the CAPES for breaches of professional integrity may include dismissal. Sanctions short of dismissal from the School include but are not limited to advancement with academic warning, other warning, probation, defined penalty, suspension, fine and restitution. Additional consequences may include a program of remediation or additional oversight. The CAPES may also rule that the MSPE/ Deans letter should include a citation regarding the matter. Contingencies for continued enrollment on probationary status and for return to good standing will be specified by the CAPES in each individual case.

I. A simple majority will prevail, except when the motion is to dismiss from the School where three-fourths majority will be required.

J. After the meeting and decision of the CAPES, the Associate Dean for Student Affairs will inform the student verbally of the result. The Registrar will inform the student in writing of the result within ten working days.

K. The record of such proceedings will be held confidentially with access restricted to Committee members, the student involved, and relevant members of the Administration.
L. The University does not tolerate retaliation against individuals who bring forward complaints or who participate in the CAPES process.

M. Unless it is determined by the Associate Dean for Student Affairs that extraordinary circumstances exist, the student will be permitted to continue in the usual academic activities during the CAPES proceedings. However, if there is a reasonable basis for believing that the continued presence of the student on campus or in clinical rotations poses a substantial threat to the student, to patients or to the rights of others to engage in their normal University functions and activities, the procedure outlined under section B of Leave of Absence Policy applies.

N. Should a student be referred to the CAPES for an issue(s) involving both academic performance and professionalism concerns, the procedures for Professionalism Concerns will be followed.

Appeals Process for the CAPES Decisions

<< Back to Assessing Academic Achievement and Professionalism

The School of Medicine has the right and responsibility to assure that each student, during the time of enrollment, demonstrates levels of academic achievement and ethical stature appropriate to the practice of medicine. The School must also ensure provision of fairness in discharging those rights and responsibilities.

Within 14 working days of the date on which an academic or disciplinary decision is rendered by the CAPES, the student may request, in writing to the Registrar, that the School of Medicines Appeals Committee review the record of the CAPES decision to
determine that the appropriate CAPES procedures were followed or that the Appeals Committee request that the CAPES consider additional, new relevant information which was not previously presented to the CAPES for good cause. The letter to the Registrar should include the basis for the appeal as well as any new relevant information and an explanation as to why it was not timely presented to the CAPES.

An Appeals Committee, composed of faculty members appointed by the Dean of the School of Medicine, shall be created to review appeal of decisions by the CAPES. Members of the CAPES Committee may not be appointed to the Appeals Committee. A quorum of this committee shall consist of five members.

The Appeals Committee shall review the record of the CAPES decision solely to determine whether the pertinent CAPES procedures were followed and whether all relevant information was considered by the CAPES. If the appeal is based on a contention that all relevant information was not presented to the CAPES, the written appeal must provide the Appeals Committee with adequate reason why the student did not present this information at the CAPES meeting in question. In all cases, the Appeals Committee shall not substitute its judgment of the facts or its opinions of the merit of matter for those of the CAPES.

On all appeals the Appeals Committee may either (1) remand the matter to the CAPES for reconsideration with its explanation for the remand, or (2) deny the appeal. If the matter is remanded to the CAPES, all documents, minutes of the Appeals Committee meeting, and information submitted by or for the student in support of the appeal will be made available to the CAPES. The Appeals Committee shall provide its decision in writing to the Dean, the student, the CAPES, the Associate Dean for Student Affairs and the Registrar. The Associate Dean for Student Affairs shall determine whether the student may continue his or her curriculum pending the Appeals Committee review of a CAPES decision.

Within 10 working days of the date of an Appeals Committee’s decision or referral back to the CAPES, the student may request, in writing, that the Dean of the School of Medicine review the decision of the Appeals Committee. The decision of the Dean shall
The following definitions are applied when the indicated terms are used in relation to the foregoing rules concerning review of academic performance and professional integrity:

**Academic Warning, Advancement with**

A supervised status that may be imposed if a student's cumulative academic review indicates that special oversight is warranted. See section on Cumulative Academic Review/Academic Warning for additional information.

**Action, Disciplinary**

An action, including counseling and penalties, taken by the School of Medicine, after consideration of the disciplinary problem.

**Administrative Withdrawal**

Termination of a student's enrollment from or eligibility to return to the School of Medicine by the University where the student has:

A. failed to register and has not sought a leave of absence; or
B. not returned from an approved leave of absence within the designated period of time and where an extension of the leave of absence has not been timely requested and approved by the CAPES.

**Dismissal, Academic**

Involuntary separation of a student from the School of Medicine because he/she has not met the academic requirements.

**Dismissal, Disciplinary**

Involuntary separation of a student from the School of Medicine as a result of action taken because of misconduct.

**Good Standing**

As a record or transcript notation, it signifies that the student is eligible to continue, to return, or to transfer elsewhere. It implies good academic standing as well as good citizenship and replaces such terms previously used as honorable dismissal, honorable withdrawal, withdrawn, voluntary withdrawal, eligible to return and clear record.

**Grade, Incomplete**

Indicates there is still a possibility of credit after further work. Used when the instructor is not prepared to give a final mark for the term in view either of sickness of the student or some justifiable delay in the completion of certain work. It is accompanied by a note that explains the circumstances and indicates how and when the incomplete may be resolved. A definitive mark for the term is recorded on the official transcript when the work is completed and the incomplete grade is removed. In case the work is not completed within the time allowed, the recorded grade will be changed to fail.
Permanent Academic Record

The all-inclusive abstract of academic achievement. This is also commonly referred to as the official educational record or official transcript.

Probation

Probation status may be for academic and for disciplinary reasons. Academic probation is the result of unsatisfactory scholarship. It is not a penalty but a warning and provides an opportunity to improve. Usually the student is required to make regular specified improvement in his record in order to avoid dismissal.

Disciplinary probation is the middle status between good standing and suspension or dismissal. The student remains enrolled but under stated conditions according to school policies. Disciplinary probation covers a stated trial period during which it is determined whether the student is returned to good standing having met the stated requirements or dismissed from enrollment at the end of the period for failure to meet the stated requirements.

Professionalism Concern Form

A form completed by a member of the University community to communicate an instance of unprofessional behavior to the Associate Dean for Student Affairs. Serious or repeated instances of unprofessional behavior may be referred to the CAPES by the Associate Dean for Student Affairs.

Suspension

Suspension is an involuntary separation of the student from the school but it differs from dismissal from enrollment in that it implies and states a time limit when return will be possible. Thus, suspension may extend for a specified time, until a specified date or until a stated condition is met.
Withdrawal

A release from enrollment. A student may request that they be allowed to withdraw from enrollment. Such requests are directed to the Registrar or the Associate Dean for Student Affairs. When a student has requested withdrawal status, the school, by action of the CAPES, will determine whether the withdrawal will be annotated with good standing or not in good standing in the official academic record. Such annotations may be accompanied by explanations in the official educational record.

Forms

<< Back to Assessing Academic Achievement and Professionalism

Grade Appeal form and Professional Concern form are available on the following links:

Grade Appeal Form

Professional Concern Form

Policies Related to Evaluation

United States Medical Licensing Exam (USMLE)
United States Medical Licensing Exam (USMLE)

Students who matriculated prior to 2014 and who anticipate practicing clinical medicine are required to take the USMLE Step 1 and 2 examinations. Beginning with the class matriculating in 2014, all students are required to take the USMLE Step 1, Step 2CK and Step 2 CS prior to graduation.

The USMLE is designed to “assess a physician’s ability to apply knowledge, concepts, and principles, and to demonstrate fundamental patient-centered skills, that are important in health and disease and that constitute the basis of safe and effective patient care.” The USMLE represents a single uniform examination for medical licensure in the United States, and as such, is a minimum requirement for obtaining a medical license.

The USMLE consists of four separate examinations. “Step 1 assesses whether you understand and can apply important concepts of the sciences basic to the practice of medicine, with special emphasis on principles and mechanisms underlying health, disease, and modes of therapy. Step 1 ensures mastery of not only the sciences that provide a foundation for the safe and competent practice of medicine in the present, but also the scientific principles required for maintenance of competence through lifelong learning.” Step 1 is taken after completing the second year at WUSM.
Step 2 consists of two separate examinations, Step 2 CK (Clinical Knowledge) and Step 2 CS (Clinical Skills) which are taken at different times. “Step 2 assesses whether you can apply medical knowledge, skills, and understanding of clinical science essential for the provision of patient care under supervision and includes emphasis on health promotion and disease prevention. Step 2 ensures that due attention is devoted to principles of clinical sciences and basic patient-centered skills that provide the foundation for the safe and competent practice of medicine.” Step 2 exams are taken after completing the third year but prior to graduation from WUSM.

“Step 3 assesses whether you can apply medical knowledge and understanding of biomedical and clinical science essential for the unsupervised practice of medicine, with emphasis on patient management in ambulatory settings. Step 3 provides a final assessment of physicians assuming independent responsibility for delivering general medical care.” Step 3 is taken following graduation and during internship/residency training.

Further information can be obtained from the USMLE Bulletin of Information published by the National Board of Medical Examiners, and is available, along with application forms and information, at http://www.usmle.org.

Guidelines for Exam Administration

<< Back to Policies Related to Evaluation

Following are general guidelines for exams administered in the undergraduate medical curriculum. Additional requirements may be posed by the individual course director.

Expectations for students
• Take the exam during the originally scheduled time, excepting extenuating circumstances. Students are required to take all examinations at the specified time. A student may be excused from this rule for extenuating circumstances at the discretion of the Associate Dean for Student Affairs. Extenuating circumstances are normally defined as sudden personal illness. Doctor appointments of a routine nature or vacation time are not considered to be extenuating circumstances for which students can be exempted from the regularly scheduled exam date. Such occasions will be promptly reported to the Associate Dean for Student Affairs. In the event of inability to attend a scheduled examination due to sudden illness the student is required to inform the course director prior to the examination and to be evaluated by the Student Health Service. In the event that the student cannot reach the relevant course director, the student should contact the Associate Dean for Student Affairs.

• Students are expected to be punctual and should be assembled in the designated exam area before the official start time of the exam. Tardiness will not be excused except in extenuating circumstances. For purposes of the exam, “tardiness” will be defined by the course director or exam proctor.

• Not share study materials, exchange information, collaborate or communicate with others during the exam.

• Place all personal items in designated area. (Cell phones must be turned off and pagers set on pulse.

• Hand their registration card, laminated sheet and pen to the proctor prior to leaving the room.

Special accommodations

Any student needing accommodation for exams should review the school’s Students with Disability Policy in advance of exams. Students needing accommodations should meet with the Associate Dean for Student Affairs in advance of exams to discuss his or her request. The Associate Dean for Student Affairs will inform course directors of approved exam accommodations.
Expectations for faculty

- Exams should be proctored by the course director or a designee appointed by the course director comfortable with proctoring and exam administration guidelines. Exams will not be proctored by Office of Medical Education/Office of Medical Student Education Staff. NBME subject exams are proctored by the Office of Student Affairs.

- Administration should be fair to all students.

- If the faculty member answers a substantive question or clarifies an issue, the same should be communicated to ALL students, including those in separate rooms or at different times.

- Reasonable adjustments should be offered to students who require special accommodations, including a separate testing room or additional time. Course directors are notified of these students through the Associate Dean for Student Affairs.

- If a student behaves inappropriately, the course director should notify the Associate Dean for Student Affairs immediately (see below for examples of inappropriate behaviors).

- All requirements of students should be communicated to all students PRIOR to the start of the exam.

Cheating

The following examples are intended to be representative of behaviors that constitute cheating in the context of an exam. This is not intended to be an all-inclusive list.

- Looking at or copying from another student's test.

- Collaborating with another student during the test without authorization.

- Using lecture notes or textbooks during an exam without authorization.
- Possessing crib notes during an exam.
- Using signals/signs to obtain answers from others.
- Utilizing a calculator, cell/smart phone, smart watch, computer, or any other device or learning aid without authorization. This includes storing, receiving, and/or accessing course matter stored on such devices.
- Obtaining assistance in answering questions on a take-home exam without authorization.
- Obtaining advance copies of exams or quizzes by any means.
- Having someone else take an exam in your place.
- Feigning illness or submitting misleading statements to avoid taking an exam at the scheduled time.
- Changing an answer on a graded test and claiming the question response was incorrectly marked wrong.

Preclerkship Narrative Assessment Policy

<< Back to Policies Related to Evaluation

Background

Narrative assessment can be used as a tool to provide meaningful insights about the knowledge, clinical competence, and professional development of our students. Through this policy we aim to systematically provide students in the pre-clinical phase of the curriculum with feedback on their performance on the following Competency-Based Learning Objectives (CBLOs):
• Interpersonal and Communication Skills 3 (ICS-3) – Communicate effectively with members, including both physician and non-physician professionals, of the health care team

• Professionalism 1 (PROF-1) – Maintain a professionally appropriate demeanor, exhibit high standards of professional integrity, and demonstrate an awareness of potential conflicts of interest

• Professionalism 4 (PROF-4) – Work collaboratively and effectively in interprofessional teams

• Practice-Based Learning and Improvement 1 (PBLI-1) – Demonstrate the skills needed for lifelong learning including the ability to identify and address personal strengths and weaknesses to incorporate formative feedback, and to self-assess knowledge and performance to develop a self-improvement plan

• Practice-Based Learning and Improvement 3 (PBLI-3) – Participate in the education of peers and other members of the health care team

Assessment criteria

_Narrative assessment must be provided in preclinical courses in which students work in small groups of 12 or less for at least 3 separate mandatory sessions. For activities in which a given instructor supervises more than one small group they will provide narrative feedback when they can observe each individual small group for a minimum of 30 minutes (taken together, across all small group sessions)._

Narrative assessment can be provided in courses that do not meet these criteria, provided that the instructor demonstrates the nature of the interaction allows for meaningful feedback regarding the indicated CBLOs.
Policies Related to Absences and Leaves

Absence Policy for MD Students on Clinical Clerkships

Absence Policy for MSTP Students on Clinical Clerkships

Absence Policy for MD Students on Fourth-Year Electives

Leave of Absence Policy

Policy on Student Status and Benefits During Research Years or Leave of Absence

Absence Policy for MD Students on Clinical Clerkships

The profession of medicine requires the utmost commitment of time and energy to patient care and research activities. While the development of this commitment begins in the preclinical years, it is further practiced and developed during the clinical clerkship.

The clinical clerkship year at Washington University School of Medicine comprises 48 weeks of required core clinical experiences. All students on the clinical clerkships have a scheduled 2-week winter recess break, a 3-day spring break and a 2-week break between the end of the third-year clinical clerkships and the start of fourth-year
elective rotations (or free time prior to graduation for MSTP students). During every clinical clerkship, each student is expected to participate fully in all activities of the clerkship up until the designated end time of the clerkship or the start time of a holiday break. This regularly requires participation beyond formal weekday hours to include evening and nighttime call and clinical responsibilities on weekends.

If a student is ill or has a personal emergency, (s)he should notify the clerkship course master’s office and the resident supervising his/her clinical team the morning of the absence. If the absence extends beyond two consecutive days, the student should also notify the Office of Student Affairs.

It is recognized that a student may, on a very occasional basis, desire to be excused from clinical activities for professional or significant personal events. For the third year, the Curriculum Evaluation Committee agreed upon the following guidelines regarding the maximum number of days of excused absences (including illness) from clerkships: Students may miss up to 5 days on a 12-week clerkship, 3 days on a 4- or 6-week clerkship, and 1 day for a 2-week clerkship without making up the missed time. Students must recognize that clerkship teaching, learning and evaluation are dependent on the student’s presence and participation in every aspect of the clerkship. While students will not be graded down only because of an excused absence, time spent away from the clerkship may decrease learning and impede effective evaluation; students are encouraged to make up missed work on rotations in which this can result in meaningful learning and should discuss this option with the clerkship director. It is the responsibility of the student to directly contact the clinical clerkship course director in writing (by letter or e-mail) to obtain permission for any planned absences well in advance of the planned absence.

At the discretion of the course director, any student who misses portions of the clinical clerkship experiences due to planned and/or unplanned absences that exceed the maximum time may be required to utilize winter recess, spring break or free time at the end of the third year clinical clerkships to complete the 48 weeks of mandatory clinical clerkships.
Absence Policy for MSTP Students on Clinical Clerkships

MSTP students are allowed to miss up to three days of any four-week clerkship, and up to nine days of any 12-week clerkship for any reason including interviews. This is a substantially more flexible policy than we have towards the M.D. students, in which we limit the number of days off to three in a four-week period, and five in a twelve-week period. We recognize that for some MSTP students entering competitive specialties with limited interview dates it may be necessary for them to plan far enough ahead in their training to schedule a month for either a very light elective or a free month to allow appropriate flexibility for interviews. The committee also agreed that the MSTP students should be encouraged to:

1. talk with Dr. Kathryn Diemer early for assistance in residency planning;
2. seriously consider coming out of lab a month earlier to allow flexibility for interviewing; and
3. delaying graduation by one year to increase flexibility. When absences are necessary on a clerkship, advanced discussion with the clerkship director will better allow placement on a team to allow maximum educational value. We believe this policy strikes an appropriate balance between increased flexibility for the MSTP students and assuring a meaningful educational experience on the core clerkships.
Absence Policy for MD Students on Fourth-Year Electives

The profession of medicine requires the utmost commitment of time and energy to patient care and research activities. While the development of this commitment begins in the preclinical years, it is further practiced and developed during the clinical clerkship and elective years.

The elective year at Washington University School of Medicine encompasses a 44-week time block and requires students take a minimum of 36 weeks of elective experiences. All students have a scheduled two-week winter recess and a three-day spring break during the academic year. During each elective, each student is expected to participate fully in all activities of the elective up until the designated end time of the elective or the start time of a holiday break. This could require participation beyond formal weekday hours to include evening and nighttime call and clinical responsibilities on weekends.

If a student is ill or has a personal emergency, (s)he should notify the elective course master’s office and the resident supervising his/her clinical team the morning of the absence. If the absence extends beyond two consecutive days, the student should also notify the Office of Student Affairs.

It is recognized that a student may, on a very occasional basis, desire to be excused from clinical activities for professional absences or significant personal events. For the fourth year, the Curriculum Evaluation Committee agreed upon the following guidelines regarding the maximum number of days of excused absences (including illness) from electives: During interview season, students will be allowed to miss up to five days in a four-week rotation; any additional days off would require approval by the
Associate Dean for Medical Student Education and the elective course director. Days off in excess of three days are to be used for residency interviews.

The rest of the elective year follows the third-year absence policy: Students may miss up to five days on a twelve-week rotation, three days on a four-week rotation, and one day for a two-week rotation without making up the missed time. Students must recognize that elective teaching, learning and evaluation are dependent on the student’s presence and participation in every aspect of the elective. While students will not be graded down because of an excused absence alone, time spent away from the elective may decrease learning and impede effective evaluation. Because of these meaningful learning experiences, students are encouraged to make up missed work on rotations and should discuss this option with the course master. It is the responsibility of the student to directly contact the course director in writing (by letter or e-mail) to obtain permission for any planned absences well in advance of the planned absence.

At the discretion of the course director, any student who misses portions of the elective experience due to planned and/or unplanned absences that exceed the maximum time may be required to utilize winter recess, spring break or free time to complete the elective.

The required fourth-year Capstone course has a separate absence policy. Please refer to the course syllabus for details.

Leave of Absence Policy

<< Back to Policies Related to Absences and Leaves
I. A student may request a leave of absence for academic or personal reasons by submitting a statement in writing to the Office of Student Affairs. Such a statement should include indication of the beginning and anticipated ending dates and a brief statement of the reason (academic or personal). Requests for leave of absence must be approved by the Associate Dean for Student Affairs. Leaves of absence shall be granted for no more than one year, but in unusual cases may be renewed by the CAPES for additional years after discussion with the Associate Dean for Student Affairs. Students requiring a personal leave of absence for medical reasons must submit a supporting letter from the Director of the Student Health Service. A written statement of medical clearance will be required before the student may return from such a leave.

II. If there is a reasonable basis for believing that the continued presence of the student on campus or in clinical rotations poses a substantial threat to the student, to patients or to the rights of others to engage in their normal University functions and activities. The following procedure applies:

A. The Chancellor or his designate may impose an involuntary leave of absence when there is evidence that a student has committed an offense under these rules or the University's Judicial Code and there is evidence that the continued presence of the student on the University campus or as a participant in a clinical rotation poses a substantial threat to himself or herself, to patients or to the rights of others to continue their normal University function and activities.

B. Imposition of the involuntary leave of absence may result in denial of access to the campus, prohibition of class attendance and/or prohibition of participation in clinical rotations.

C. If an involuntary leave of absence is imposed, the suspending authority shall prepare a written notice of the imposition and shall have the notice mailed certified or personally presented to the student. The written notice shall include a brief statement of the reasons therefore, and a brief statement of the procedures provided for resolving cases of involuntary leave of absence under these rules.
D. The student shall be given an opportunity to appear personally before the suspending authority within five (5) business days from the date of service of the notice of imposition of the involuntary leave of absence. If the student asks to appear personally before the suspending authority, only the following issues shall be considered:

1. Whether the suspending authority's information concerning the student’s conduct is reliable; and
2. Whether under all the circumstances, there is a reasonable basis for believing that the continued presence of the student on campus or in clinical rotations poses a substantial threat to the student, to patients or to the rights of others to engage in their normal University functions and activities.

E. Within one week of the date of imposition of the involuntary leave of absence, the suspending authority shall either file a statement of charges against the student with the University Judicial Board, and shall have the statement or charges served, by mail or personal service, upon the student and the dean of the school or college or director of the program in which the student is enrolled or initiate proceedings under these rules to convene a Disciplinary Committee.

F. A temporary suspension shall end when

1. rescinded by the suspending authority, or
2. upon the failure of the suspending authority to promptly file a statement of charges with the University Judicial Board or a Disciplinary Committee, or
3. when the case is heard and decided by the University Judicial Board, or the Disciplinary Committee.

Return of students from involuntary leave of absence requires clearance of both the Director of the Student Health Service and the Associate Dean for Student
III. Students receiving financial aid should be advised that at the end of sixty (60) days or more leave of absence, the grace period for loan repayment during a leave of absence may be exhausted. In such cases there will be an obligation for the student to start payments. According to the Federal rules under which loans are made, the use of a grace period during a leave of absence will generally mean that the schedule for loan repayment may be changed. Students who are receiving financial assistance should consult with the Financial Aid Office to determine the implications of a Leave of Absence for their financial aid.

IV. A student returning from a leave of absence of one year duration or less will maintain the same tuition rate. Students returning after more than one year leave of absence will assume the tuition rate of the class they are rejoining. Appeals of this policy should be submitted in writing to the registrar. Please refer to the section on Registration, Payment of Financial Obligations, Withdrawal and Refund Policy regarding policies on the effect of a leave of absence on tuition and other financially related matters.

Policy on Student Status and Benefits During Research Years or Leave of Absence

<< Back to Policies Related to Absences and Leaves

MD/PhD
Student status is maintained while in the research phase of the MD/PhD program. Students are registered in the graduate school during the research years. Both student health and disability coverage are provided by the Division of Biology and Biomedical Sciences.

**MA/MD**

Student status is maintained while in the research phase of the MA/MD program. Students are registered in the graduate school during the research year. Both student health and disability coverage are provided.

**Five-Year MD Program**

**Research year here**

Student status is maintained throughout the approved research year. In exceptional circumstances, a second research year may be permitted. The student may receive a stipend, but may not be considered an employee of the university. Students are registered in the School of Medicine. Both disability and student health coverage are required and are payable by the student. Outside funding often covers such fees.

**Research year away**

Student status is maintained throughout the approved research year. Students are registered in the School of Medicine. Both disability and student health coverage are optional with proof of like coverage. The cost of either elected coverage is payable by the student. Outside funding often allows these costs.

**Leave of absence**

**Leave of absence year here**

Student status is not maintained during the leave of absence though benefits of
student health coverage and disability insurance are optional throughout an approved leave. Costs are payable by the MD program students. MD/MA and MD/PhD students may request support for these costs from the Division of Biology and Biomedical Sciences if funds are available. The Office of Financial Aid should be consulted for information regarding loan repayment and grace periods when on a leave of absence.

**Leave of absence year away**

Same as Leave of Absence Year Here.

A student returning from a leave of absence of one year duration or less will maintain the same tuition rate. Students returning after more than one year leave of absence will assume the tuition rate of the class they are rejoining. Appeals of this policy should be submitted in writing to the registrar.

**Other Policies — MD Program**

- Guiding Principles of Professionalism
- Technical Standards Statement
- Dress Code
- Duty Hour Policy for Medical Students
- Payments and Withdrawal & Refunds Policy
Guiding Principles of Professionalism

A. Preamble

Medicine is one of the oldest of the learned professions. A professional is one who is in command of a specialized body of knowledge and skills, and is given specific rights not typically allowed to the public. Along with those rights, the professional has specific responsibilities or duties not generally expected of the public.

The singularity of medicine is that it deals with human health. Patients are potentially at their most vulnerable when establishing a relationship with a physician. That the patient's relationship with his/her physician involves a dependency that encompasses life and death adds further to the uniqueness of this relationship.

The label of professional is not a right but must be earned. The special contract physicians have with society has professionalism as its foundation. Professionalism consists of fundamentally important qualities including altruism, compassion and empathy, respect for patients and health care workers, commitment to ongoing excellence, honesty, trustworthiness, integrity, accountability, recognition of limits, collaboration, and duty to society.

Professional development is an on-going process at all levels of training and practice. The purpose of this document is to outline those elements of professionalism expected of our medical students. It is not meant to be all encompassing, providing exact guidelines for all possible situations. Rather, four broad categories of professional behaviors are described below, with specific principles cited for each in bold print, and examples provided for some of the principles in regular text. While this document was developed with medical students in mind, it is generally applicable to all medical professionals.
B. Professional responsibility

1. Students have a responsibility to actively participate in their education and to work to improve the educational environment for future students.

2. Students should have a willingness to pursue life-long, self-directed learning, which is an essential attribute of any professional.

3. Students should act responsibly in their personal and academic lives with regard to meeting deadlines, financial obligations and other comparable responsibilities.

4. Preparation for class and during clinical rotations sets a good example for peers, maximizes every student’s learning opportunity, and demonstrates respect for the teachers and peers.
   
   1. Respecting one’s peers in a classroom or in the hospital setting includes behaviors such as arriving on time, exhibiting respectful body language, listening attentively, turning off cell phones and allowing all present to engage in discussion.

5. Students should report to the appropriate supervisor potentially serious errors that others have committed.

6. Students should contribute to their community.
   
   1. Students are encouraged to participate in the first- and second-year teaching groups.
   
   2. These provide a service to the larger St. Louis community, while teaching students how to communicate with people of diverse backgrounds.
   
   3. Students are encouraged to serve at the Saturday Neighborhood Health Clinic and other community service and teaching activities.

7. Students should be aware of the larger social and economic context in which disease occurs, and take advantage of opportunities to deepen their knowledge about this topic.
C. Competence and self-improvement

1. In order to function at the expected level, students should attend to their own physical and emotional health.
   
   1. The experience of being a medical student can be physically and emotionally challenging. Students need to be able to identify when they are overwhelmed to the point where they may not be able to function appropriately. Students are encouraged to seek educational assistance and/or the emotional support of others in these instances.

2. Recognizing and admitting errors in patient care are key to being a good physician.
   
   1. Students should view mistakes as part of learning. Assuming responsibility for mistakes is critical for professional development.

   2. Developing productive strategies for dealing with mistakes and non-confrontational ways of correcting them is essential.

3. Feedback, advice and criticism from residents, fellows and faculty fosters personal and professional development, and should be taken in the context of mentoring.
   
   1. Students should assume that opinions of their faculty/residents/fellows that may seem unclear are usually solidly founded, and accept feedback regarding their performance openly and maturely from individuals more experienced than they.

   2. Students should provide suggestions and examples for improving the mentoring environment by forthrightly evaluating their instructors.

4. Students should identify and correct errors in patient care as soon as possible or notify those who can correct it.

5. Students should balance personal and professional interests.
   
   1. Students should not over-commit.
2. Students should communicate schedule conflicts to course directors, lecturers, and/or house staff.

D. Respect for others and professional relationships

1. Students should conduct themselves with manners and consideration of all others, and be respectful of others’ time.

2. While individual effort is important in developing a medical knowledge base, much of what students learn in medical school will depend on a collaborative effort with their peers.

   1. From the first day of medical school, students should encourage each other and collaborate with their peers when appropriate in the learning environments of lectures, small group discussions, and lab sessions. In doing so, they are laying the foundation for the truly collaborative nature of medicine.

   2. During the clinical years, students should understand that their peers are a valuable resource. Likewise, a student should assist peers in patient care responsibilities.

   3. In all cases, students should respect the work and learning opportunities of their classmates and they should share educational opportunities with their peers. Professional behaviors include listening to other’s presentations, and encouraging others’ opportunities to present, ask/answer questions, admit patients, participate in surgical cases/procedures, or perform duties.

3. Respect for the ethnic and cultural diversity of classmates provides for a more nurturing environment for all.

   1. Students should be aware that their classmates come from a wide variety of religious and ethnic backgrounds and that they will have differing lifestyles and viewpoints. This diversity is an important resource in our community, contributing to personal and professional growth of all.

   2. Students should be sensitive to the importance of these issues and should
seek opportunities to enhance appreciation of multiple cultures through
dialog, educational opportunities, etc.

4. Students should be supportive of peers during difficult times in their personal and professional lives.
   1. Students must appreciate that their peers may have issues in their personal or professional lives (e.g. family, medical, academic, or administrative problems) that may affect their interactions with others. In these circumstances, students should make every attempt to be sympathetic and to offer their support to those students.

5. Participation and teamwork enhances the educational experience.
   1. The learning process is a partnership between students and faculty. Students should actively participate in this partnership by providing feedback to professors by way of evaluations and surveys.
   2. Contributing to the overall functioning of the team maximizes both learning and patient care in the clinical setting.

6. Understanding the appropriate venues for feedback to house staff/fellows/faculty is critical to successfully resolving conflicts.
   1. Students should be aware of the hierarchy of the team, and appropriate mechanisms for handling disagreement with faculty/residents/fellows. Conflicts can be translated into productive outcomes if handled appropriately.
   2. www.universitycompliance.wustl.edu/codeofconduct

7. Maintaining a professional relationship with teachers (including faculty/residents/fellows and TAs) is important, especially during times when these teachers are in a position to grade or evaluate the student.
   1. Students should avoid behaviors that could potentially be construed as attempting to influence the faculty, for example running personal errands.
   2. The University has specific codes and regulations regarding romantic
relationships between a student and a teacher, including faculty/resident/fellows (www.wustl.edu/policies/consent.html)

Students engaged in such relationships should review these codes and avoid any situation that can cause potential conflict of interest in the academic setting.

8. Patients should be treated as individuals in the context of their family, culture and community. Personal bias should be subordinated when possible to further the therapeutic relationship.

   1. Use of offensive language or gestures is unacceptable.

   2. At times, some religious beliefs will require the use of alternative care approaches.

   3. Students, like practicing physicians, should not refuse to participate in the care of a patient with a communicable disease unless this represents a meaningful threat to the student’s own health. In contrast, a student who is verbally or physically threatened by a patient may ask to be excused from care of that patient.

9. Students should treat hospital staff with appreciation and respect as they are vital members of the health care team.

E. Honesty and integrity

1. Student work should be original.

   1. Only authorized resources should be used during examinations, quizzes or graded course work. WUSM has a zero tolerance policy for plagiarism. [link to University’s definition]

   2. When students are aware that a classmate has submitted work that is not their own (cheated), they should discuss this situation with the Course Master and/or the Associate Dean for Student Affairs.

2. Students must respect patients’ rights and maintain confidentiality, in accordance with HIPAA guidelines.
1. Students should be ever aware that patients are ill and have the right to refuse care, particularly when poorly provided.

2. Patient information should only be discussed with appropriate people at appropriate times.

3. Patient records should not be photocopied carelessly or removed from appropriate areas.

4. Patient information should be disposed of appropriately to prevent careless transmission of patient information.

3. Students should clearly communicate their abilities and level of training to patients.

   1. If a student does not know the answer to a patient’s question, it is his/her responsibility to admit this lack of knowledge.

   2. Even if other members of the health care team introduce students to patients as “doctor,” the student should never do so as it leads to a false perception of expertise on the patient’s part.

   3. Students should always be truthful with the house staff and other medical staff in terms of patient care and never compromise patient care as a consequence of personal gain.

4. Students should not participate in any aspect of patient care if under the influence of a substance that may compromise his/her judgment or otherwise cause the patient harm. Likewise, students should report any member of the health care team who may be participating in patient care while under the influence of a judgment-impairing substance.

5. Any student who is impaired by physical or psychological illness should excuse him/herself from patient care responsibilities, and should also respect recommendations to do so from colleagues or supervisors.

6. Although students are often tired or under stress, they should attempt to maintain an appropriate level of composure at all times.
7. Students should be appropriately attired for all patient care duties.

8. Students should carefully consider their participation in benefits provided by pharmaceutical companies or other medically-related businesses.

9. Students should respect the laws of federal, state and local governments in both professional and private life.

**Washington University School of Medicine Professionalism Concern Form**

Please see Appendix B in the “Rules Governing Review of Student Performance” booklet.

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**Technical Standards Statement**

Graduates of Washington University with a Doctor of Medicine degree are expected to have broad competence in the basic skills that underlie the general practice of medicine and surgery. All graduates must be able to take a history, examine a person, synthesize the findings into a diagnosis and plan of evaluation and treatment independently. Thus, medical students must possess the requisite sensory, motor, communicative and cognitive capabilities to accomplish these requirements in a reliable manner in order to be competent and safe medical practitioners.
Dress Code

While Washington University School of Medicine does not have a written dress code, it is expected that all students will dress in attire that is appropriate for a professional.

Appropriate attire in the clinical setting is especially important, not only because the student will be part of the team representing the medical profession to patients, but also because the student will be representing the School of Medicine.

Appropriate attire for male students on the clinical services includes man-tailored shirt and tie, trousers or slacks and closed toe shoes. Appropriate attire for female students includes a dress, a blouse, tailored shirt or sweater, slacks or skirt, and closed-toe shoes. Both men and women should wear a short white jacket with the appropriate identification card clearly visible.

Duty Hour Policy for Medical Students

* This policy applies to fourth-year students as well.

Clerkship directors and directors of other clinical rotations are responsible for monitoring and ensuring that duty hours are adjusted as necessary. Duty hours are defined as all clinical and academic activities related to medical student education.
including patient care (both inpatient and outpatient), administrative duties (completion of paperwork, dictation of charts, etc.), the provision for transfer of patient care (check-in, check-out, etc.), time spent in-house while on call, and scheduled academic activities (i.e., required academic conferences). Time spent reading, doing write ups, etc, after leaving the hospital (or after having been told you can leave) does not count toward duty hours. Student duty hours are set taking into account the effects of fatigue and sleep deprivation on learning and patient care.

- Students must not be scheduled for more than 80 clinical duty hours during a seven-day week, averaged over a four-week period.
- Students must have a minimum average of four 24-hour periods off over four weeks.
- Students must not be on overnight call more frequently than every third night.
- Students cannot be on call for more than 24 successive hours, with an added period of up to 4 hours for continuity, educational debriefing, and didactic activities. No new patients should be assigned to students after the 24-hour call limit.
- All WUSM third- and fourth-year students will have all official Washington University holidays off, regardless of whether the students’ team is on-call or post-call the day of the holiday. On the work day directly preceding the holiday, students will be dismissed by 5 p.m., and will not be assigned call duties, or regular clinical duties, until the day following the holiday at the time set forth by the clerkship director, chief resident, or fourth-year elective course master.
- Students are strongly encouraged to discuss issues pertaining to days off with the resident at the beginning of the clerkship, or fourth-year elective, and to contact the respective clerkship director, elective course master, or resident, in writing (by letter or email) to obtain permission for any planned absences well in advance of the planned absence.
- Individual clerkship directors and directors of clinical rotations may choose to implement duty hour guidelines that are more restrictive than the above.
However, duty hours may not exceed the above regulations.

- If you encounter a duty hour violation, please discuss first with the clerkship director or elective coursemaster. If the issue is not resolved to satisfaction, you may approach Deans Michael Awad, Lisa Moscoso, or Alison Whelan.

## Payments and Withdrawal & Refunds Policy

The University billing system provides a central financial account against which most student expenses incurred at the University will be posted, including but not limited to tuition, housing charges, parking, library fines, etc. This policy, when referring to tuition and other charges, includes any and all charges posted to this account.

All payments of tuition and other University charges are due and payable on the dates specified in the published calendars of the programs in the School of Medicine. Failure of a student to register when required, and pay tuition and other charges incurred on or before the date specified in the published calendar, will result in a late fee of $50 to be added to the amount due. The late fee will be imposed seven days after the due date if full payment has not been received. Tuition and other charges are usually payable twice a year, at the start of the academic year, and again at the middle of the academic year, as listed on the schedule on the academic calendar.

In addition to the $50 late fee, any payment due from the student and not paid by the specified date will accrue interest at the current market rate in effect on the first business day of the month in which the payment is due. This fee will be imposed on
any accounts not paid in full within 30 days of the due date. Any amount not paid when due (plus accrued interest thereon) must be paid in full within three months of the due date to avoid potential suspension from classes.

If a student fails to make payments within three months of the original due date, the School will not release the student's academic record, grade reports or transcript, pending settlement of the unpaid account. A student who has not satisfied all of his/her delinquent financial obligations to Washington University (tuition, University housing, parking, etc.) one month before the end of the academic year will not be allowed to progress to the next academic year, nor can they be issued a diploma.

Federal financial aid funds for the next academic year cannot be disbursed until all prior year balances are paid in full.

Students who rely on financial aid funds to meet their obligations should submit their applications for processing according to application deadlines published by the Office of Financial Aid. Deadlines allow for receipt of financial aid funds by payment due dates if applications are filed by the deadline. The Office of Student Financial Aid will assist students with loan applications and financial planning upon request.

A student who withdraws or takes a leave of absence from the School will receive a pro rata refund of tuition and appropriate fees. The refund will be based on the ratio of the class days enrolled (from the first day of classes to the termination date) to the total number of class days in the term for which tuition and fees were paid. It is understood that the date on which a student formally notifies the Registrar's Office in writing of the decision to withdraw or take a leave of absence from the School of Medicine shall be regarded as the termination date, with no retroactive clause to be accepted. A prospective date will be accepted, however. If tuition and fees were paid entirely or in part by financial aid from the School, the refund will be applied first to the total repayment of the accounts from which financial aid was drawn, with any remaining refund balance given to the student. Financial aid received in excess of the costs of tuition and fees must be refunded by the student to the School on the same pro rata basis as calculated for the tuition refund outlined above – per “Return of Title
IV Federal guidelines. Any questions about these policies may be directed to either the Office of the Registrar or Financial Aid.

Applied Health Behavior Research Policies

Standards for Satisfactory Academic Progress for Financial Aid Eligibility

For additional policies, please visit the Applied Health Behavior Research website.

Audiology and Communication Sciences Policies

Standards for Satisfactory Academic Progress for Financial Aid Eligibility

For additional policies, please visit the Program in Audiology and Communication Sciences website.
Biology and Biomedical Sciences Policies

For additional policies, please visit the Division of Biology and Biomedical Sciences website.

Biomedical Engineering Policies

For additional policies, please visit the Biomedical Engineering website.

Biostatistics Policies

Standards for Satisfactory Academic Progress for Financial Aid Eligibility

For additional policies, please visit the Division of Biostatistics website.

Clinical Investigation Policies
Standards for Satisfactory Academic Progress for Financial Aid Eligibility

For additional policies, please visit the Clinical Research Training Center website.

Doctor of Philosophy Policies

For additional policies, please visit the Division of Biology and Biomedical Sciences website.

Genetic Epidemiology Policies

Standards for Satisfactory Academic Progress for Financial Aid Eligibility

For additional policies, please visit the Genetic Epidemiology website.

Occupational Therapy Policies

Standards for Satisfactory Academic Progress for Financial Aid Eligibility
Physical Therapy Policies

Standards for Satisfactory Academic Progress for Financial Aid Eligibility

For additional policies, please visit the Program in Physical Therapy website.

Population Health Sciences Policies

Standards for Satisfactory Academic Progress for Financial Aid Eligibility

For additional policies, please visit the Master of Population Health Sciences website.

Public Health

For additional policies, please visit the Master of Public Health website.
People

Washington University Medical Center is one of the nation's biggest academic medical centers and among the largest employers in the St. Louis metropolitan area.

2015-2016 By the Numbers

Total Students: 1,348

- MD, MD/PhD, MA/MD: 598
- Applied Health Behavior: 13
- Audiology and Communication Sciences: 71
- Clinical Investigation: 92
- Genetic Epidemiology: 39
- Occupational Therapy: 276
- Physical Therapy: 241
- Population Health Sciences: 18
- Faculty: 1,983

Non-faculty Assistants and Others: 144

Staff: 7,004

Total Employees: 9,204

Affiliated Private Practice Faculty: 1,389
Residents: 805
Clinical Fellows: 302

Leadership

Please visit the About section for Officers of the School of Medicine and other leadership groups of the school and university.

Faculty

The All Faculty listing in the Bulletin of the School of Medicine is drawn from the Washington University Human Resources Management System (HRMS) and provides academic appointments and education details. To update or change a faculty member’s Bulletin listing, please contact the HRMS representative for your department, division or program.

For faculty contact information, please visit the Washington University online directory.

Search
by Last Name

Elliot Efrem Abbey, MD Professor of Clinical Medicine (primary appointment)
MD New York University 1975
Camille N. Abboud, MD  **Professor of Medicine** (primary appointment)

MD American University of Beirut 1974
BS American University of Beirut 1970

Basem Abdeen  **Instructor in Clinical Medicine** (primary appointment)

Khaled M Abdel-Hamid  **Instructor in Clinical Medicine** (primary appointment)

Shabaana Abdul Khader, PHD  **Associate Professor of Molecular Microbiology** (primary appointment)

PhD Madurai Kamaraj University 2002

Haley J Abel  **Instructor in Genetics**

Dana Ray Abendschein, PHD  **Associate Professor of Medicine** (primary appointment)

**Associate Professor of Cell Biology and Physiology**

PhD Purdue University 1978
BS State University of New York 1974

Enyo Ama Ablordeppey, MPH, MD  **Assistant Professor of Anesthesiology** (primary appointment)

**Assistant Professor of Emergency Medicine in Medicine**

M PH University of Pittsburgh 2007
MD University of Pittsburgh 2007

Grazia Abou Ezzi, MS, PHD, MS  **Instructor in Medicine** (primary appointment)

MS University of Paris 2009
BS Holy Spirit Univ of Kaslik 2006
PhD University of Nice 2013
MS University of Nice 2008

Christopher Abraham, MS, MD  **Assistant Professor of Radiation Oncology (Pending Executive Faculty Approval)** (primary appointment)

MS Washington Univ in St. Louis 2011
BS Medical College Georgia 2005
MD Saint Louis University 2006

Philip Mulayara Abraham  **Instructor in Pediatrics** (primary appointment)

Marc Bruce Abrams, DDS  **Instructor in Clinical Otolaryngology** (primary appointment)

BA University of MO Kansas City 1968
DDENT University of MO Kansas City 1972

Barry K Abramson, MD  **Instructor in Clinical Medicine** (primary appointment)

BA Johns Hopkins University 1981
MD University of Miami 1985

Yousef Abu-Amer, MS  **Professor of Orthopaedic Surgery** (primary appointment)

**Professor of Cell Biology and Physiology**

BS Hebrew University 1985
MS Hebrew University 1987

Nada A Abumrad, PHD  **Robert C Atkins Professor of Obesity Research in Medicine** (primary appointment)

**Professor of Cell Biology and Physiology**

BS American University of Beirut 1972
PhD State University of New York 1978

Aninda Bhat Acharya, MD  **Instructor in Clinical Neurology** (primary appointment)

MD1 University of Kansas 1996
BS University of Kansas 1992
MD University of Kansas 1996
Samuel I Achilefu, PHD  Michel M Ter-Pogossian Professor of Radiology (primary appointment)
Professor of Biochemistry and Molecular Biophysics
PHD University of Nancy I 1991

Susan E Adams, PHD, MD  Assistant Professor of Clinical Pediatrics (primary appointment)
BS University of Kansas 1977
PHD University of Kansas Medical 1984
BA University of Kansas 1977
MD Washington Univ in St. Louis 1991

Susan R Adams, MD  Instructor in Clinical Medicine (primary appointment)
BA Carleton College 1985
MD University of Missouri 1989

William S Adams  Associate Professor of Clinical Pediatrics (primary appointment)

Muyibat A Adelani  Assistant Professor of Orthopaedic Surgery (primary appointment)

Foluso O Ademuyiwa, M PH, MBBS  Assistant Professor of Medicine (primary appointment)
M PH Johns Hopkins University 2001
MBBS University of Ibadan 1999

Douglas R Adkins  Professor of Medicine (primary appointment)
BS Wright State University 1982

Benard C Adler, MD  Prof Emeritus Of Clinical Otolaryngology (primary appointment)
BS Washington Univ in St. Louis 1937
MD Washington Univ in St. Louis 1937

Azadeh Afshari, MS, DDENT  Instructor in Clinical Otolaryngology (primary appointment)
BS West Virginia University 2004
MS Univ of Texas Med Sch Houston 2013
DDENT Univ of Texas Med Sch Houston 2014

Rebecca L Aft, PHD, MD  Professor of Surgery (General Surgery) (primary appointment)
PHD Univ of Wisconsin Madison 1983
BS Univ of Wisconsin Madison 1978
MD Washington Univ in St. Louis 1992

Sirajuddin Agha  Assistant Professor of Anesthesiology (primary appointment)

Randy Agolia, MD  Instructor in Clinical Pediatrics (primary appointment)
MD St. Louis University Group of 1995

Arpana Agrawal, PHD  Associate Professor of Psychiatry (primary appointment)
PHD Virginia Comm University 2004

Philip Patrick Ahern, PHD  Instructor in Pathology and Immunology (primary appointment)
PHD Oxford University 2010

Aqeeb Ahmad  Instructor in Clinical Psychiatry (primary appointment)

Fahd Aqeeb Ahmad, MD  Assistant Professor of Pediatrics (primary appointment)
MD University of MO Columbia 2006

Homaa Ahmad, MD  Assistant Professor of Medicine (primary appointment)
MD Johns Hopkins University Medic 2003
BA Johns Hopkins University 1999

Nawal Mona Ahmed  Instructor in Clinical Otolaryngology (DDS) (primary appointment)

Gail G Ahumada, MD, MA  Assoc Prof Emeritus Of Clinical Medicine (primary appointment)
BA Stanford University 1961
MD University of California 1972
MA Stanford University 1962

Walter John Akers, DVM, PHD  Assistant Professor of Radiology (primary appointment)
Abdulla Afkaly, MD Instructor in Clinical Medicine (primary appointment)

Olaguoke Kelechi Akinwande, MD Assistant Professor of Radiology (primary appointment)

Assistant Professor of Surgery (General Surgery)

Gustav Akk, PHD Assistant Professor of Anesthesiology (primary appointment)

Assistant Professor of Surgery (General Surgery)

Natalia S Akopyants Instructor in Molecular Microbiology (primary appointment)

Ghadah Abdulaziz Al Ismail Instructor in Medicine (primary appointment)

Ziyad Al-Aly Assistant Professor of Medicine (primary appointment)

Etihad S. Al-Falahi Instructor in Clinical Pediatrics (primary appointment)

Ream Al-Hasani, PHD Instructor in Anesthesiology (primary appointment)

Muhammad Taher Al-Lozi, MD Professor of Neurology (primary appointment)

Bassam Albarcha Instructor in Clinical Medicine (primary appointment)

Suzanne G Albrecht Instructor in Clinical Pediatrics (primary appointment)

Amber Salter Albright, PHD, MPH Assistant Professor of Biostatistics (primary appointment)

Assistant Professor of Neurology

Alexander William Aleem, MD Assistant Professor of Orthopaedic Surgery (Pending Executive Faculty Approval) (primary appointment)

MD Washington Univ in St. Louis 2010

BS Johns Hopkins University 2006

Jorge M Alegre, MD Instructor in Clinical Medicine (primary appointment)

MD School Not Listed 1965

Jennifer Marie Alexander-Brett, MD, PHD Assistant Professor of Medicine (primary appointment)

Assistant Professor of Pathology and Immunology

MD Washington Univ in St. Louis 2007

BS University of Nebraska 1999

Tarek Alhamad, MD, MS Assistant Professor of Medicine (primary appointment)

MD Damascus U. Medical School 2006

MS Pennsylvania State University 2013

Alaa Ali Instructor in Medicine (primary appointment)

Muhammad A Ali, MD Instructor in Clinical Medicine (primary appointment)

MD School Not Listed 1985

Kari Leigh Allen, MA, PHD Assistant Professor of Anatomy (primary appointment)

Assistant Professor of Anthropology (Courtesy)

MA New Mexico St University 2008

PHD Duke University 2014

Paul M Allen, PHD, MS Robert L. Kroc Professor of Pathology and Immunology (primary appointment)
Henry W Allhoff, ODA
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)

Ardis Kay Allison, DOST
Instructor in Clinical Pediatrics (primary appointment)

Denis Ian Altman, MBBCH
Associate Professor of Clinical Neurology (primary appointment)

Michael Bernard Altman
Assistant Professor of Radiation Oncology (primary appointment)

Lizette Alvarez-Montero, MD
Instructor in Clinical Neurology (primary appointment)

Ferdinand Enginco Amarillo, PhD
Assistant Professor of Pathology and Immunology (primary appointment)

Maryellen Amato, MD
Instructor in Clinical Radiology (primary appointment)

Amit P. Amin, MD
Assistant Professor of Medicine (primary appointment)

Manik A Amin, MD
Assistant Professor of Medicine (primary appointment)

Navinkumar J Amin, MS
Associate Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)

Mohamad T Amjad, MD
Professor of Clinical Pediatrics (primary appointment)
Hongyu An, PHD, MS
Associate Professor of Radiology (primary appointment)
PHD Washington Univ in St. Louis 2001
BS Tianjin University 1993
MS Washington Univ in St. Louis 1999
Ping An
Assistant Professor of Genetics (primary appointment)

Jagruti Shah Anadkat, MD
Assistant Professor of Pediatrics (primary appointment)
BS Ohio State University 2000
MD Northeastern University 2005

Milan J. Anadkat, MD
Associate Professor of Medicine (Dermatology) (primary appointment)
BS University of Akron 1997

Dhanalakshmi Subramanian Anbukumar, PHD
Instructor in Medicine (primary appointment)
PHD Saint Louis University 2010
BA Saint Louis University 2003

Beau Mark Ances, MS, PHD, MD
Associate Professor of Neurology (primary appointment)
Associate Professor of Biomedical Engineering

Adam Lee Anderson, MD
Assistant Professor of Medicine (primary appointment)
BS University of Illinois Chicago 2006
MD University of Illinois Chicago 2010

Dale J Anderson, MD
Instructor in Clinical Psychiatry (primary appointment)
MD Washington Univ in St. Louis 1978

Neil William Anderson, MD
Assistant Professor of Pathology and Immunology (primary appointment)
MD University of Wisconsin-Madiso 2009
BS1 University of Wisconsin-Madiso 2005

Richard H Anderson
Instructor in Clinical Psychiatry (primary appointment)

Scott J Anderson, MD, PHD
Instructor in Clinical Medicine (primary appointment)
BA University of California 1975
MD Duke University 1982
PHD Duke University 1981

Usha P Andley, MS
Professor of Ophthalmology and Visual Sciences (primary appointment)
Assistant Professor of Biochemistry and Molecular Biophysics
BS Delhi University 1970
MS Delhi University 1972

Dorothy A Andriole
Associate Professor of Surgery (General Surgery) (primary appointment)
Assistant Dean for Student Affairs and Medical Education
BA New York University 1976

Gerald L Andriole, MD
Robert Killian Royce, M.D. Distinguished Professor of Urologic Surgery
(primary appointment)
MD Jefferson Medical College 1978
BS Pennsylvania State University 1976

Dana E Ankney, MD
Instructor in Clinical Pediatrics (primary appointment)
Andrey P Anokhin, PHD, MS Associate Professor of Psychiatry (primary appointment)

George Ansstas, MD Assistant Professor of Medicine (primary appointment)

Muhammad Jaffer Ansari Assistant Professor of Clinical Medicine (primary appointment)

E. James Anthony, MD, MS, PHD Prof Emeritus Of Psychiatry (child Psych) (primary appointment)

Lucinda L. Antonacci-Fulton, MS Academic Rank held in Genetics (primary appointment)

Amal F. Antoun Instructor in Clinical Pediatrics (primary appointment)

Shafkat Anwar, MD Assistant Professor of Pediatrics (primary appointment)

John K Appelbaum, MD Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)

Rajendra Apte, PHD, MD Paul A. Cibis Distinguished Professor of Ophthalmology and Visual Sciences (primary appointment)

Gabriel C Araujo Instructor in Clinical Neurology (primary appointment)

Scott J Arbaugh, MD Instructor in Clinical Psychiatry (primary appointment)
Jeffrey Michael Arbeit, MD
Professor of Surgery (Urologic Surgery) (primary appointment)
Professor of Cell Biology and Physiology
BS Boston University 1972
MD Rush University 1976
Ana Marie Arbelaez Perez
Associate Professor of Pediatrics (primary appointment)
Ahmad Beheshti Ardekani, MD
Assistant Professor of Clinical Psychiatry (primary appointment)
MD School Not Listed 1974
Christopher Thomas Arett, MD
Assistant Professor of Surgery (Urologic Surgery) (Pending Executive Faculty Approval) (primary appointment)
MD Washington Univ in St. Louis 2003
BS Washington Univ in St. Louis 1999
Kenneth J Arnold, MD
Assistant Professor of Clinical Surgery (General Surgery) (primary appointment)
MD Washington Univ in St. Louis 1968
BA University of Notre Dame 1964
Suzanne V Arnold, MD, MHA
Adjunct Assistant Professor of Medicine (primary appointment)
MD Ohio State University 2004
MHA Ohio State University 2004
Vivek Kumar Arora, PHD, MD
Assistant Professor of Medicine (primary appointment)
PHD University of Texas Southwest 2004
MD University of Texas Southwest 2004
BS Northwestern University 1996
Neva P Arribas, MD, AA
Assoc Prof Emeritus Of Clin Ophthal & VIs Sci (primary appointment)
MD School Not Listed 1954
AA School Not Listed 1949
Jennifer L. Arter
Assistant Professor of Clinical Pediatrics (primary appointment)
Maksym Artomov, MS, PHD
Assistant Professor of Pathology and Immunology (primary appointment)
MS University of Chicago 2005
PHD Mass Inst of Technology (MIT) 2009
Saira M Asadullah, MD
Instructor in Clinical Medicine (primary appointment)
MD Aga Khan University 1992
Phillip V. Asaro, MD
Assistant Professor of Emergency Medicine in Medicine (primary appointment)
MD Saint Louis University 1981
Yasmin Asvat, MA, PHD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MA San Diego St University 2006
PHD University of South Florida 2013
BA University of Toronto 2004
BA1 University of Toronto 2004
Umeshkumar Athiraman, MD
Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)
MD M.G.R. Medical University 2013
Elizabeth L Atkinson, MD
Instructor in Clinical Pediatrics (primary appointment)
MD Hahnemann University 1994
Jeffrey Jay Atkinson
Assistant Professor of Medicine (primary appointment)
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<td>John Patterson Atkinson, MD</td>
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<td>Stephanie Jane Attarian, BBA, MD Instructor in Pediatrics</td>
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<td>Adrienne Denise Atzemis, MD Associate Professor of Pediatrics</td>
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<td>James G Avery, MD Associate Professor of Clinical Medicine</td>
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<td>University of Tennessee</td>
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<td>MD University of Tennessee 1990</td>
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<td></td>
<td>Michael Simon Avidan, MBBCH Professor of Anesthesiology</td>
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<td>University of the Witwatersra</td>
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<td>(primary appointment)</td>
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<td>Professor of Surgery (Cardiothoracic Surgery)</td>
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<td>MD University of the Witwatersra 1991</td>
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<td></td>
<td>Michael Magdi Awad, PHD, MD Associate Professor of Surgery</td>
<td></td>
<td>Ohio State University</td>
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<td></td>
<td>(General Surgery) (primary appointment)</td>
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<td></td>
<td>Associate Dean for Medical Education</td>
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<td></td>
<td>MD Brown University 2001</td>
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<td>MD Brown University 2001</td>
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<td>Sylvia Awadalla, MD Professor of Neurology (primary</td>
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<td>Ohio State University</td>
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<td>MD Brown University 2001</td>
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<td>Victoria Brooke Ayden Assistant Professor of Psychiatry (Child</td>
<td></td>
<td>Northwestern University</td>
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<td>Psychiatry (Child Psychiatry) (primary appointment)</td>
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<td>BS Northwestern University 1996</td>
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<td></td>
<td>Sara Ayers, MD Instructor in Clinical Pediatrics</td>
<td></td>
<td>University of Missouri</td>
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<td>(primary appointment)</td>
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<td>MD University of Missouri 1998</td>
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<td></td>
<td>Abdelkareem Azab, PHD Assistant Professor of Radiation Oncology</td>
<td></td>
<td>Hebrew University</td>
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<td>PHD Hebrew University 2007</td>
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<td>Riad Azar, MD Associate Professor of Medicine (primary</td>
<td></td>
<td>Saint Josephs University</td>
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<td>MD Saint Josephs University 1994</td>
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<td>Fariba Azarpour, MD (primary appointment)</td>
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<td>MD School Not Listed 1971</td>
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</table>
Naazia H Azhar, Instructor in Psychiatry (primary appointment)

Sangeeta Kaur Babar, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)

BS Rensselaer Poly Institute 2001

MD Albany Medical College 2003

Hilary M Babcock, MPH, MD, Associate Professor of Medicine (primary appointment)

BA Brown University 1989

MPH Saint Louis University 2006

MD University of Texas Southwest 1994

Richard G. Bach, MD, MS, Professor of Medicine (primary appointment)

MD New York University 1984

MS New York University 1980

BS Georgetown University 1977

Leonard B Bacharier, MD, Professor of Pediatrics (primary appointment)

BS Brown University 1989

MPH Saint Louis University 2006

MD University of Texas Southwest 1994

Kyongtae T Bae, ME, PHD, Adjunct Associate Professor of Radiology (primary appointment)

ME University of Iowa 1983

PHD University of Pennsylvania 1988

Jacques Ulrich Baenziger, MD, Professor Emeritus of Biochemistry and Molecular Biophysics (primary appointment)

Prof Emeritus of Biochem & Molecular Biophysic (primary appointment)

MD Washington Univ in St. Louis 1992

BA Johns Hopkins University 1988

Jill M Baer, MD, Assistant Professor of Clinical Pediatrics (primary appointment)

BS University of Kentucky 1972

MD University of Kentucky 1975

Maria Quintos Baggstrom, MD, Associate Professor of Medicine (primary appointment)

BA Williams College 1991

MD University of Texas Houston 1996

Kathy Baglan, Instructor in Clinical Radiation Oncology (primary appointment)

Om Parkash Bahl, Assistant Professor of Clinical Medicine (primary appointment)

Donald M Bailey, Adjunct Instructor in Medicine (primary appointment)

Jeffrey Allen Bailey, MD, M PA, Adjunct Assistant Professor of Surgery (General Surgery) (primary appointment)

MD Saint Louis University 1996

M PA Golden Gate University 1986

Sean B Bailey, MD, MS, Instructor in Clinical Otolaryngology (primary appointment)

MD Tulane University 1987

MS Tulane University 1988

BS Tulane University 1981

Thomas C Bailey, MD, Professor of Medicine (primary appointment)

BA William Jewell College 1980

MD Washington Univ in St. Louis 1984

Gregory Eden Baker, MD, Instructor in Clinical Medicine (primary appointment)

MD Mayo Clinic 2001

Jonathan C Baker, MD, Assistant Professor of Radiology (primary appointment)

MD Washington Univ in St. Louis 2004
Parul Bakhshi, Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Surgery (Public Health Sciences)
Dustin M Baldridge, MD, Instructor in Pediatrics (primary appointment)
MD Baylor University 2011
Megan Tierney Baldridge, MD, PHD, Assistant Professor of Medicine (primary appointment)
Assistant Professor of Molecular Microbiology
MD Baylor College of Medicine 2011
PHD Baylor College of Medicine 2009
Dennis M Balfe, MD, Professor of Radiology (primary appointment)
MD Medical College of Wisconsin 1975
BS Santa Clara University 1968
Fred J Balis, MS, MD, Assistant Professor of Clinical Medicine (primary appointment)
MS Cornell University 1985
MD Washington Univ in St. Louis 1989
BS University of Vermont 1981
Clarence William Balke, MD, Professor of Medicine (primary appointment)
BS Haverford College 1975
MD Temple University 1981
Robert H Baloh, MD, PHD, Adjunct Assistant Professor of Neurology (primary appointment)
MD Washington Univ in St. Louis 2001
BS Brown University 1995
PHD Washington Univ in St. Louis 2005
MD1 Washington Univ in St. Louis 2001
Keki Rohonton Balsara, MD, Assistant Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
BS1 University of Pennsylvania 1998
MD University of Pennsylvania 2003
Sirine A. Baltagi, Assistant Professor of Pediatrics (primary appointment)
David T Balzer, MD, Professor of Pediatrics (primary appointment)
MD Saint Louis University 1985
BS University of MO Columbia 1981
Sonya Bamba, MD, Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
MD Saint Louis University 2007
David Ban, MD, Associate Professor of Clinical Medicine (primary appointment)
BA Kalamazoo College 1976
MD University of Oregon 1980
James William Banks, MD, Instructor in Clinical Medicine (primary appointment)
MD Marshall University 1984
Dhruv Bansal, MD, Instructor in Medicine (primary appointment)
MD University of New Mexico 2011
Michael Roman Banton, MD, Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)
MD Saint Louis University 1985
Jianxin Bao, PHD, Adjunct Associate Professor of Otolaryngology (primary appointment)
PHD University of Florida 1992
Abraham Barake, Associate Professor of Clinical Medicine (primary appointment)
BS University of Maryland 1976
Vadim Baram **Instructor in Clinical Psychiatry** (primary appointment)

**Thomas J Baranski, PHD, MD** **Associate Professor of Medicine** (primary appointment)
**Associate Professor of Developmental Biology**
BS Univ of Wisconsin Madison 1985
PHD Washington Univ in St. Louis 1992
MD Washington Univ in St. Louis 1992

**Peggy Barco, MED** **Assistant Professor of Occupational Therapy** (primary appointment)
**Assistant Professor of Medicine**
MED Washington Univ in St. Louis 1987

**Angela L Bard, MD** **Associate Professor of Clinical Pediatrics** (primary appointment)
MD Indiana University Bloomington 1981
BS Indiana University Bloomington 1976
Rachel Hannah Bardowell **Assistant Professor of Medicine** (primary appointment)

**Philip M Barger, MD** **Associate Professor of Medicine** (primary appointment)
MD Case Western Reserve Univ 1989

**Wayne Morris Barnes, PHD** **Associate Professor of Biochemistry and Molecular Biophysics**
(secondary appointment)
BA University of CA Riverside 1969
PHD Univ of Wisconsin Madison 1974

**Alan Roy Barnette** **Adjunct Instructor in Pediatrics** (primary appointment)

**Joaquin Barnoya, MS, MD** **Associate Professor of Surgery (General Surgery)** (primary appointment)
**Associate Professor of Medicine**
MS Harvard University 2001
MD Universidad de San Carlos 1998

**Robert L Barrack, MD** **Charles F and Joanne Knight Distinguished Professor of Orthopaedic Surgery** (primary appointment)
MD Vanderbilt University 1980

**Michael James Barratt, PHD** **Instructor in Pathology and Immunology** (primary appointment)
PHD KINGS COLLEGE LONDON 1994

**Ernie-Paul Barrette, MA** **Associate Professor of Medicine** (primary appointment)
BS University of Rhode Island 1982
MA Harvard University 1984

**Melissa Anne Barrow, PHD** **Instructor in Pathology and Immunology** (primary appointment)
PHD University of Queensland 2003

**Perry J Bartels, DDENT** **Instructor in Clinical Otolaryngology** (primary appointment)
DDENT Marquette University 1991
BA Ripon College 1986

**Thomas Joseph Bartholet, MD** **Instructor in Clinical Medicine** (primary appointment)
MD1 Brown University 1994
BS Georgetown University 1990
MD Dartmouth College 1992

**Nancy Lee Bartlett, MS, MD** **Koman Professor of Medical Oncology in Medicine** (primary appointment)
MS Mass Inst of Technology (MIT) 1979
MD Washington Univ in St. Louis 1986
BS Stanford University 1978

**Robert W Barton** **Assistant Professor of Clinical Medicine** (primary appointment)
Ruteja A. Barve, MS, PHD
Instructor in Genetics (primary appointment)

MS Washington Univ in St. Louis 2008
PHD Washington Univ in St. Louis 2014
BS University of Pune 1995
Amanda Marie Musto Bashir
Instructor in Pediatrics (primary appointment)

Donald R Bassman, MD
Instructor in Clinical Orthopaedic Surgery (primary appointment)

BA Washington Univ in St. Louis 1971
MD Washington Univ in St. Louis 1975

Steven Bassnett, PHD
Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Cell Biology and Physiology

BS University of Wales 1982
PHD University of East Anglia 1987

Amy J Bastian
Adjunct Assistant Professor of Physical Therapy (primary appointment)

Kevin W Baszis, MD
Assistant Professor of Pediatrics (primary appointment)

MD University of MO Kansas City 2004

Maria S Baszis
Instructor in Clinical Pediatrics (primary appointment)

Randall John Bateman, MD
Professor of Neurology (primary appointment)

Charles F and Joanne Knight Distinguished Professor of Neurology

BS1 Washington Univ in St. Louis 1995
MD Case Western Reserve Univ 2000
BS Washington Univ in St. Louis 1995

Luis Francisco Zirnberger Batista, PHD
Assistant Professor of Medicine (primary appointment)

Assistant Professor of Developmental Biology

BS University of SAO Paulo 2003
PHD University of SAO Paulo 2008

Natalie Christine Battle, MD
Instructor in Medicine (primary appointment)

MD Washington Univ in St. Louis 2010

Adam Quentin Bauer, PHD, MS
Instructor in Radiology (primary appointment)

PHD Washington Univ in St. Louis 2009
BS Truman State University 2001
MS Washington Univ in St. Louis 2005

Amy Lynn Bauernfeind, PHD, M PHIL
Assistant Professor of Anatomy (primary appointment)

Assistant Professor of Anthropology (Courtesy)

PHD George Washington University 2014
M PHIL George Washington University 2011

M. Carolyn Baum, MA, PHD
Professor of Occupational Therapy (primary appointment)

Professor of Neurology (Occupational Therapy)

Elias Michael Executive Director of the Program in Occupational Therapy

BS University of Kansas 1966
MA Webster University 1979
PHD Washington Univ in St. Louis 1993

Margaret Elizabeth Baum, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)

MD John Hopkins University 2001

Aimee M Baumann-Dudenhoeffer, MD
Instructor in Pediatrics (primary appointment)

BA Cornell University 2000
MD Washington Univ in St. Louis 2005
Susan L Baumer, MD  
Associate Professor of Clinical Pediatrics (primary appointment)  
MD University of Pennsylvania 1975  

Frederick D Bauschard, MD  
Assistant Professor of Clinical Medicine (Dermatology) (primary appointment)  
MD University of Pittsburgh 1968  

Michael D Bavlsik  
Assistant Professor of Clinical Medicine (primary appointment)  

Christie A. Bayer, MD  
Instructor in Clinical Pediatrics (primary appointment)  
MD University of MO Columbia 1990  
BA Saint Louis University 1986  

Susan Joy Bayliss, MD  
Professor of Medicine (Dermatology) (primary appointment)  
Professor of Pediatrics  
BA University of Texas Austin 1970  
MD University of Texas Galveston 1974  

Ronald Beach  
Instructor in Clinical Psychiatry (primary appointment)  

Wandy L. Beatty, PhD  
Assistant Professor of Molecular Microbiology (primary appointment)  
BS Montana State University 1989  
PHD Univ of Wisconsin Madison 1994  

Michael William Bebbington  
Professor of Obstetrics and Gynecology (Pending Executive Faculty Approval) (primary appointment)  

Paul Douglas Becherer, OD  
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)  
BA Southern Illinois University 1971  
OD School Not Listed 1975  

Julia M. Becker, MD  
Instructor in Clinical Pediatrics (primary appointment)  
MD University of Missouri 1997  

Robert L Becker, MD  
Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)  
MD Washington Univ in St. Louis 1969  
BA Cornell University 1965  

Stanley C Becker, PhD, MD, MA  
Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)  
BA Washington Univ in St. Louis 1948  
PHD Washington Univ in St. Louis 1951  
MD University of Chicago 1955  
MA Washington Univ in St. Louis 1950  

William L Becker, MD, MA  
Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)  
BA Earlham College 1982  
MD Washington Univ in St. Louis 1987  
MA Washington Univ in St. Louis 1987  

Bahaa Ahmad Bedair, MD  
Instructor in Medicine (primary appointment)  
MD Washington Univ in St. Louis 2013  

Jeffrey John Bednarski, MD, PhD  
Assistant Professor of Pediatrics (primary appointment)  
BS Duke University 1995  
MD Davenport University 2003  
PHD Davenport University 2003  

Earl C Beeks Jr, MD  
Associate Professor of Clinical Pediatrics (primary appointment)  
MD University of Missouri 1981
BS Howard University 1977
Saba Beg, MDInstructor in Medicine (primary appointment)
MD Government Medical College 2004
Avraham Beigelman, MDAssociate Professor of Pediatrics (primary appointment)
MD Hebrew University 2000
James E Belcher, MDInstructor in Clinical Obstetrics and Gynecology (primary appointment)
BS University of Texas Austin 1972
MD Washington Univ in St. Louis 1976
Andrew Curry Belden, PHDAssistant Professor of Psychiatry (primary appointment)
BS University of MO Columbia 2000
PHD Saint Louis University 2006
Joe E Belew, MDAssociate Professor of Clinical Obstetrics and Gynecology (primary appointment)
BA Central Methodist College 1953
MD Saint Louis University 1957
Richard C BellInstructor in Clinical Medicine (Dermatology) (primary appointment)
BA Northwestern University 1984
C. Elliott Bell JrInstructor in Clinical Medicine (primary appointment)
Arbi Ben Abdallah, PHDAssistant Professor of Anesthesiology (primary appointment)
PHD Washington Univ in St. Louis 2011
William Waite BenedictInstructor in Clinical Medicine (primary appointment)
Bruno Antonio Benitez ViloriaInstructor in Medicine (primary appointment)
Kenneth J Bennett, MDAssociate Professor of Clinical Surgery (General Surgery) (primary appointment)
MD Tulane University 1965
Walter F Benoist, MDProfessor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1972
BA University of Pennsylvania 1968
Max Prely BenzaquenInstructor in Clinical Neurology (primary appointment)
Tammie Lee Smith Benzinger, MD, PHDAssociate Professor of Radiology (primary appointment)
Associate Professor of Neurological Surgery
MD University of Chicago 2000
BA Williams College 1993
PHD University of Chicago 1998
George Richard Benzinger III, MDAssociate Professor of Anesthesiology (primary appointment)
MD University of Chicago 2000
Kathleen Mary Berchelmann, MDAssistant Professor of Pediatrics (primary appointment)
BS Amherst College 1998
MD University of Connecticut 2003
Louise E BerdanInstructor in Clinical Pediatrics (primary appointment)
Gregg Jonathan Berdy, MDAssistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Duke University 1979
MD Saint Louis University 1983
Susan Berdy, MDAssistant Professor of Clinical Medicine (primary appointment)
BA Brown University 1980
MD Saint Louis University 1984
Mikhail Y Berezin, PHD, MSAssistant Professor of Radiology (primary appointment)
PHD Moscow Institute of Oil & Gas 1991
Christine R. Berg, MS, BSOT, PHD Associate Professor of Occupational Therapy (primary appointment)

**Associate Professor of Neurology**
MS Boston University 1980
BSOT Tufts University 1976
PHD Washington Univ in St. Louis 1999

**Daniel Ralph Berg, MD** Assistant Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 2000

**Douglas E Berg, PHD** Alumni Prof Emeritus of Molecular Microbiology (primary appointment)
BS Cornell University 1964
PHD University of Washington 1969

**Martin Bergmann** Assoc Prof Emeritus Of Clin Surg (Cardio Surg) (primary appointment)
BA Washington Univ in St. Louis 1942

**Michael A Berk, MD** Professor of Clinical Medicine (primary appointment)
BA Northwestern University 1974
MD Indiana University Bloomington 1979

**Lynda Cheryl Berkowitz, MS** Instructor in Otolaryngology (primary appointment)
Instructor in Audiology and Communication Sciences
BS University of Illinois 1981
MS Washington Univ in St. Louis 1983

**John Rutledge Bermingham Jr, PHD** Associate Professor of Genetics (primary appointment)
BS Yale University 2016
PHD University of Colorado Boulder 2016

**Cory Thomas Bernadt, PHD, MD** Assistant Professor of Pathology and Immunology (primary appointment)
PHD University of Nebraska 2004
MD University of Nebraska 2006
BS Nebraska Wesleyan University 1998

**Carlos Bernal-Mizrachi, MD** Associate Professor of Medicine (primary appointment)
Associate Professor of Cell Biology and Physiology
MD Universidad del Valle Med Sch 1990

**Lisa Marie Bernhard, MD** Instructor in Obstetrics and Gynecology (Pending Dean's Approval) (primary appointment)
MD Louisiana St University 1985
BA Vanderbilt University 1981

**Paul M Bernier, OD** Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BS Indiana State University 1983
OD University of Missouri 1987

**Aaron M Bernstein, MD** Assistant Professor of Clinical Medicine (primary appointment)
MD University of Chicago 1952
BA Washington Univ in St. Louis 1948

**Keith A Bernstein, MD** Instructor in Clinical Medicine (primary appointment)
MD University of Missouri 1987
BA University of MO Kansas City 1987

**Marc Jordan Bernstein, MD** Associate Professor of Clinical Medicine (primary appointment)
BA Haverford College 1988
Douglas R Berson, MD
Instructor in Clinical Medicine (primary appointment)

BA Lehigh University 1981
MD University of Pennsylvania 1983

Mary Ellen Bertrand, MD
Associate Professor of Neurology (primary appointment)
Associate Professor of Pediatrics
BS McKendree College 1987
MD Southern Illinois University 1993

Stephen M Beverley, PhD
Marvin A Brennecke Professor of Molecular Microbiology (primary appointment)
Head of the Department of Molecular Microbiology
PHD University of California 1979
BS California Institute Technolo 1973

Sanjeev Bhalla, MD
Professor of Radiology (primary appointment)
MD Columbia College of Phy & Surg 1994
BS Yale University 1990

Pavan Kumar Bhamidipati, MD
Instructor in Clinical Medicine (primary appointment)
MD Guntur Medical College 2007

Anita R. Bhandiwad, MD
Assistant Professor of Medicine (primary appointment)
MD Northwestern University 1998

Mythili C. Bharadwaj
Instructor in Clinical Medicine (primary appointment)
UNKnown University of Madras 1988

Shobha Bhaskar, MBBS
Assistant Professor of Pediatrics (primary appointment)
MBBS Bangalore University 1994

Priya Narayana Bhat, MS, MD
Assistant Professor of Pediatrics (primary appointment)
MS University of AL Hunstsville 2000
BS University of AL Hunstsville 1999
MD University of South Alabama 2004

Savita Bhat, MS
Instructor in Clinical Psychiatry (primary appointment)
MS1 School Not Listed 1989
MS St Xavier's College 1980

Deepta Bhattacharya, PhD
Assistant Professor of Pathology and Immunology (primary appointment)
BS Indiana University Bloomington 1996
PHD University of CA Berkeley 2001

Rakhee Kapadia Bhayani, MD
Associate Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1999

Sam B Bhayani, MD
Professor of Surgery (Urologic Surgery) (primary appointment)
BS Cornell University 1992
MD Washington Univ in St. Louis 1996

Anjali Maruti Bhorade, MD
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)

Rakhee Kapadia Bhayani, MD
Associate Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1999

Sam B Bhayani, MD
Professor of Surgery (Urologic Surgery) (primary appointment)
BS Cornell University 1992
MD Washington Univ in St. Louis 1996

Anjali Maruti Bhorade, MD
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)

Rakhee Kapadia Bhayani, MD
Associate Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1999

Sam B Bhayani, MD
Professor of Surgery (Urologic Surgery) (primary appointment)
BS Cornell University 1992
MD Washington Univ in St. Louis 1996

Anjali Maruti Bhorade, MD
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)

Rakhee Kapadia Bhayani, MD
Associate Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1999

Sam B Bhayani, MD
Professor of Surgery (Urologic Surgery) (primary appointment)
BS Cornell University 1992
MD Washington Univ in St. Louis 1996

Anjali Maruti Bhorade, MD
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)
Andrew J Bierhals, MPH, MD Associate Professor of Radiology (primary appointment)

MPH University of Pittsburgh 1996
MD University of Pittsburgh 2000
BS University of Pittsburgh 1993

Joelle Biernacki, MD Instructor in Radiology (primary appointment)

MD University of MO Kansas City 1989
BA University of MO Kansas City 1988

Laura J Bierut Alumni Endowed Professor of Psychiatry (primary appointment)

BA Harvard University 1982

Scott W Biest Associate Professor of Obstetrics and Gynecology (primary appointment)

Ronald C Bilchik, MD Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)

BS University of Toledo 1963
MD Washington Univ in St. Louis 1967

Joseph John Billadello, MD Associate Professor of Medicine (primary appointment)

MD Georgetown University 1978

Lawrence J Billy Instructor in Clinical Surgery (General Surgery) (primary appointment)

BA Youngstown St University 1962

Ellen F Binder, MD Professor of Medicine (primary appointment)

Professor of Occupational Therapy

MD Washington Univ in St. Louis 1981
BA Davenport University 1977

Aaron Birenbaum, MD Assistant Professor of Clinical Medicine (primary appointment)

MD Washington Univ in St. Louis 1948

William D Birenbaum, MD Instructor in Clinical Medicine (primary appointment)

MD University of Missouri 1983
BA Washington Univ in St. Louis 1978

Clifford Allen Birge, MD Assistant Professor of Clinical Medicine (primary appointment)

BA Amherst College 1956
MD Washington Univ in St. Louis 1961

Stanley J Birge, MD Associate Professor of Medicine (primary appointment)

BA Amherst College 1959
MD Washington Univ in St. Louis 1963

Thomas M Birkenmeier, MD Assistant Professor of Medicine (primary appointment)

BA Washington Univ in St. Louis 1978
MD Washington Univ in St. Louis 1982

Mark Gerald Birkmann Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)

BA University of Missouri 1988

Jean E Birmingham Associate Professor of Clinical Pediatrics (primary appointment)

Elisa H Birnbaum, MD Professor of Surgery (General Surgery) (primary appointment)

MD University of Illinois 1985
BS Univ of Wisconsin Madison 1981

Alan J Birtwistle Assistant Professor of Clinical Neurology (primary appointment)

Kumar Sanjeev Bishnupuri, MS Instructor in Medicine (primary appointment)
BS Tilka Manjhi Bhagalpur Univ 1988
MS Banaras Hindu University 1992
Monica E. Bishop

**Associate Professor of Psychiatry** (primary appointment)

**Joseph T Black, MD**

**Professor of Clinical Neurology** (primary appointment)

MD School Not Listed 1965
BA University of Rochester 1961

**Kevin J. Black, MD**

**Professor of Psychiatry** (primary appointment)

**Professor of Radiology**

**Professor of Neurology**

**Professor of Neuroscience**

MD Duke University 1990
BS Brigham Young University 1986

**Lynn Bennett Blackburn, MA, PHD**

**Assistant Professor of Clinical Neurology** (primary appointment)

MA Indiana University Bloomington 1970
BS Univ of Wisconsin Madison 1968
PHD Indiana University Bloomington 1972
Huldah C Blamoville

**Associate Professor of Clinical Pediatrics** (primary appointment)

**Valerie Blanc, PHD**

**Instructor in Medicine** (primary appointment)

PHD University of Bordeaux 2 1996

**Melvin S Blanchard, BBA, MD**

**Professor of Medicine** (primary appointment)

Director of Residency Program, Department of Internal Medicine

BBA Trevecca Nazarene College 1987
MD University of Tennessee 1994

**Merilda O Blanco-Guzman, MD**

**Instructor in Medicine** (primary appointment)

MD PUCMM FACULTAT DE CIENCIAS DEL 2004

**Marghuretta Dakota Bland, MS**

**Assistant Professor of Physical Therapy** (primary appointment)

Assistant Professor of Neurology
Assistant Professor of Occupational Therapy

MS Washington Univ in St. Louis 2008
BS Canisius College 2004

**Elizabeth Joy Blaney, MD**

**Assistant Professor of Medicine** (primary appointment)

MD Ohio State University 2007
BA Eastern Michigan University 2003

Kevin J Blanton

**Instructor in Clinical Pediatrics** (primary appointment)

**Jeffrey Alan Blatnik, MD**

**Assistant Professor of Surgery (General Surgery)** (primary appointment)

MD Case Western Reserve Univ 2007

**Terra Rupert Blatnik, MD**

**Assistant Professor of Orthopaedic Surgery** (primary appointment)

MD Case Western Reserve Univ 2007
BS Allegheny College 2003

**Andrew N Blatt, MA, MD**

**Assistant Professor of Clinical Ophthalmology and Visual Sciences** (primary appointment)

BA Duke University 1987
MA Washington Univ in St. Louis 1991
MD Washington Univ in St. Louis 1992

**Joshua Andrew Blatter, M PH, MD**

**Assistant Professor of Pediatrics** (primary appointment)

M PH University of Pittsburgh 2014
MD University of Pittsburgh 2008
Pablo M Blazquez Gamez, PHD 
Assistant Professor of Otolaryngology (primary appointment) 
PHD University of Seville 1998

Kevin Jay Blinder, MD 
Professor of Clinical Ophthalmology and Visual Sciences (primary 
appointment) 
MD University of MO Kansas City 1985

Morey A Blinder, MD 
Professor of Medicine (primary appointment) 
Professor of Pathology and Immunology 
MD Saint Louis University 1981 
BS University of Notre Dame 1977

Adam J. Bloom, PHD 
Assistant Professor of Psychiatry (primary appointment) 
Assistant Professor of Anesthesiology 
PHD Washington Univ in St. Louis 2006

Gordon R Bloomberg 
Prof Emeritus of Pediatrics (primary appointment) 
BA University of Illinois 1955 
BS University of Illinois 1955

Jeffrey D Bloss 
Adjunct Associate Professor of Obstetrics and Gynecology (primary appointment) 
Donald Allen Blum 
Assistant Professor of Clinical Medicine (primary appointment) 
Kendall Jay Blumer, PHD 
Professor of Cell Biology and Physiology (primary appointment) 
BA Rice University 1977 
PHD Duke University 1986

Trina Blythe, MD 
Assistant Professor of Clinical Pediatrics (primary appointment) 
BA Harvard Radcli 1992 
MD Albany Medical College 1996

James C Bobrow, MD 
Professor of Clinical Ophthalmology and Visual Sciences (primary 
appointment) 
BA Yale University 1966 
MD Johns Hopkns University Medic 1970

Grant Bochicchio, MD, M PH 
Professor of Surgery (General Surgery) (primary appointment) 
MD Pennsylvania State University 1993 
M PH University of Pittsburgh 1989

Imre Bodo 
Adjunct Instructor in Medicine (primary appointment) 
Ljiljana Bogunovic, MD 
Assistant Professor of Orthopaedic Surgery (primary appointment) 
MD Cornell University 2009

George M Bohigian, MD 
Professor of Clinical Ophthalmology and Visual Sciences (primary 
appointment) 
MD Saint Louis University 1965

Barbara Ann Bohne, PHD 
Prof Emeritus of Otolaryngology (primary appointment) 
PHD Washington Univ in St. Louis 1971

Donald David Bohnenkamp, MD 
Assistant Professor of Psychiatry (primary appointment) 
BS Saint Louis University 2003 
MD Univ of Nebraska Med Center 2007

Irving Boime, PHD, MS 
Professor of Developmental Biology (primary appointment) 
Professor of Reproductive Biology in Obstetrics and Gynecology 
PHD Washington Univ in St. Louis 1970 
MS Purdue University 1966 
BS St Louis College of Pharmacy 1964

Richard Gerald Bolanos 
Instructor in Clinical Obstetrics and Gynecology (primary appointment) 
Joshua P Boldt 
Instructor in Clinical Pediatrics (primary appointment)
Indra Bole  
Instructor in Medicine (primary appointment)  
BS University of Maryland 2008

Michael Bolger  
Instructor in Clinical Medicine (primary appointment)  
BS Dalhousie University 1958

Isaac Boniuk  
Professor Emeritus of Clinical Ophthalmology and Visual Sciences (primary appointment)  
BS Dalhousie University 1958

James Scott Bonner, MD  
Instructor in Clinical Neurology (primary appointment)  
MD University of Missouri 1980  
BA Drury College 1976

Azad Bonni, MD, PhD  
Edison Professor of Neurobiology (primary appointment)  
Head of the Department of Neuroscience  
MD Queen's University 1986  
PHD Harvard University 1996

Matthew James Bonzelet, MD  
Instructor in Clinical Medicine (primary appointment)  
MD Saint Louis University 2009

Adrianus C Boon, PhD, MS  
Assistant Professor of Medicine (primary appointment)  
Assistant Professor of Pathology and Immunology  
Assistant Professor of Molecular Microbiology  
PHD Erasmus University Rotterdam 2003  
MS University of Amsterdam 1997

Ingrid B Borecki, PhD, MS  
Adjunct Professor of Genetics (primary appointment)  
PHD University of Hawaii 1981  
MS University of Hawaii 1980  
BS University of Illinois 1977

Bernita Born-Wolf, OD, BN  
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)  
OD University of MO St Louis 1987  
BN Saint Louis University 1978

Benjamin A Borowsky  
Professor of Clinical Medicine (primary appointment)  
Jonathan D Bortz  
Instructor in Clinical Medicine (primary appointment)

Walter R Bosch, PHS, MS, BE  
Associate Professor of Radiation Oncology (primary appointment)  
PHS Washington Univ in St. Louis 1990  
MS Washington Univ in St. Louis 1983  
BE Washington Univ in St. Louis 1980

Ron Bose, PhD  
Associate Professor of Medicine (primary appointment)  
Associate Professor of Cell Biology and Physiology  
PHD Cornell University 1998  
PHD1 Cornell University 1998

Matthew S Bosner, MD  
Assistant Professor of Clinical Medicine (primary appointment)  
BS Muhlenberg College 1979  
MD University of Texas Austin 1983

Paul J Botelho, MD  
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)  
MD Boston University 1992  
BA Holy Cross College 1988

Kathryn L Botney  
Instructor in Clinical Obstetrics and Gynecology (primary appointment)  
BA Washington Univ in St. Louis 1980
Kelly N Botteron, MD
Professor of Psychiatry (Child Psychiatry) (primary appointment)
Professor of Radiology
BA University of Kansas 1984
MD University of Kansas Medical 1988

Laila M Bottros, MD
Assistant Professor of Anesthesiology (primary appointment)
MD Ain Shams University 1977
Michael M Bottros
Assistant Professor of Anesthesiology (primary appointment)

Lawrence V Boveri, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD University of Missouri 1988

Bryan R Bowen, OD
Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD University of MO St Louis 2001
BS University of MO Columbia 1994

William G Bowen, MD
Associate Professor of Clinical Medicine (primary appointment)
BS Davidson College 1970
MD University of North Carolina 1974

Jessica Naomi Bowers
Instructor in Clinical Obstetrics and Gynecology (primary appointment)

Angela N Bowman, PhD
Assistant Professor of Developmental Biology (primary appointment)
BA University of Pennsylvania 2006
PHD Stanford University 2012

Gregory R. Bowman, PhD
Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)
BS Cornell University 2006
PHD Stanford University 2010

Lyndsey Jean Bowman, PhD
Adjunct Instructor in Medicine (primary appointment)
PHD St Louis College of Pharmacy 2005

Martin I Boyer, MS
Carol B and Jerome T Loeb Professor of Orthopaedic Surgery (primary appointment)
MS University of Toronto 1993

Susan Kathleen Boyer, MD
Instructor in Clinical Psychiatry (primary appointment)
BA Rockhurst College 1988
MD University of Missouri 1993

Walter A Boyle III, MD
Professor of Anesthesiology (primary appointment)
Assistant Professor of Developmental Biology
Professor of Surgery (General Surgery)
MD University of CA San Francisco 1977

Jeffrey D Bradley, MD
Lee Kling Professor of Radiation Oncology (primary appointment)
BA Drury College 1989
MD University of Arkansas 1993

Joseph P Bradley, MD
Assistant Professor of Otolaryngology (primary appointment)
MD University of Kansas Medical 2008
BS Washington Univ in St. Louis 2003

Richard V Bradley, MD
Assoc Prof Emeritus Of Clin Surg (Gen Surg) (primary appointment)
Assoc Prof Emeritus Of Clin Surgery (gen Surg) (primary appointment)
BS Pennsylvania State University 1945
MD Washington Univ in St. Louis 1952

Robert J Bradshaw, MD
Instructor in Clinical Pediatrics (primary appointment)
BA Emory University 1976
BS Emory University 1976
Robert Harry Brady, MD | Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)
Adjunct Instructor in Psychiatry (Child Psychiatry)
MD Tufts University 1995
BS University of Notre Dame 1988

Sabina A Braithwaite | Associate Professor of Emergency Medicine In Medicine (Pending Executive Faculty Approval) (primary appointment)

Celeste Capers Brancato | Assistant Professor of Pediatrics (primary appointment)

Keith E Brandt, MD | William G. Hamm Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
MD Univ Texas Health Science Ctr 1983
BS Texas A&M University 1979

Gregory Harris Branham, MD | Professor of Otolaryngology (primary appointment)
BS University of South Carolina 1979
MD University of South Carolina 1983

Anoop K Brar, PHD | Instructor in Surgery (Cardiothoracic Surgery) (Pending Dean's Approval) (primary appointment)
PHD University of Edinburgh 1983
BS University of Edinburgh 1979

Richard D. Brasington Jr, MD | Professor of Medicine (primary appointment)
BA Harvard University 1974
MD Duke University 1980

Rebekah Arletta Braslow, MD | Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
BS Stanford University 1981
MD Yale University 1987

Alan C Braverman, MD | Alumni Endowed Professor of Cardiovascular Disease in Medicine (primary appointment)
MD University of Missouri 1985

Peter Anthony Brawer, MA | Instructor in Clinical Psychiatry (primary appointment)
MA Loyola College 1999
BS University of Scranton 1997

Andrea Lynn Bredemeyer, PHD | Instructor in Medicine (primary appointment)
PHD Washington Univ in St. Louis 2006
BA Colby College 1999

Sean Michael Breit, MD | Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
MD Ohio State University 2002

Daniel C Brennan, MD | Professor of Medicine (primary appointment)
Alan A and Edith L Wolff Distinguished Professor
MD University of Iowa 1985
BS Cornell College 1981

Audrey Brenot, PHD | Instructor in Medicine (primary appointment)
PHD University of Paris 2001
BS University of Paris 1996

Tamara L. Brent, PHD, MD | Professor of Molecular Microbiology (primary appointment)
Alumni Endowed Professor of Molecular Microbiology
PHD Johns Hopkns University Medic 1991
Thomas J. Brett, Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
Assistant Professor of Biochemistry and Molecular Biophysics
BS North Dakota State University 1992
G. Larry Bretthorst, MS, Associate Professor of Radiology (primary appointment)
MS University of MO St Louis 1980
Paul C Bridgman, MS, PHD, Professor of Neuroscience (primary appointment)
Associate Professor of Biomedical Engineering
MS University of CA San Diego 1976
BA University of San Diego 1974
PHD Purdue University 1980
Keith Happ Bridwell, J Albert Key Distinguished Professor of Orthopaedic Surgery (primary appointment)
Professor of Neurological Surgery
BA Washington Univ in St. Louis 1973
Matthew Brinkmeier, MD, Instructor in Medicine (primary appointment)
MD Washington Univ in St. Louis 2007
David L Brody, MD, PHD, Professor of Neurology (primary appointment)
Associate Professor of Biomedical Engineering (Courtesy)
BA Stanford University 1992
MD Johns Hopkins University 2000
PHD Johns Hopkins University 2000
Steven L Brody, MD, Dorothy R and Hubert C Moog Professor of Pulmonary Diseases in Medicine (primary appointment)
Professor of Radiology
MD University of Michigan 1980
Thomas J Broekelmann, MS, Instructor in Cell Biology and Physiology (primary appointment)
MS University of MO St Louis 1982
BA University of MO St Louis 1977
Larry G Brokering, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
Igor Brondz, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD School Not Listed 1978
Rita Thomas Brookheart, Instructor in Medicine (primary appointment)
Instructor in Pediatrics
BA Sweet Briar College 2003
Christopher B. Brooks, Associate Professor of Emergency Medicine in Medicine (primary appointment)
Frank Brooks, PHD, Instructor in Radiology (primary appointment)
PHD Washington Univ in St. Louis 2008
Robert Henry Brophy IV, MS, MD, Associate Professor of Orthopaedic Surgery (primary appointment)
BS Stanford University 1994
MS Stanford University 1995
MD Washington Univ in St. Louis 2001
BA Stanford University 1994
Angela L Brown, MD  Associate Professor of Medicine  (primary appointment)
MD Washington Univ in St. Louis 1992

David L. Brown, MD  Professor of Medicine  (primary appointment)
BA University of Texas Austin 1977
MD Baylor University 1982

Lawrence R Brown, MD  Assistant Professor of Emergency Medicine in Medicine  (primary appointment)
BS Univ of Wisconsin Madison 1982
MD Washington Univ in St. Louis 1990

Marc Richard Brown, OD  Adjunct Instructor in Ophthalmology and Visual Sciences  (primary appointment)
BA University of Missouri 1974
OD School Not Listed 1980

Marybeth Brown, PhD, MA  Adjunct Associate Professor of Physical Therapy  (primary appointment)
PHD University of Southern Calif 1984
BS Russell Sage College 1967
MA University of Southern Calif 1974

Robert J Brown, MD  Assistant Professor of Clinical Obstetrics and Gynecology  (primary appointment)
MD Washington Univ in St. Louis 1983
BS St Peters College 1977
Sarah Michelle Brown  Assistant Professor of Pediatrics  (primary appointment)
Assistant Professor of Pathology and Immunology
Instructor in Anesthesiology

Yolette V Brown, MD  Assistant Professor of Clinical Pediatrics  (primary appointment)
BS City University of New York 1973
MD Washington Univ in St. Louis 1982
Earline A Brownridge  Instructor in Clinical Pediatrics  (primary appointment)

Seth J Brownridge, MD  Assistant Professor of Clinical Pediatrics  (primary appointment)
MD Washington Univ in St. Louis 1982
BA Washington Univ in St. Louis 1978

Bernard H Brownstein, PhD  Assoc Prof Emeritus of Anesthesiology  (primary appointment)
PHD University of California 1968
BA Occidental College 1961

George John Broze Jr, MD  Professor of Medicine  (primary appointment)
Professor of Cell Biology and Physiology
Professor of Pathology and Immunology
MD University of Washington 1972

Robert M Bruce, MD  Professor of Clinical Medicine  (primary appointment)
MD University of Minnesota 1968
BS University of Minnesota 1968
BA Washington Univ in St. Louis 1964

Steven E. Bruce, PhD  Visiting Assistant Professor of Psychiatry  (primary appointment)
BA Virginia Tech 1992
PHD Virginia Comm University 1998

Michael Raymond Bruchas, PhD  Associate Professor of Anesthesiology  (primary appointment)
Associate Professor of Neuroscience
PHD Creighton University 2004
Janice E Brunstrom-Hernandez Adjunct Associate Professor of Neurology (primary appointment)

Elizabeth M Brunt, MD Prof Emeritus of Pathology & Immunol (primary appointment)
MD University of Texas Galveston 1981
BS Georgetown University 1974

L. Michael Brunt, MD Professor of Surgery (General Surgery) (primary appointment)
MD Johns Hopkins University Medic 1980
BA University of Mississippi 1976

Kathleen S Brunts, MD Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1981
BS Western Michigan University 1977

Bruce L Bryan, MD, BE Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD School Not Listed
BE Purdue University 1973

Robert Charles Bucelli, PHD, MD Assistant Professor of Neurology (primary appointment)
PHD State Univ of NY Buffalo 2007
BS Canisius College 2001
MD State Univ of NY Buffalo 2007

Tony Wayne Buchanan, MA, PHD Adjunct Asst Professor of Psychiatry (primary appointment)
MA University of Oklahoma 1998
PHD University of Oklahoma 2000
BA Southern Nazarene University 1995

Craig Alan Buchman, MD Lindburg Professor of Otolaryngology (primary appointment)
Head of the Department of Otolaryngology
BA University of Georgia 1986
MD University of Florida 1990

Kathleen K Bucholz, PHD, MS Professor of Psychiatry (primary appointment)
PHD Yale University 1986
BA Yale University 1972
MS Yale University 1976
MS1 Yale University 1982

Jacob M Buchowski, MD, MS Professor of Orthopaedic Surgery (primary appointment)
Professor of Neurological Surgery
BS Yale University 1996
MD Johns Hopkins University 2000
MS Yale University 1996

Donald William Buck, MD Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
BS Indiana University Bloomington 2002
MD Johns Hopkins University 2006

Stanley Buck, MD Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1977
BS Princeton University 1973

Kathryn Ann Bucklen, MD Assistant Professor of Pediatrics (primary appointment)
MD Wake Forest University 2001

Virginia D Buckles, PHD, MS Professor of Neurology (primary appointment)
PHD Univ of Wisconsin Madison 1981
BS California St Poly Pomona 1974
MS California St Poly Pomona 1977

Sara Anne Buckman, MD, PHARMD Assistant Professor of Surgery (General Surgery) (primary appointment)
MD Univ of Wisconsin Madison 2008
PHARMD Univ of Wisconsin Madison 1999
Tara M. Budetti Instructor in Clinical Pediatrics (primary appointment)

John B Buettner, MD Instructor in Clinical Surgery (General Surgery) (primary appointment)
MD Washington Univ in St. Louis 1967

Lorena Buffa, MD Instructor in Clinical Pediatrics (primary appointment)
MD University of MO Columbia 1998

Richard S Buller Associate Professor of Pediatrics (primary appointment)
BS Michigan Tech University 1972

Michelle A. Burack, PHD, MD Adjunct Instructor in Neurology (primary appointment)
PHD University of Virginia 2000
MD Washington Univ in St. Louis 2002
BS Duke University 1990

Max H Burgdorf, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1974
BA Washington Univ in St. Louis 1970

Peter M Burgers, PHD, MS Marvin A. Brennecke Professor of Biological Chemistry (primary appointment)
PHD Leiden University 1977
MS Leiden University 1972

Dean B Burgess, MD Professor Emeritus of Clinical Ophthalmology and Visual Sciences (primary appointment)
Prof Emeritus of Clin Ophthalmol & Vis Sci (primary appointment)
MD University of California 1967
BA Occidental College 1963

Andreas H Burkhalter, MS, PHD Professor of Neuroscience (primary appointment)
Associate Professor of Biomedical Engineering
Associate Professor of Neurobiology in Neurological Surgery
MS University of Zurich 1973
PHD University of Zurich 1977

Allen Cole Burks, MD Instructor in Medicine (primary appointment)
MD Saint Louis University 2007
BS University of Central Arkansas 2002

Tamara Lavon Burlis Associate Professor of Physical Therapy (primary appointment)
Associate Director for Clinical Education in Physical Therapy
Assistant Director of Professional Curriculum in Physical Therapy
Associate Professor of Medicine
BA Wartburg College 1988
BS Washington Univ in St. Louis 1988
**Scott H Burner, MD** Associate Professor of Emergency Medicine in Medicine (primary appointment)
MD Medical University of Sth Car 1978
**Carey-Ann Dawn Burnham, PHD** Associate Professor of Pathology and Immunology (primary appointment)

**Associate Professor of Pediatrics**
Associate Professor of Molecular Microbiology
BS University of Alberta 2002
PHD University of Alberta 2007
**Candice Marie Burns** Instructor in Pediatrics (primary appointment)
BS Lee College 2004

**Garrett C Burris, MD** Associate Professor of Clinical Neurology (primary appointment)

**Associate Professor of Clinical Pediatrics**
BS School Not Listed 1964
MD Saint Louis University 1968
**Robert Burstein, MD** Prof Emeritus Of Clinical Ob & Gyn (primary appointment)
MD Washington Univ in St. Louis 1948
**Harold Burton, PHD** Professor of Neuroscience (primary appointment)
Professor of Radiology
Professor of Biomedical Engineering
Professor of Cell Biology and Physiology
PHD Univ of Wisconsin Madison 1968
BA University of Michigan 1964

**Donald F Busiek, MD** Instructor in Clinical Medicine (primary appointment)
BA Saint Louis University 1974
MD University of Missouri 1983
Joan Rachel Butcher Instructor in Clinical Psychiatry (primary appointment)
Melvin J Butler Instructor in Clinical Medicine (primary appointment)

**Derek E Byers, MD** Associate Professor of Medicine (primary appointment)
BS University of Oklahoma 1993
MD University of Texas Southwest 2001

**Meredith S Byers, MD** Assistant Professor of Radiology (primary appointment)
BA University of Texas Austin 1993
MD University of Texas Southwest 1997

**James Byrd, MD** Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)
MD School Not Listed 1991
BS Southeast Missouri St Univers 1987

**Jonathan Nicholas Byrd, MD** Instructor in Clinical Medicine (primary appointment)
BS1 Tulane University 2007
MD Washington Univ in St. Louis 2011

**Minji Byun, PHD** Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
PHD Washington Univ in St. Louis 2009
BS Pohang Univ of Science & Tech 2002
Galileu Cabral Associate Professor of Clinical Medicine (primary appointment)
Kelley S. Caddel, MD  Instructor in Clinical Pediatrics (primary appointment)
BA Indiana University Bloomington 1998
MD George Washington University 2008

William Todd Cade, PHD, MS  Professor of Physical Therapy (primary appointment)
Professor of Medicine
Associate Director of Postdoctoral Fellowships in Physical Therapy
PHD University of Maryland 2002
MS University of Miami 1994

Alison Gale Cahill, MD  Associate Professor of Obstetrics and Gynecology (primary appointment)
MD University of Connecticut 2002

Bin Cai, PHD  Instructor in Radiation Oncology (primary appointment)
PHD Ohio University 2011

Nigel John Cairns, PHD  Professor of Neurology (primary appointment)
Professor of Pathology and Immunology
PHD University of London 1995

Cheryl Ann Caldwell, DPT, MHS  Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
BS University of Colorado Boulder 1976
DPT Washington Univ in St. Louis 2002
MHS Washington Univ in St. Louis 1988

Archna Calfee, MD  Instructor in Clinical Pediatrics (primary appointment)
BA Case Western Reserve Univ 1997
MD Washington Univ in St. Louis 2001

Ryan Patrick Calfee, MD  Associate Professor of Orthopaedic Surgery (primary appointment)
BS University of Virginia 1997
MD Washington Univ in St. Louis 2001

Joshua W. Calhoun, MD  Instructor in Clinical Psychiatry (Child) (primary appointment)
MD University of Connecticut 1982
BS Yale University 1978

David J Callahan  Assistant Professor of Clinical Neurology (primary appointment)
Assistant in Clinical Pediatrics

Wilma J. Calvert, PHD, BN  Adjunct Instructor in Psychiatry (primary appointment)
PHD University of Missouri 2002
BN Oral Roberts University 1981

Alejandra Camacho-Soto  Instructor in Neurology (Pending Dean's Approval) (primary appointment)
BA Georgetown University 2005

Greta Camel, MD  Asst Prof Emeritus Of Medicine (primary appointment)
MD Univ of Wisconsin Madison 1949

John William Campbell, MD  Professor of Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1973
MD Washington Univ in St. Louis 1977

Kirstin Lee Campbell, MD  Assistant Professor of Pediatrics (primary appointment)
MD Washington Univ in St. Louis 2006
BA Johns Hopkins University 2002

Meghan Clark Campbell  Assistant Professor of Neurology (primary appointment)
Assistant Professor of Radiology
BS University of Illinois 1999
Jian Li Campian, PHD, MS, MD  
Assistant Professor of Medicine (primary appointment)  
Assistant Professor of Neurological Surgery  
PHD University of Louisville 2003  
MS Peking Union Medical College 2000  
MD Tianjin Medical University 1997  
Samuel A Canaan Jr, MD, MA  
Asst Prof Emeritus of Clin Ophthal & Vis Sci (primary appointment)  
MD Meharry Med College 1954  
BA University of Iowa 1942  
MA Columbia University 1948  
Joseph Edward Cangas  
Assistant Professor of Clinical Pediatrics (primary appointment)  
Maria J Canizares  
Instructor in Clinical Medicine (Dermatology) (primary appointment)  
BA Saint Louis University 1996  
Rosemary L Cannistraro, MD  
Instructor in Clinical Medicine (primary appointment)  
MD Saint Louis University 1992  
Charles E Canter, MD  
Professor of Pediatrics (primary appointment)  
BS Brown University 1974  
BS1 Brown University 1976  
MD Saint Louis University 1979  
Russell C. Cantrell, MD  
Instructor in Clinical Neurology (primary appointment)  
BS School Not Listed 1985  
MD University of Tennessee 1989  
Dengfeng Cao, MD  
Associate Professor of Pathology and Immunology (primary appointment)  
MD Peking Union Medical College 1996  
Yuqing Cao  
Associate Professor of Anesthesiology (primary appointment)  
Michael G Caparon Jr, PHD  
Professor of Molecular Microbiology (primary appointment)  
PHD University of Iowa 1985  
BS Michigan State University 1981  
David Anthony Caplin, MD  
Instructor in Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)  
MD University of Cincinnati 1975  
BA Kenyon College 1971  
Douglas A Carano, DDENT  
Instructor in Clinical Otolaryngology (DDS) (primary appointment)  
DDENT University of Iowa 1984  
BS University of Iowa 1981  
Rebecca Goodwin Carey  
Adjunct Instructor in Medicine (primary appointment)  
John R Carlile, MD  
Assistant Professor of Clinical Pediatrics (primary appointment)  
BS University of Kansas 1972  
MD University of Kansas Medical 1975  
M. Richard Carlin  
Assoc Prof Emer Of Clin Surg (Urologic Surg) (primary appointment)  
BA Dartmouth College 1943  
Abigail L Carlson, MD  
Instructor in Medicine (primary appointment)  
MD Johns Hopkins University 2010  
Kim Alan Carmichael, MD  
Associate Professor of Medicine (primary appointment)  
MD Virginia College 1978  
Michael J. Carney, MD  
Instructor in Clinical Pediatrics (primary appointment)  
BS University of Notre Dame 1987  
MD University of MO Columbia 1991  
Robert Michael Carney, PHD  
Professor of Psychiatry (primary appointment)
Christopher Robert Carpenter, MD
Associate Professor of Emergency Medicine in Medicine
(primary appointment)
MD Wayne State University 1994
Danielle Marie Ho Carpenter, MD
Assistant Professor of Pathology and Immunology (primary appointment)
MD Saint Louis University 2009
BS Saint Louis University 2002
David A Carpenter, MD
Professor of Neurology (primary appointment)
BS Amherst College 1979
MD Washington Univ in St. Louis 1983
David B Carr, MD
Professor of Medicine (primary appointment)
BS Amherst College 1979
MD Washington Univ in St. Louis 1983
David B Carr, MD
Professor of Medicine (primary appointment)
BS Amherst College 1979
MD Washington Univ in St. Louis 1983
Javier A Carrero-Brewer, PHD, MA
Assistant Professor of Pathology and Immunology (primary appointment)
PHD Washington Univ in St. Louis 2005
MA University of Puerto Rico 2000
BS Emory University 1996
Scott Carrizales, MD
Assistant Professor of Medicine (Dermatology) (primary appointment)
MD Uniformed Serv U of Health Sciences 1996
Kenneth R Carson
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Surgery (Public Health Sciences)
Alexandre Carter, PHD, MD
Assistant Professor of Neurology (primary appointment)
Assistant Professor of Occupational Therapy
PHD Harvard University 2003
MD Harvard University 2003
Ebony Boyce Carter, MS, MD
Assistant Professor of Obstetrics and Gynecology (primary appointment)
Assistant Professor of Surgery (Public Health Sciences)
MS University of Michigan 2002
BS Stanford University 2000
MD Duke University 2006
Diego Casali
Assistant Professor of Surgery (Cardiothoracic Surgery) (Pending Executive Faculty Approval) (primary appointment)
Arthur L Casey, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD University of Missouri 1977
Amanda Fishback Cashen, MD
Associate Professor of Medicine (primary appointment)
BS1 Yale University 1995
BS Yale University 1995
MD Washington Univ in St. Louis 1999
Anil Govind Cashikar, MS
Assistant Professor of Cell Biology and Physiology (primary appointment)
MS Madurai Kamaraj University 1991
Rubilinda Q Casino, MD, Instructor in Clinical Pediatrics (primary appointment)
MD University of Santo Tomas 1979
BS University of Santo Tomas 1979

Timothy James Casper, Instructor in Pediatrics (primary appointment)
BS University of Dayton 2005

Carmen F Castellano, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
MD University of Santo Tomas 1979
BS University of Santo Tomas 1979

Chesney Dawn Castleberry, MD, Assistant Professor of Pediatrics (primary appointment)
MD University Texas San Antonio 2005

Mario Castro, MD, MPH, Professor of Medicine (primary appointment)
Professor of Radiology
Professor of Pediatrics

Alan A and Edith L Wolff, Distinguished Professor
MD University of Missouri 1988
BA University of MO Kansas City 1988
M PH Saint Louis University 1998

Valeria Cavalli, Associate Professor of Neuroscience (primary appointment)
Laura Francesca Cavallone, Associate Professor of Anesthesiology (primary appointment)
Patricia A Cavazos-Rehg, PHD, Associate Professor of Psychiatry (primary appointment)
BA University Texas San Antonio 1998
PHD State University of New York 2004

Lilibeth Maria Cayabyab-Loe, Assistant Professor of Clinical Medicine (primary appointment)

Marina Cella, MD, Associate Professor of Pathology and Immunology (primary appointment)
MD University of Genova 1989

Chad Phadung Chadaratana, MD, Instructor in Clinical Otolaryngology (primary appointment)
MD School Not Listed 1964

Murari M Chakinala, MD, Associate Professor of Medicine (primary appointment)
BS Duke University 1990
MD Vanderbilt University 1994

Grant A Challen, PHD, Assistant Professor of Medicine (primary appointment)
PHD University of Queensland 2006

Aaron Mark Chamberlain, B Mus, Assistant Professor of Orthopaedic Surgery (primary appointment)
B Mus University of Utah 2002

Kari Terece Chambers, Instructor in Medicine (primary appointment)
BS Truman State University 2000

Tattamangalam P Chandrika, Associate Professor of Clinical Pediatrics (primary appointment)

Chih-Hao Chang, MS, PHD, MS, Instructor in Pathology and Immunology (primary appointment)
MS National Taiwan University 2015
BS National Taiwan University 2015
PHD Oxford University 2015
MS Oxford University 2015

Kae Pyng Chang, MD, Instructor in Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1991
MD University of Missouri 1995
Shih Chung Chang, MD, MBA Assoc Prof Emeritus of Ob & Gyn (primary appointment)
MD School Not Listed 1968
MBA Washington Univ in St. Louis 1994

Su-Hsin Chang, MA Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
MA Mass Inst of Technology (MIT) 2004
BA National Chengchi University 1995

Monica Chang-Panesso, MD Instructor in Medicine (primary appointment)
MD Texas Tech University 2009

Earl S Changar, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD School Not Listed 1957

William T Chao, MD Instructor in Clinical Pediatrics (primary appointment)
BS University of Illinois 1975
MD University of Illinois 1979

Ajay Rama Chapa, MS Instructor in Radiology (primary appointment)
BS Bradley University 2001
MS CHICAGO MEDICAL SCHOOL 2001

Will C Chapman, MD Eugene M. Bricker Professor of Surgery (General Surgery) (primary appointment)
MD University of South Carolina 1984
BA University of North Carolina 1980

Douglas Char Professor of Emergency Medicine in Medicine (primary appointment)
BS Boston College 1983

Mina Charepoo Instructor in Psychiatry (Pending Dean's Approval) (primary appointment)
Siroth Charnond Instructor in Clinical Medicine (primary appointment)

Lewis Robert Chase, MD Professor of Medicine (primary appointment)
BA Princeton University 1960
MD Harvard University 1964

Alexander Chi Chen, MD Associate Professor of Medicine (primary appointment)
Associate Professor of Surgery (Cardiothoracic Surgery)
MD University of MO Kansas City 2001

Chien-Huan Chen, PHD, MD Associate Professor of Medicine (primary appointment)
PHD Johns Hopkns University Medic 1999
MD National Taiwan University 1993

David Yuan-Sou Chen, MD, PHD Instructor in Medicine (primary appointment)
BS University of Michigan 2003
MD Washington Univ in St. Louis 2012
PHD Washington Univ in St. Louis 2012

Delphine L. Chen, AB Associate Professor of Radiology (primary appointment)
Associate Professor of Medicine
MD1 Washington Univ in St. Louis 1999
BA Harvard Radcliffe 1995
AB Harvard Radcliffe 1995

Edward C. Chen, MD Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 2005

Feng Chen, PHD Associate Professor of Medicine (primary appointment)
Associate Professor of Cell Biology and Physiology
BS Fudan University 1991
PHD University of Utah 1998
Jenny Chen, Instructor in Ophthalmology and Visual Sciences (primary appointment)

Li-Shiu Chen, M PH, PHS, MD, Assistant Professor of Psychiatry (primary appointment)
M PH John Hopkins University 1995
PHS Johns Hopkins University 1998
MD National Taiwan University 1993

Ling Chen, MPH, PHD, Assistant Professor of Biostatistics (primary appointment)
Assistant Professor of Medicine
BS Beijing Medical University 1996
MPH University South Carolina 2003
PHD University of MO Columbia 2009

Michael B Chen, Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)

Phyllis Chen, MD, Instructor in Clinical Medicine (primary appointment)
MD Northwestern University Med 1992

Qing Chen, MD, MS, Instructor in Clinical Medicine (primary appointment)
MD Nanjing Medical University 1983
UNKNOWN School Not Listed 1983
MS Nanjing Medical University 1988

Shiming Chen, PHD, Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Developmental Biology
BS Beijing University 1981
PHD State University of New York 1992

Yasheng Chen, PHD, Assistant Professor of Neurology (primary appointment)
BA Tianjin University 1993
PHD Washington Univ in St. Louis 2002

Ying Chen, PHD, MD, Assistant Professor of Medicine (primary appointment)
PHD Vanderbilt University 2004
MD Shanghai Medical University 1996

Zhoufeng Chen, Professor of Anesthesiology (primary appointment)
Professor of Psychiatry
Professor of Developmental Biology

Ziwei Chen, PHD, MS, MBBS, Assistant Professor of Anesthesiology (primary appointment)
PHD Peking University 2001
MS Dalian Medical University 1998
MBBS Dalian Medical University 1995

Glenn S Cheng, MD, Instructor in Clinical Pediatrics (primary appointment)
MD University Texas San Antonio 1988
BS University of Texas Austin 1984

Steven Chih Nung Cheng, Associate Professor of Medicine (primary appointment)

Praveen R Chenna, MBBS, Assistant Professor of Medicine (primary appointment)
BS Washington Univ in St. Louis 1998
MBBS Sri Ramachandra Medical Colleg 2005

Mathew Amprayil Cherian, MBBS, Instructor in Medicine (primary appointment)
MBBS Christian Medical College 2000

Rebecca D Chernock, Assistant Professor of Pathology and Immunology (primary appointment)
Assistant Professor of Otolaryngology
BS Brown University 1999

James M Cheverud, Prof Emeritus of Anatomy (primary appointment)
Milan G Chheda, MD  
**Assistant Professor of Medicine** (primary appointment)  
Assistant Professor of Neurology  
MD Albert Einstein College of Med 2002  
John Jeonhwan Chi, MS, MD  
**Assistant Professor of Otolaryngology** (primary appointment)  
BS Columbia University 2001  
MS City College 2003  
MD SUNY DOWNSTATE MED BROOKLYN 2007  
Luqi Chi, MD  
**Associate Professor of Neurology** (primary appointment)  
MD Huabei Medical College for Coa 1984  
Wak S Chia, MD  
**Instructor in Clinical Pediatrics** (primary appointment)  
MD School Not Listed 1974  
John N Chiapel  
**Instructor in Clinical Otolaryngology** (primary appointment)  
Rebecca Joy Chibnall, AA, MD  
**Assistant Professor of Medicine (Dermatology)** (primary appointment)  
AA Washington Univ in St. Louis 2007  
MD University of California 2012  
Michael R Chicoine, MD  
**Professor of Neurological Surgery** (primary appointment)  
August A. Busch, Jr. Distinguished Professor  
MD University of California 1990  
Jonathan C Chiles, MD  
**Assistant Professor of Pediatrics** (primary appointment)  
MD University of MO Kansas City 2004  
BA University of MO Kansas City 2004  
Kelly Lynne Chilson, MD  
**Associate Professor of Anesthesiology** (primary appointment)  
MD University of MO St Louis 1999  
Sri Sankar Chinta  
**Instructor in Pediatrics** (primary appointment)  
MS1 Washington University 2015  
Andrew Chirchirillo, PhD  
**Instructor in Clinical Psychiatry (Child)** (primary appointment)  
BA Illinois State University 1973  
PHD University of MO St Louis 1981  
Phillip Ruben Chisholm  
**Instructor in Clinical Medicine** (primary appointment)  
Ronald J Chod  
**Adjunct Associate Professor of Obstetrics and Gynecology** (primary appointment)  
BA University of Texas Austin 1978  
Jaebok Choi, MS, PhD, BE  
**Assistant Professor of Medicine** (primary appointment)  
MS Univ of Nebraska at Omaha 2001  
PHD Baylor University 2006  
BE Kyung Pook National University 1996  
Kyunghae Choi  
**Associate Professor of Pathology and Immunology** (primary appointment)  
Richard A Chole, MD, PhD  
**Professor of Otolaryngology** (primary appointment)  
Professor of Developmental Biology  
Professor of Audiology and Communication Sciences  
MD University of Southern Calif 1969  
PHD University of Minnesota 1977  
Hyemi Chong, MD  
**Instructor in Medicine** (primary appointment)  
BA Yale University 2003  
MD University of Texas Southwest 2011  
Courtney Darcey Chrisler, MD  
**Instructor in Medicine** (primary appointment)  
BS Northwestern University 2003
Camaryn E Chrisman Robbins, MD, M PH Assistant Professor of Obstetrics and Gynecology (primary appointment)
MD Wake Forest University 2004
M PH University of Michigan 1998
Matthew Christopher, MD, PHD Instructor in Medicine (primary appointment)
MD Washington Univ in St. Louis 2010
PHD Washington Univ in St. Louis 2010
BA Saint Louis University 1993
Christine M Chu Assistant Professor of Obstetrics and Gynecology (primary appointment)
Wenhua Chu, MS, PHD Instructor in Radiology (primary appointment)
BS Quigdao Ocean Univ 1982
MS Academia Sinica China 1985
PHD Academia Sinica China 1988
Philip Chu Pak-Yun Instructor in Clinical Medicine (primary appointment)
Duck Sung Chun, MD Instructor in Clinical Medicine (primary appointment)
MD Seoul National University
Jeffrey Peter Ciaramita Instructor in Clinical Medicine (primary appointment)
Theodore J Cicero, MS, PHD John P Feighner Professor of Psychiatry (primary appointment)
Vice Chairman for Research, Department of Psychiatry
Professor of Neuroscience
MS Purdue University 1966
BS Villanova University 1964
PHD Purdue University 1969
Thomas Michael Ciesielski, MD Instructor in Medicine (primary appointment)
MD Oregon Health Science Univers 2010
Vincenza Cifarelli, PHD, MS Instructor in Medicine (primary appointment)
PHD University of Pittsburgh 2011
MS Universita de Modena e Reggio 2005
Matthew Aaron Ciorba, MD Assistant Professor of Medicine (primary appointment)
MD University of Iowa 2001
Cara Alessandra Cipriano, MD Assistant Professor of Orthopaedic Surgery (primary appointment)
MD University of Pennsylvania 2007
BS Williams College 2003
John R. Cirrito, PHD Associate Professor of Neurology (primary appointment)
BA Boston College 1998
PHD Washington Univ in St. Louis 2004
Geoffrey Cislo, MD Assistant Professor of Medicine (primary appointment)
MD University of Michigan 1996
Roberto Civitelli, MD Sydney M and Stella H Schoenberg Professor of Medicine (primary appointment)
Professor of Orthopaedic Surgery
Professor of Cell Biology and Physiology
BS University of Siena 1980
MD University of Siena 1980
Amy Lynn Clark, DOST Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
DOST Kirksville College of Osteopath 2009
BA Saint Louis University 2004
Billie Ruth Clark, PHD Professor of Physical Therapy (primary appointment)
Professor of Neurology
BS Saint Louis University 1974
PHD Saint Louis University 1988
Christine M Clark Adjunct Instructor in Audiology and Communication Sciences (primary appointment)
BA Fontbonne College 1979
William W. Clark Professor of Otolaryngology (primary appointment)
Professor of Education
Director of the Program in Audiology and Communication Sciences
Professor of Audiology and Communication Sciences
Martin J Clarke, MA, MS, PHD Assistant Professor of Psychiatry (primary appointment)
MA Fielding Institute 2005
MS National Louis University 1997
BS Saint Louis University 1981
PHD Fielding Institute 2011
William W Clendenin, MD Assistant Professor of Clinical Psychiatry (primary appointment)
MD University of Tennessee 1963
David B Clifford Melba and Forest Seay Professor of Clinical Neuropharmacology in Neurology (primary appointment)
Professor of Medicine
Paul F Cliften, MS, PHD Associate Professor of Genetics (primary appointment)
MS Utah St University 1995
BS Utah St University 1992
PHD University of California 1999
Dorothy Jean Cline, MD Instructor in Clinical Medicine (Dermatology) (primary appointment)
BA University of Missouri 1973
MD Saint Louis University 1977
John C Clohisy, MD Daniel C. and Betty B. Viehmann Distinguished Professor of Orthopaedic Surgery (primary appointment)
MD Northwestern University 1989
C. Robert Cloninger, MD Wallace Renard Professor of Psychiatry (primary appointment)
Professor of Psychiatry
Professor of Psychological & Brain Sciences
Professor of Genetics
BA University of Texas Austin 1966
MD Washington Univ in St. Louis 1983
James Close, MD Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1984
Andrew Stephen Cluster, MD Instructor in Pediatrics (primary appointment)
BS University of Maryland 2006
MD University of Texas Southwest 2010
William Edward Clutter, MD Associate Professor of Medicine (primary appointment)
Associate Director of the House Staff Training Program, Department of Internal Medicine
BS Ohio State University 1972
MD Ohio State University 1975
Lawrence A Coben, MD Assoc Prof Emeritus Of Neurology (primary appointment)
MD Case Western Reserve Univ 1954
Heidi Atwell Coco, DOST Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
BS Truman State University 2000
DOST Kirksville College of Osteopa 2005
John E. Codd, MD Professor of Clinical Surgery (Cardiothoracic Surgery) (primary appointment)
BA Gonzaga University 1954
MD Saint Louis University 1963
Andrew Richard Coggan, MS, PHD Adjunct Assistant Professor of Radiology (primary appointment)
MS Ball State University 1983
PHD University of Texas Austin 1986
BS Ball State University 1981
Albert Murray Cohen, MD Assistant Professor of Anesthesiology (primary appointment)
MD Baylor University 1977
Barak Alon Cohen Professor of Genetics (primary appointment)
Alvin Goldfarb Distinguished Professor of Computational Biology
BA Gonzaga University 1992
Bruce H Cohen, MD Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Harvard University 1976
MD Johns Hopkins University 1980
Darryl S Cohen, DOST Assistant Professor of Clinical Pediatrics (primary appointment)
DOST School Not Listed 1981
BA University of North Texas 1976
Gene C Cohen Instructor in Clinical Otolaryngology (DDS) (primary appointment)
BS University of Missouri 1971
Shari J Cohen Assistant Professor of Clinical Medicine (primary appointment)
Sheldon C Cohen, DDENT Instructor in Clinical Otolaryngology (primary appointment)
BS Washington Univ in St. Louis 1973
DDENT Southern Illinois University 1976
William Mark Cohen, MS, DDENT Instructor in Clinical Otolaryngology (DMD) (primary appointment)
MS University of North Carolina 1991
DDENT Washington Univ in St. Louis 1988
Zachary Robert Cohen, MD Assistant Professor of Anesthesiology (Pending Executive Faculty Approval) (primary appointment)
MD University of Illinois 2010
Barbara A Cohlan, MD Professor of Pediatrics (primary appointment)
BA University of Michigan 1974
MD New York University 1978
Brian G Cohn, MD Assistant Professor of Emergency Medicine in Medicine (primary appointment)
MD University of Alabama 2003
Susan R Colbert-Threats, MD Assistant Professor of Clinical Medicine (primary appointment)
BS Northwestern University 1986
MD University of Illinois 1991
Graham A Colditz, MBBS, DRPH Niess-Gain Professor of Surgery (General Surgery) (primary appointment)
Professor of Medicine
Deputy Director for the Institute of Public Health
BS University of Queensland 1977
MBBS University of Queensland 1979
DRPH Harvard University 1986
Danita L Cole
Instructor in Clinical Medicine (primary appointment)
F. Sessions Cole, MDPark J White, M.D. Professor of Pediatrics (primary appointment)
Vice Chair of the Department of Pediatrics
Professor of Cell Biology and Physiology
Assistant Vice Chancellor for Children’s Health, Washington University School of Medicine
MD Yale University 1973
BA Amherst College 1969
John C. Cole, MD, PHD
Instructor in Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1995
MD Washington Univ in St. Louis 2003
PHD Washington Univ in St. Louis 2003
Patricia L Cole, MA, MD
Associate Professor of Clinical Medicine (primary appointment)
BA Mount Holyoke College 1972
MA Brown University 1975
MD Harvard University 1981
Roger Barto Cole, MS, MD, PHD
Instructor in Clinical Medicine (primary appointment)
MS Yale University 2001
MD Washington Univ in St. Louis 2008
PHD Yale University 2004
BS Rice University 1997
Sarah F Cole
Instructor in Clinical Medicine (primary appointment)
Lloyd W Coleman, MS, PHD
Instructor in Medicine (primary appointment)
MS Iowa State University 1976
PHD Iowa State University 1984
BS Northeast Missouri St Univrsy 1973
Laura Ann Colletti-Mann
Associate Professor of Medicine (primary appointment)
Lora Pearlman Collier
Instructor in Clinical Pediatrics (primary appointment)
Brian Tyler Collins, MD
Associate Professor of Pathology and Immunology (primary appointment)
MD University of MO Columbia 1988
Vicente M Colon-Alcaraz, MD
Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
BA University of Puerto Rico 1978
MD School Not Listed 1982
Marco Colonna
Robert Rock Belliveau MD Professor of Pathology (primary appointment)
Professor of Medicine
Berdale S. Colorado, MS, DOST
Assistant Professor of Orthopaedic Surgery (primary appointment)
Assistant Professor of Neurology
MS Des Moines Universtiy 2009
DOST Des Moines Universtiy 2009
BS University of Iowa 2004
Nicholas J Colosi, MD
Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MD Saint Louis University 1968
BA La Salle University 1964
Kim David Colter, MS, MD  Instructor in Clinical Medicine (primary appointment)
MS University of CA Berkeley 1974
MD Washington Univ in St. Louis 1978
BS MO S&T (formerly UofMO Rolla) 1973

Eric S Colton, MD  Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS University of CA Irvine 1987
MD Saint Louis University 1996

Bryanne Noel Colvin  Instructor of Pediatrics (Pending Dean's Approval) (primary appointment)

Arthur Hamilton Combs, MD  Associate Professor of Clinical Medicine (primary appointment)
MD New York Medical College 1975

Paul Kevin Commean  Assistant Professor of Radiology (primary appointment)
Assistant Professor of Physical Therapy
BS Georgia Tech 1982

Susan Conger  Instructor in Clinical Pediatrics (primary appointment)

David M Conner, MD  Instructor in Clinical Psychiatry (primary appointment)
MD University of Oklahoma 1983

Shayna N Conner, MD  Assistant Professor of Obstetrics and Gynecology (primary appointment)
MD University of MO Columbia 2008
BA George Washington University 2003

Anne Maureen Connolly, MD  Professor of Neurology (primary appointment)
Professor of Pediatrics
MD Indiana University Bloomington 1984
BS Saint Mary's College 1980

John Michael Conoyer, MD  Instructor in Clinical Otolaryngology (primary appointment)
BS Southeast Missouri St Univers 1971
MD Vanderbilt University 1975

Donald Franklin Conrad  Assistant Professor of Genetics (primary appointment)
Assistant Professor of Pathology and Immunology

Glenn C Conroy, M PHIL, PHD  Professor of Anatomy (primary appointment)
Professor of Anthropology
M PHIL Yale University 1972
PHD Yale University 1974
BA University of CA Berkeley 1970

John Nicholas Constantino  Blanche F Ittleson Professor of Psychiatry (Child Psychiatry) (primary appointment)
Professor of Pediatrics
BA Cornell University 1984

Thomas E Conturo  Associate Professor of Radiology (primary appointment)
Adjunct Associate Professor of Physics

Charles Richard Conway, MD  Professor of Psychiatry (primary appointment)
MD University of Missouri Columbi 1995

H. Groves Cooke III, MS, DDENT  Instructor in Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)
MS George Washington University 1975
BA De Paul University 1967
DDENT Washington Univ in St. Louis 1971

Daniel Horatio Cooper, MD  Assistant Professor of Medicine (primary appointment)
MD Loyola University Chicago 2003
John A Cooper, PHD
Professor of Cell Biology and Physiology
Head of the Department of Biochemistry
Professor of Biochemistry and Molecular Biophysics
BS Brown University 1977
PHD Johns Hopkins University 1983
Matthew Cooper, PHD
Instructor in Medicine (primary appointment)
PHD University of Surrey 2008
BS University of Surrey 2004
Megan A Cooper, PHD, MD
Assistant Professor of Pediatrics (primary appointment)
Assistant Professor of Pathology and Immunology
BA College of Wooster 1995
PHD Ohio State University 2002
MD Ohio State University 2004
Nathan Richard Copeland, MD
Instructor in Medicine (primary appointment)
MD University of Arizona 2012
BS University of Arizona 2006
Douglas E Coplen, MD
Associate Professor of Surgery (Urologic Surgery) (primary appointment)
BA Wabash College 1981
MD Indiana University Bloomington 1985
Maurizio Corbetta, MD
Norman J. Stupp Professor of Neurology (primary appointment)
Professor of Radiology
Associate Professor of Psychological & Brain Sciences
Professor of Neuroscience
MD University of Pavia 1985
Joseph C. Corbo, MD, PHD, AB
Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Genetics
Associate Professor of Ophthalmology and Visual Sciences
MD University of California 1999
PHD University of California 1997
BS Stanford University 1990
AB Stanford University 1990
Suzanne Marie Cornbleet, MA, DPT
Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
MA Washington Univ in St. Louis 1987
BS University of Colorado Boulder 1975
DPT Washington Univ in St. Louis 2003
Lynn Anne Cornelius, MD, BN
Winfred A and Emma R Showman Professor of Dermatology in Medicine (primary appointment)
MD University of Missouri 1984
BN University of Delaware 1977
Juan C Corvalan, MD
Asst Prof Emeritus Of Clinical Psychiatry (primary appointment)
MD School Not Listed 1965
BA School Not Listed 1957
Pamela Ann Coslick-Fada, OD
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD University of Missouri 1987
Ferdinand Louis Coste III, DOST Assistant Professor of Pediatrics (primary appointment)
DOST NY Coll of Osteopathic Med 2004
BS Cornell University 1998

John Bernard Costello, MD Instructor in Clinical Medicine (primary appointment)
BA Saint Louis University 1974
MD Saint Louis University 1977

Linda B Cottler, PhD, M PH Adjunct Professor of Psychiatry (primary appointment)
Adjunct Professor of Anthropology
BA Emmanuel College 1977
PHD Washington Univ in St. Louis 1987
M PH Boston University 1980

Catherine E Cottrell, PHD Assistant Professor of Pathology and Immunology (primary appointment)
Assistant Professor of Genetics
BS Ohio State University 2001
PHD Ohio State University 2007

Steven Michael Couch, MD Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
MD University of MO Kansas City 2006

Carrie Christine Coughlin, MD Assistant Professor of Medicine (Dermatology) (primary appointment)
Assistant Professor of Pediatrics
MD Washington Univ in St. Louis 2010
BA Yale University 2005

Martha Laurin Council, MD Assistant Professor of Medicine (Dermatology) (primary appointment)
BS Louisiana St University 2000
MD Washington Univ in St. Louis 2004

Constance Stone Courtois, MD Assistant Professor of Radiology (primary appointment)
BS Wofford College 1980
MD Medical University of Sth Car 1985

Andrea Michele Coverstone, MD Instructor in Pediatrics (primary appointment)
MD Saint Louis University 2009

Douglas Floyd Covey, MA Professor of Pharmacology in Developmental Biology (primary appointment)
Professor of Anesthesiology
Professor of Psychiatry
BS Loyola College 1967
MA Johns Hopkins University 1969

Sudha Mahajan Cowsik, MS, PHD Instructor in Biochemistry and Molecular Biophysics (primary appointment)
MS Panjab University 1970
PHD Institute of Medical Science 1976
BS Panjab University 1969

James L Cox, MD Evarts A. Graham Professor Emeritus of Surgery (Cardiothoracic Surgery) (primary appointment)
Evarts A. Graham Prof Emer of Surg (Card Surg) (primary appointment)
BS University of Mississippi 1964
MD1 University of Tennessee 1967
Thomas E Cox, MD Professor of Anesthesiology (primary appointment)
BA Johns Hopkins University 1981
MD University of Virginia 1985

Daniel W Coyne, MD Professor of Medicine (primary appointment)
MD Case Western Reserve Univ 1983
BA Saint Louis University 1979

Mary Michaeleen Cradock Assistant Professor of Clinical Pediatrics (primary appointment)
Clarissa S. Craft Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology

Johnetta M Craig, MBA Instructor in Clinical Medicine (primary appointment)
BS University of Missouri 1980
MBA University of Pennsylvania 1994

James P Crane, MD Associate Vice Chancellor for Clinical Affairs (primary appointment)
Chief Executive Officer-Faculty Practice Plan
Professor of Obstetrics and Gynecology
Professor of Radiology
Associate Professor of Genetics
MD Indiana University Bloomington 1970
BS Indiana University Bloomington 1966

John Bruce Crane II Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)

John Jeffrey Cras, MD, MS Assistant Professor of Medicine (primary appointment)
MD Georgetown University 2003
MS Georgetown University 1998
BS Loyola College 1994

Charles Crecelius, MD, PHD Assistant Professor of Clinical Medicine (primary appointment)
BA Carleton University 1976
MD Saint Louis University 1984
PHD Saint Louis University 1984

Sharon Cresci, MD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Genetics
MD New York University 1986
BS State Univ of NY Binghampton 1982

Stephen R Crespin, MD Associate Professor of Clinical Medicine (primary appointment)
MD Harvard University 1965

Jeffrey S Crippin, MD Professor of Medicine (primary appointment)
BS University of Notre Dame 1980
MD University of Kansas 1984

Robert D Crist Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Lucia del Pilar Cristancho Pimiento Assistant Professor of Psychiatry (primary appointment)
Susan R Criswell Associate Professor of Neurology (primary appointment)
Michael Crittenden Associate Professor of Surgery (Cardiothoracic Surgery) (primary appointment)

Andrew Cronyn, MD Instructor in Clinical Pediatrics (primary appointment)
MD Albert Einstein College of Med 1996
BA Princeton University 1987
Seth Daniel Crosby, MD
Assistant Professor of Genetics (primary appointment)
MD University Texas San Antonio 1989
BS University of California 1984

Betty Cross, MD
Instructor in Clinical Pediatrics (primary appointment)
BS University of Kansas 1979
MD University of Kansas 1983

Dorothy Anne Cross, MD
Professor of Neurology (primary appointment)
MD University of Alabama 1980

Veronica Lynn Cross
Instructor in Clinical Obstetrics and Gynecology (primary appointment)

Dewitte T Cross III, MD
Professor of Neurological Surgery
BA Vanderbilt University 1975
MD University of Alabama 1980

Erika C Crouch, MD, PHD
Professor of Pathology and Immunology (primary appointment)
MD University of Washington 1979
PHD University of Washington 1978

Jack L Croughan, MD
Associate Professor of Clinical Psychiatry (primary appointment)
BA University of Kansas 1964
MD University of Kansas Medical 1968

Michael G Crowley
Instructor in Radiology (primary appointment)

Beth Elaine Crowner, MS, DPT, BS PT, M PP
Associate Professor of Physical Therapy (primary appointment)

Division Director of Clinical Practice in Physical Therapy

Associate Professor of Neurology
MS Washington Univ in St. Louis 1989
DPT Washington Univ in St. Louis 2007
BS PT Washington Univ in St. Louis 1989
M PP University of MO St Louis 1997

Carlos Cruchaga
Associate Professor of Psychiatry (primary appointment)

Associate Professor of Neurology

Nicole Cruz
Instructor in Clinical Neurology (primary appointment)

Paulina Cruz Bravo, MD
Instructor in Medicine (primary appointment)
MD Universidad Automoma de Madrid 2009

Philip E Cryer, MD
Professor Emeritus of Medicine (primary appointment)

Prof Emeritus of Medicine (primary appointment)

Adjunct Professor of Medicine

BA Northwestern University 1962
MD Northwestern University Med 1965

Phillip S. Cuculich, MD
Associate Professor of Medicine (primary appointment)
MD Vanderbilt University 2001

Susan Margaret Culican, PHD, MD
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)
BA Washington Univ in St. Louis 1990
PHD Washington Univ in St. Louis 1998
MD Washington Univ in St. Louis 1998

Kevin M Cullison
Instructor in Emergency Medicine in Medicine (Pending Dean's Approval) (primary appointment)

Joseph P Culver, PHD
Professor of Radiology (primary appointment)
Robert Culverhouse, PHD, MA
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Biostatistics

Clayton Cummings, BSBA, MD
Instructor in Pediatrics (primary appointment)

Lenise Andrea Cummings-Vaughn, MS, MD
Assistant Professor of Medicine (primary appointment)

Brian P. Cupps, PHD
Associate Professor of Surgery (Cardiothoracic Surgery) (primary appointment)

David Rex Curfman, MD
Instructor in Clinical Neurology (primary appointment)

David T Curiel, MD, PHD
Distinguished Professor of Radiation Oncology (primary appointment)

Philip L Custer, MD
Professor of Ophthalmology and Visual Sciences (primary appointment)

Robert B Cusworth, MD
Instructor in Clinical Medicine (primary appointment)

Amy Cyr, MD
Assistant Professor of Surgery (General Surgery) (primary appointment)

Sonika M Dahiya, MD
Assistant Professor of Pathology and Immunology (primary appointment)

Aarti Sudhir Dalal, DOST
Instructor in Pediatrics (primary appointment)

Ann Marie Dale, PHD
Associate Professor of Medicine (primary appointment)
Jeanenne M Dallas, Instructor in Occupational Therapy (primary appointment)
Instructor in Neurology
BS University of Central Arkansas 1979

Mackenzie Daly, MD, Assistant Professor of Radiation Oncology (primary appointment)
MD University of MO Kansas City 2005
Tracey M. Daly, Instructor in Clinical Pediatrics (primary appointment)

Ralph James Damiano Jr, MD, Evarts Ambrose Graham Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
BA Dartmouth College 1976
MD Duke University 1980

Sarah Marie Dance, MD, Instructor in Anesthesiology (primary appointment)
MD Univ of Nebraska Med Center 2009

William H Danforth, MD, Professor of Medicine (primary appointment)
Vice Chairman and Chancellor Emeritus
BA Princeton University 1947
MD Harvard University 1951

Erik D. Daniels, MD, Instructor in Clinical Medicine (primary appointment)
MD Howard University 1989

John S Daniels, MA, MD, Associate Professor of Clinical Medicine (primary appointment)
MA University of Arkansas 1974
BA Washington Univ in St. Louis 1970
MD University of Arkansas 1974

Peter G Danis, Instructor in Clinical Medicine (primary appointment)

Rand E Dankner, MD, Associate Professor of Clinical Medicine (primary appointment)
BA University of Pennsylvania 1974
MD Baylor University 1978

Maria Cristina Dans, MD, Assistant Professor of Medicine (primary appointment)
BA Princeton University 1989
MD Washington Univ in St. Louis 1999

Gautam Dantas, Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Biomedical Engineering
Associate Professor of Molecular Microbiology
BS Macalester College 2000
Michael E Danter, Assistant Professor of Clinical Pediatrics (primary appointment)

Bhajan Shewaldas Dara, MD, Instructor in Clinical Medicine (primary appointment)
MD Sindh Medical College 1987

Michael D Darcy, MD, Professor of Radiology (primary appointment)
Associate Professor of Surgery (General Surgery)
MD Ohio State University 1979

Rachel S Darken, MD, PHD, Associate Professor of Neurology (primary appointment)
MD Cornell University 2004
PHD Cornell University 2003
BA University of Texas Austin 1996

Lakshman Darsi, MBBS, Assistant Professor of Medicine (primary appointment)
MBBS Guntur Medical College 1985
Koushik Kumar Das, MD Assistant Professor of Medicine (primary appointment)
MD Columbia University 2016
Sundeep Das Instructor in Clinical Medicine (primary appointment)
Jessica L Dashner, MS Instructor in Occupational Therapy (primary appointment)
Instructor in Neurology
BS McKendree College 2000
MS Washington Univ in St. Louis 2002
Alejandro M Datuin, MD, AA Assistant Professor of Clinical Psychiatry (On Staff at Malcolm Bliss Mental Health Center) (primary appointment)
MD University of Santo Tomas 1956
AA University of Santo Tomas 1951
Yasmeen Daud, MD Associate Professor of Pediatrics (primary appointment)
MD University of MO Kansas City 2000
Carlos Colton Daughaday Professor of Medicine (primary appointment)
Bakul Dave, MD Assistant Professor of Anesthesiology (primary appointment)
MD1 University of Toledo 1997
MD BJ Medical College 1984
David L Davidson Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
John D Davidson, MD Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1952
Lisa S. Davidson, MS, PHD Associate Professor of Otolaryngology (primary appointment)
Associate Professor of Audiology and Communication Sciences
BS East Tennessee State Universi 1985
MS Washington Univ in St. Louis 1987
PHD Washington Univ in St. Louis 2003
Nicholas O Davidson, MBBS Professor of Medicine (primary appointment)
Professor of Developmental Biology
MBBS King's College London 1974
Richard Davidson, DDENT, MS Instructor in Clinical Otolaryngology (DMD) (primary appointment)
BA Washington Univ in St. Louis 1966
DDENT Washington Univ in St. Louis 1970
MS University of Missouri 1979
Victor G Davila-Roman, MD Professor of Medicine (primary appointment)
Professor of Radiology
Professor of Anesthesiology
MD University of Puerto Rico 1981
BS University of Puerto Rico 1977
Albert Augustus Davis, PHD, MD Instructor in Neurology (primary appointment)
BS Emory University 2002
PHD Emory University 2009
MD Vanderbilt University 2011
Andrea Jill Davis, MD, MSN Instructor in Clinical Medicine (primary appointment)
MD St George's University 2004
MSN Arizona State University 2000
BS Randolph Macon College 1997
John C Davis, MD Associate Professor of Clinical Pediatrics (primary appointment)
MD University of Michigan 1980
Kasey L. Davis, PHD, MS Instructor in Clinical Pediatrics (primary appointment)
PHD University of Indianapolis 2007
BS McKendree College 2002
MS University of Indianapolis 2004

Mary A Davis, MD Assistant Professor Emeritus of Clinical Psychiatry (primary appointment)
Asst Prof Emeritus of Clinical Psychiatry (primary appointment)
BA Ohio State University 1947
MD Washington Univ in St. Louis 1952

Ray S Davis, MD Professor of Clinical Pediatrics (primary appointment)
MD University of Louisville 1978

Sheldon L Davis Assistant Professor of Clinical Otolaryngology (primary appointment)

Thomas Edward Davis Instructor in Clinical Medicine (primary appointment)

Thomas Keefe Davis, MD Assistant Professor of Pediatrics (primary appointment)
MD St. George's University 2004

Gene Layton Davis Jr, MBA, MD Assistant Professor of Clinical Radiology (primary appointment)
BA University of Virginia 1968
MBA Webster University 1991
MD University of Virginia 1972

Jeffrey G Dawson, MD Professor of Pediatrics (primary appointment)
BA Northwestern University 1982
MD University of Louisville 1982

Brian Keith Day, MD, PHD Assistant Professor of Neurology (primary appointment)
MD University of Kentucky 2007
PHD University of Kentucky 2005
BS Harvard University 1997

Caroline Elizabeth Day, M PH Instructor in Clinical Medicine (primary appointment)
M PH San Diego St University 2005
BS University of Colorado Boulder 1990

Gregory Scott Day, MS, MD Instructor in Neurology (primary appointment)
MS Queen's University 2006
MD Queen's University 2009
BS Queen's University 2003

Gabriela De Bruin Assistant Professor of Neurology (primary appointment)

Thomas M De Fer, MD Professor of Medicine (primary appointment)
MD University of Missouri 1989

Lisa De Las Fuentes, MD Associate Professor of Medicine (primary appointment)

Associate Professor of Biostatistics
MD University of Texas Southwest 1996
BA Stanford University 1991

Vincent R De Mello Assistant Professor of Clinical Medicine (primary appointment)

Charl Johan De Wet Associate Professor of Anesthesiology (primary appointment)

Associate Professor of Surgery (Cardiothoracic Surgery)

Anne V Dean Instructor in Clinical Medicine (primary appointment)

Jon Todd Dean, MD Instructor in Clinical Psychiatry (primary appointment)
BA University of Texas Austin 1982
MD University of Texas Austin 1987

Brian J. DeBosch, PHD, MD Assistant Professor of Pediatrics (primary appointment)
Assistant Professor of Cell Biology and Physiology
PHD Washington Univ in St. Louis 2008
MD Washington Univ in St. Louis 2008
BS University of Michigan 2001

James Allen Declue, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Illinois College of Optometry 1949

Jane E. Defalco, MS, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MS Rutgers University 1978
MD Case Western Reserve Univ 1984
BA Rutgers University 1977

Melissa DeFoe, MD Instructor in Medicine (primary appointment)
MD Univ of Texas Med Sch Houston 2013

Ryan Michael DeGeeter, DPT Instructor in Physical Therapy (primary appointment)
Instructor in Orthopedic Surgery
BS Ball State University 2007
DPT Washington Univ in St. Louis 2010

John James Deguire, MD Instructor in Ophthalmology and Visual Sciences (primary appointment)
BA Washington Univ in St. Louis 1983
MD University of Illinois 1988

Farrokh Dehdashti Professor of Radiology (primary appointment)

Louis P Dehner, MD Professor of Pathology and Immunology (primary appointment)

Professor of Pathology in Pediatrics
MD Washington Univ in St. Louis 1966
BA Washington Univ in St. Louis 1962

Angeline Diane DeiSanti, MD Assistant Professor of Medicine (primary appointment)
MD University of MO Columbia 2003
BS University of MO Columbia 1998

Jennifer A. Delaney, MD Instructor in Clinical Medicine (primary appointment)
BA Georgetown University 1992
MD Washington Univ in St. Louis 1997

James Albert Delmez, MD Professor of Medicine (primary appointment)
MD University of Rochester 1973
BA Washington Univ in St. Louis 1969

Rowena Bayudan Delos Santos Assistant Professor of Medicine (primary appointment)
BS Creighton University 2000

Bethany L Dement, MD Instructor in Medicine (primary appointment)
MD Southeast Missouri St Univers 2001

Jennifer Lee Demertzis, MD Associate Professor of Radiology (primary appointment)
MD Emory University 2003
BS University of Notre Dame 1999

Maureen Elaine Dempsey Instructor in Clinical Pediatrics (primary appointment)

David G. DeNardo, PHD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
BS Willamette University 1999
PHD Baylor University 2005

Panyue Deng Assistant Professor of Cell Biology and Physiology (primary appointment)

Andrea Denny Instructor in Neurology (Pending Dean's Approval) (primary appointment)
Leanne Michelle DePalma, MD
Instructor in Pediatrics (primary appointment)
MD University of Louisville 2008
BS University of Notre Dame 2004

Amber Zimmer Deptola
Instructor in Medicine (primary appointment)

Alana C Desai
Assistant Professor of Surgery (Urologic Surgery) (primary appointment)
BS Marquette University 1997

Sunny Desai
Instructor in Clinical Medicine (primary appointment)

Gerry Deschamps, MD
Instructor in Clinical Pediatrics (primary appointment)
MD University of Missouri 1983
BA Washington Univ in St. Louis 1976

Teresa Deshields, PHD, MS
Associate Professor of Clinical Medicine (primary appointment)
PHD University of Georgia 1985
BA Meredith College 1981
MS University of Georgia 1983

George J Despotis
Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Anesthesiology
BA Greenville College 1981

Vladimir Novak Despotovic, MD
Assistant Professor of Medicine (primary appointment)
MD Michigan State University 2004

Robert H Deusinger, PHD, MS
Assoc Prof Emeritus of Physical Therapy (primary appointment)
PHD University of Iowa 1981
MS University of Massachussetts 1968
BS Slippery Rock University 1967

Susan S. Deusinger, PHD, MA
Prof Emeritus of Physical Therapy (primary appointment)
PHD Washington Univ in St. Louis 1987
MA Washington Univ in St. Louis 1980
BS University of Kansas 1969

Michelle R Devera, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA Washington Univ in St. Louis 1985
MD Washington Univ in St. Louis 1993

Venkata Rao Devineni, MD
Associate Professor of Clinical Radiation Oncology (primary appointment)
MD Osmania Medical College 1973

Paul Dewald, MD
Assistant Professor of Clinical Psychiatry (primary appointment)
MD University of Rochester 1945
BA Swarthmore College 1942

Todd Alan DeWees, PHD, MSSP
Assistant Professor of Radiation Oncology (primary appointment)
PHD University of MO Columbia 2009
MSSP Arizona State University 2003
BA Dana College 2001

Neelendu Dey, MD
Assistant Professor of Medicine (primary appointment)
MD Yale University 2005
BS Harvard University 2000

Plaridel C Deza, MD
Assistant Professor of Clinical Psychiatry (On Staff at Malcolm Bliss Mental Health Center) (primary appointment)
MD University of Santo Tomas 1956

Amar Dhand, PHD, MD
Adjunct Assistant Professor of Neurology (primary appointment)
BS Dartmouth College 2001
Rajat Dhar
Associate Professor of Neurology (primary appointment)

Vikas Ramnath Dharnidharka, MD
Professor of Pediatrics (primary appointment)

UNKNOWN
St Xavier's College 1982
MD Topiwala National Med College 1991

Marc I Diamond, MD
Adjunct Professor of Neurology (primary appointment)
MD University of San Francisco 1993

Michael Diamond, MD
Professor of Medicine (primary appointment)
Professor of Molecular Microbiology
Professor of Pathology and Immunology

Herbert S Gasser Professor
BA Columbia College 1985
MD Harvard University 1994

Aaron DiAntonio, M Phil
Professor of Developmental Biology (primary appointment)

Alan A and Edith L Wolff Professor of Developmental Biology

Judith A Dibble, MD
Instructor in Clinical Medicine (primary appointment)

Donald V. Dichsen, MD
Instructor in Clinical Pediatrics (primary appointment)

Jeffrey M Dicke, MD
Professor of Obstetrics and Gynecology (primary appointment)

Shelby Marie Dickison, MD
Assistant Professor of Obstetrics and Gynecology (primary appointment)

Lizbeth H Didriksen
Assistant Professor of Clinical Pediatrics (primary appointment)

Brian K Dieckgraefe, PhD
Associate Professor of Medicine (primary appointment)

Paul E Diehl, OD
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)

Kathryn M Diemer, MD
Associate Professor of Medicine (primary appointment)

Assistant Dean for Career Counseling

James A Diestelhorst, MD
Instructor in Clinical Medicine (primary appointment)

Russell B Dieterich, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)

Dennis J. Dietzen, PhD
Professor of Pediatrics (primary appointment)
Professor of Pathology and Immunology
PHD Indiana University Bloomington 1992
Krikor T Dikranian, PHD, MD Professor of Anatomy (primary appointment)
Professor of Physical Therapy
PHD Medical University - Sofia 1992
MD Medical University - Varna 1978
Patrick A Dillon Associate Professor of Surgery (Pediatric Surgery) (primary appointment)
Associate Professor of Pediatrics
BA Brown University 1983
Mary C Dinauer, MD, PHD Professor of Pediatrics (primary appointment)
Professor of Pathology and Immunology
BA Lawrence University 1975
MD University of Chicago 1981
PHD University of Chicago 1979
Tulay F Dincer, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MD School Not Listed 1977
Carie Kollmeyer Dinehart, MD Instructor in Clinical Psychiatry (primary appointment)
BA Saint Louis University 1999
MD Saint Louis University 2003
Li Ding, PHD Associate Professor of Medicine (primary appointment)
Associate Professor of Genetics
PHD University of Utah 1998
John F Dipersio, MD, PHD Virginia E and Sam J Golman Professor of Medicine (primary appointment)
Professor of Pediatrics
Professor of Pathology and Immunology
MD University of Rochester 1980
PHD University of Rochester 1980
BA Williams College 1973
Michael N Diringer, MA, MD Professor of Neurology (primary appointment)
Professor of Anesthesiology
Professor of Occupational Therapy
Professor of Neurological Surgery
MA University of Louisville 1978
MD University of Kentucky 1982
Richard M Divalerio Instructor in Clinical Medicine (primary appointment)
Abhinav Diwan Associate Professor of Medicine (primary appointment)
Associate Professor of Cell Biology and Physiology
Kathleen Koller Dixon Instr Emeritus in Physical Therapy (primary appointment)
Sergej Djuranovic, PHD Assistant Professor of Cell Biology and Physiology (primary appointment)
PHD University of Tubingen 2007
Igor Dmitriev Assistant Professor of Radiation Oncology (primary appointment)
Matthew Barrett Dobbs, MD Dr Asa C and Mrs Dorothy W Jones Professorship in Orthopaedic Surgery (primary appointment)
MD University of Iowa 1995
Deborah E Dobson, PHD Associate Professor of Molecular Microbiology (primary appointment)
PHD University of CA Berkeley 1981
BS University of Illinois 1976
Martin A Docherty, MD Assistant Professor of Emergency Medicine in Medicine (primary appointment)
Allan Doctor
Professor of Pediatrics (primary appointment)

Jonathan Noel Dodd
Instructor in Clinical Neurology (primary appointment)

Karen W Dodson, PHD
Instructor in Molecular Microbiology (primary appointment)

William Edwin Dodson, MD
Prof Emeritus of Neurology (primary appointment)

Irl Joseph Don, MD
Associate Professor of Clinical Medicine (primary appointment)

Steven Don
Associate Professor of Radiology (primary appointment)

James W Donnelly, MD
Instructor in Clinical Medicine (Dermatology) (primary appointment)

Julianne Elizabeth Donnelly, MD
Assistant Professor of Anesthesiology (primary appointment)

Joseph M Dooley Jr, MD
Associate Professor of Clinical Neurology (primary appointment)

Balraj Doray
Assistant Professor of Medicine (primary appointment)

Alla Dorfman, MD
Instructor in Clinical Pediatrics (primary appointment)

Gerald W. Dorn II
Philip and Sima K Needleman Professor of Medicine (primary appointment)

Ian G Dorward
Assistant Professor of Neurological Surgery (primary appointment)

Nico U. Dosenbach, MD, PHD
Assistant Professor of Neurology (primary appointment)

Matthew P Dougherty
Instructor in Clinical Pediatrics (primary appointment)

Joseph D Dougherty, PHD
Assistant Professor of Genetics (primary appointment)

Charles H Dougherty
Professor of Clinical Pediatrics (primary appointment)

Catherine J Doty
Instructor in Clinical Pediatrics (primary appointment)

Joshua L Dowling, MD
Professor of Neurological Surgery (primary appointment)
Joan Catherine Downey, M PH, MD  
Assistant Professor of Pediatrics (primary appointment) 
Assistant Dean, College of Arts & Sciences 
M PH Harvard University 1985 
MD Harvard University 1985 

Maria Bernadette Majella Doyle, MD  
Associate Professor of Surgery (General Surgery) (primary appointment) 
MD Trinity College Dublin 1996 
BS Trinity College Dublin 1990 

Bettina Drake, M PH, PHD  
Associate Professor of Surgery (Public Health Sciences) (primary appointment) 
M PH Univ Texas Health Science Ctr 2003 
BS Baylor University 2001 
PHD University of South Carolina 2006 

Andrew J. Drescher, MD  
Assistant Professor of Otolaryngology (primary appointment) 
MD University of Michigan 2002 
BS Yale University 1998 

Eleanor Lynn Powell Drew, AB  
Assistant Professor of Surgery (General Surgery) (primary appointment) 
AB Brown University 2005 

Anne Meredith Drewry, MD  
Assistant Professor of Anesthesiology (primary appointment) 
MD Washington Univ in St. Louis 2006 

Robert C Drews, MD  
Prof Emeritus Of Clinical Ophthalmol & VIs Sci (primary appointment) 
BA Washington Univ in St. Louis 1952 
MD Washington Univ in St. Louis 1955 
UNKNOWN School Not Listed 1992 
BA Washington Univ in St. Louis 1952 

William H Dribben, MD  
Assistant Professor of Emergency Medicine in Medicine (primary appointment) 
MD University of North Carolina 1990 
BA University of North Carolina 1985 

Julie Kosto Drobish, MD  
Assistant Professor of Anesthesiology (Pending Executive Faculty Approval) (primary appointment) 
BS Pennsylvania State University 2006 
MD Washington Univ in St. Louis 2009 

Alexander W Dromerick, MD  
Adjunct Associate Professor of Neurology (primary appointment) 
Adjunct Associate Professor of Occupational Therapy 
Adjunct Associate Professor of Physical Therapy 
BA University of Virginia 1980 
MD University of Maryland 1986 

Norman Steven Druck, MD  
Assistant Professor of Clinical Otolaryngology (primary appointment) 
BA Washington Univ in St. Louis 1967 
MD University of Illinois 1970 

Todd Druley, MD, PHD  
Assistant Professor of Pediatrics (primary appointment) 
Assistant Professor of Genetics 
Assistant Professor of Developmental Biology 
MD University of Illinois Chicago 2002 
BS University of Illinois 1994
George Robert Drysdale, PhD, MS
 Prof Emeritus Of Biochemistry & Molec Biophys (primary appointment)
BS School Not Listed 1948
PHD Univ of Wisconsin Madison 1952
MS Univ of Wisconsin Madison 1950
Robert E Drzymala, PhD
 Prof Emeritus of Radiation Oncology (primary appointment)
BS Northern Illinois University 1972
PHD University of Oklahoma 1977
Erik R Dubberke, MPH, MD
 Associate Professor of Medicine (primary appointment)
BA Augustana University College 1995
MPH Saint Louis University 2008
MD University of Illinois 1999
James Matthew DuBois, D SC, MA, PhD
Steven J Bander Professor of Medical Ethics and Professionalism (primary appointment)
Professor of Psychological & Brain Sciences
D SC University of Vienna 1997
MA University of Rhode Island 1990
PHD Intnl Academy of Philosophy 1992
BA Franciscan University Stubenv 1989
Nicole Marie Ducharme, DOST
 Instructor in Clinical Medicine (primary appointment)
DOST Univ of Health Sciences KC 2003
Robert Kelso Duddy
 Instructor in Clinical Orthopaedic Surgery (primary appointment)
Carolyn Dufault, PhD
 Instructor in Medicine (primary appointment)
Assistant Dean for Office of Education
PHD Washington Univ in St. Louis 2009
Maria C Dumadag-Sabio, MD
 Instructor in Clinical Medicine (primary appointment)
BA University of Missouri 1988
MD University of Missouri 1988
Edward Harry DuMontier
 Instructor in Clinical Medicine (primary appointment)
William C Dunagan, MD, MS
 Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1983
MS University of Texas Austin 1980
BS University of Texas Austin 1978
James R Duncan, MD, PhD
 Professor of Radiology (primary appointment)
MD Washington Univ in St. Louis 1988
BS Davenport University 1982
PHD Washington Univ in St. Louis 1988
Jennifer Gries Duncan, MD
 Associate Professor of Pediatrics (primary appointment)
MD University of Chicago 1997
BS Vanderbilt University 1993
Ryan Patrick Duncan, DPT, MS
 Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Neurology
DPT Washington Univ in St. Louis 2012
BS Maryville University 2007
MS Maryville University 2008
Eric James Duncavage
 Assistant Professor of Pathology and Immunology (primary appointment)
BS Vanderbilt University 1998
Lakshmi Vijaya Dundoo, MS
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MS School Not Listed 1992
BS School Not Listed 1986
UNKNOWN School Not Listed 1992

Gavin P. Dunn
Assistant Professor of Neurological Surgery (primary appointment)
Assistant Professor of Pathology and Immunology

Jennifer M Dunn, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 2000
BS Duke University 1996

Julia Passyn Dunn, MD, MS
Assistant Professor of Medicine (primary appointment)
MD University of South Alabama 2002
MS Vanderbilt University 2010

Kirsten F Dunn, MD
Instructor in Medicine (primary appointment)
MD Saint Louis University 2012

William Michael Dunne Jr, PHD
Adjunct Professor of Pathology and Immunology (primary appointment)
BS Univ of Wisconsin Madison 1975
PHD Univ of Wisconsin Madison 1981

Katherine Dunsky
Assistant Professor of Otolaryngology (Pending Executive Faculty Approval) (primary appointment)

Michael Joseph Durkin
Instructor in Medicine (primary appointment)
BA Illinois Wesleyan University 2004
M PH1 University of North Carolina 2015

Nicole Marie Durko, DOST
Assistant Professor of Anesthesiology (primary appointment)
DOST Midwestern University 2001
BS St Xavier University 1995

Susan K. Dutcher, PHD
Professor of Genetics (primary appointment)
Professor of Cell Biology and Physiology
Interim Director of the McDonnell Genome Institute
PHD University of Washington 1980
BA Colorado College 1974

Christopher J. Dy, M PH
Assistant Professor of Orthopaedic Surgery (primary appointment)
M PH University of Miami 2008
BS University of Miami 2004

Tiffany Biason Dy, MD
Instructor in Medicine (primary appointment)
BS University of Miami 2005
MD Univ Texas Health Science Ctr 2009

Joseph W Eades
Assistant Professor of Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)

William Charles Eades Jr
Associate Professor of Medicine (primary appointment)

J. Chris Eagon, MD, MS
Associate Professor of Surgery (General Surgery) (primary appointment)
MD Harvard University 1988
MS University of Utah 1997
BA Williams College 1984

Gammon Marie Earhart, MS, PHD
Professor of Physical Therapy (primary appointment)
Professor of Neuroscience
Professor of Neurology
Associate Director of Movement Science PhD Program in Physical Therapy
Executive Director of the Program in Physical Therapy
MS Beaver College 1996
BS Beaver College 1994
PHD Washington Univ in St. Louis 2000

Dayna S Early, MD Professor of Medicine (primary appointment)
BA University of Missouri 1986
MD University of Missouri 1990

Adam C. Eaton, MD Assistant Professor of Clinical Pediatrics (primary appointment)
BS University of Illinois 1992
MD Washington Univ in St. Louis 1997

Royal J Eaton, MD Instructor in Clinical Medicine (primary appointment)
BA University of Missouri 1960
MD University of Missouri 1964

Stephen Ray Eaton, MD Assistant Professor of Surgery (General Surgery) (primary appointment)
BS1 Southern Illinois University 1997
MS1 Southern Illinois University 2000
MD Ross University 2005

Lori L Eberhart Instructor in Clinical Pediatrics (primary appointment)

Timothy J Eberlein, MD, MA Bixby Professor of Surgery (General Surgery) (primary appointment)
Head of the Department of Surgery
Director of The Alvin J. Siteman Cancer Center
Professor of Pathology and Immunology
Spencer T. and Ann W. Olin Distinguished Professor
MD University of Pittsburgh 1977
MA Harvard University 1996
BS University of Pittsburgh 1973

Charles S Eby Professor of Pathology and Immunology (primary appointment)
Professor of Medicine
BS Duke University 1977

Shaina Rose Eckhouse, MD Assistant Professor of Surgery (General Surgery) (Pending Executive Faculty Approval) (primary appointment)
MD Univ Texas Health Sci San Anto 2008

Brian T. Edelson, MD, PHD Assistant Professor of Pathology and Immunology (primary appointment)
UNKNOWN Brown University 1995
MD Washington Univ in St. Louis 2004
PHD Washington Univ in St. Louis 1995

Julia D Edgar Adjunct Instructor of Otolaryngology (primary appointment)

Robert W Edmonds, MD Assistant Professor Emeritus of Clinical Pediatrics (primary appointment)
Asst Prof Emeritus of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1960
BA University of Missouri 1956

Charmaine E. Edwards Instructor in Clinical Medicine (primary appointment)
BS Alcorn State University 1987

Dorothy F Edwards, PHD Adjunct Associate Professor of Occupational Therapy
Adjunct Associate Professor of Neurology
PHD Washington Univ in St. Louis 1980
James Earl Edwards, MD
Assistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)
MD University of Tennessee 1962
BA University of Tennessee 1959

John R. Edwards, PHD
Assistant Professor of Medicine (primary appointment)
PHD Columbia University 2003

Stilianos Efstratiadis
Assistant Professor of Clinical Medicine (primary appointment)

Takeshi Egawa, PHD, MD
Assistant Professor of Pathology and Immunology (primary appointment)
PHD Osaka University 2002
MD Osaka University 1994

Adam Thomas Eggebrecht, PHD, MS
Instructor in Radiology (primary appointment)
PHD Washington Univ in St. Louis 2009
MS Washington Univ in St. Louis 2005

Russell E Eggebrecht, MD
Associate Professor of Clinical Medicine (primary appointment)
BS University of Illinois 1967
MD Washington Univ in St. Louis 1971

Pirooz Eghtesady, MD, MS, D SC
Professor of Surgery (Cardiothoracic Surgery) (primary appointment)

Professor of Pediatrics
MD University of CA Los Angeles 1993
MS University of CA Los Angeles 1987
BS University of CA Los Angeles 1987
D SC University of CA Los Angeles 1993

Tamara Kay Ehlert, MD
Instructor in Clinical Otolaryngology (primary appointment)
BA Northwestern University 1979
MD Univ of Wisconsin Madison 1983

Ali A Ehsani, MD
Professor of Medicine (primary appointment)
MD Tehran University 1965

Zamir Eidelman
Associate Professor of Clinical Medicine (primary appointment)

John Robert Eigenbrodt, OD
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD University of Missouri 1988
BS Southern Ill Univ Edwardsville 1985

Arthur Z Eisen, MS, MD
Professor of Medicine (Dermatology) (primary appointment)
MS Brown University 1953
BA State Univ of NY Buffalo 1951
MD University of Pennsylvania 1957

Seth A Eisen, MD, MS
Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1966
MS Harvard University 1989
BA Reed College 1963

David Louis Eisenberg, MD, M PH
Associate Professor of Obstetrics and Gynecology (primary appointment)
BS University of Pittsburgh 1999
MD University of Alabama 2003
M PH Northwestern University 2009

Lawrence N Eisenman, MD, PHD
Associate Professor of Neurology (primary appointment)
Sarah Ann Eisenstein, PHD
Assistant Professor of Psychiatry (primary appointment)
Assistant Professor of Radiology
PHD University of Georgia 2008

Linda G Eissenberg, PHD
Assistant Professor of Medicine (primary appointment)
BA University of Tennessee 1977
PHD University of North Carolina 1982

Josiah O. Ekunno
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS School Not Listed 1965

Lamice R. El-Kholy
Instructor in Clinical Medicine (primary appointment)
UNKNOWN School Not Listed 1982

Samir Khattab El-Mofty, MS, PHD
Professor of Oral Pathology (primary appointment)
Professor of Pathology and Immunology
Professor of Otolaryngology
UNKNOWN School Not Listed 1955
DDENTI Washington Univ in St. Louis 1987
MS University of Pennsylvania 1966
PHD Temple University 1976

Sven Gustav Eliasson, MD, MLA, PHD
Prof Emeritus Of Neurology (primary appointment)
BS University of Lund 1949
MD School Not Listed 1954
MLA Washington Univ in St. Louis 1991
PHD School Not Listed 1952

John Ellena, MD
Associate Professor of Clinical Medicine (primary appointment)
MD Southern Illinois University 1983
BS Southern Illinois University 1980

Thomas E Ellenberger, DVM, PHD
Professor of Biochemistry and Molecular Biophysics (primary appointment)
Chairman of the Executive Council of the Division of Biology and Biomedical Sciences
DVM Iowa State University 1983
PHD Harvard University 1989

Alysa G. Ellis
Assistant Professor of Pediatrics (primary appointment)
BA University of MO Kansas City 2004

Charlene Ann Ellsworth, PHD, MD
Instructor in Clinical Medicine (primary appointment)
PHD Mass Inst of Technology (MIT) 2004
MD Washington Univ in St. Louis 2008

Mohamed Elsafi
Assistant Professor of Clinical Otolaryngology (primary appointment)

Elliot L Elson, PHD
Emeritus Professor of Biochemistry and Molecular Biophysics (primary appointment)
Prof Emeritus of Biochem & Molec Biophysics (primary appointment)
PHD Stanford University 1966
BA Harvard University 1959

Amged Eltahir, MD
Instructor in Clinical Medicine (primary appointment)
MD University of Khartoum 1985
AB1 Saint Louis University 2006

Alexis M Elward, MPH, MD
Professor of Pediatrics (primary appointment)
Vice Chair of Quality Improvement and Safety in Pediatrics
Jill Elizabeth Elwing, MD
Assistant Professor of Medicine (primary appointment)
BS University of MO Columbia 1996
MD University of MO Columbia 2000

Amanda R. Emke
Assistant Professor of Pediatrics (primary appointment)
BS St Marys University 1998

Daniel Emmert, MD
Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
MD Saint Louis University 2005

Nicholas Earl Engelbrecht
Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)

Sarah K England, PHD
Professor of Obstetrics and Gynecology (primary appointment)
Professor of Cell Biology and Physiology
Alan A and Edith L Wolff Professor of Medicine

Jack R. Engsberg, PHD, MS
Professor of Occupational Therapy (primary appointment)
Professor of Neurological Surgery
Professor of Orthopaedic Surgery

James Michael Epstein, MD
Instructor in Clinical Medicine (primary appointment)
BS University of Notre Dame 1965
MD Washington Univ in St. Louis 1969

Jay S Epstein, MS, MD
Professor of Clinical Pediatrics (primary appointment)
BA Emory University 1977
MS Emory University 1978
MD Emory University 1983

Lawrence W Ernst, OD
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD University of Missouri 1990

Christopher R. Erwin, MS, PHD
Associate Professor of Surgery (Pediatric Surgery) (primary appointment)
MS University of CA Davis 1978
PHD University of Iowa 1983
BS University of CA Davis 1976

Prabagaran Esakky, MS, PHD
Instructor in Obstetrics and Gynecology (primary appointment)
MS Sri Paramakalyani College 1997
BS Sri Paramakalyani College 1995
PHD Natl Inst Resrch Reprod Health 2007

Juan Escandon, MD
Assistant Professor of Clinical Neurology (primary appointment)
BS School Not Listed 1985
MD School Not Listed 1989

**Diane M Eschmann, MD**
Instructor in Clinical Pediatrics (primary appointment)
MD University of Missouri 1993
BA Saint Louis University 1989

**Gerome V Escota**
Assistant Professor of Medicine (primary appointment)

**Jennifer Ess**
Instructor in Clinical Pediatrics (primary appointment)

**Laura Ann Esswein, MD**
Instructor in Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1987
MD University of Missouri 1991

**Michele Marie Estabrook, MA, MD**
Professor of Pediatrics (primary appointment)
BA Bates College 1976
MA Stanford University 1979
MD Case Western Reserve Univ 1983

**Kelly Eileen Estes, MD, MPH, MS**
Assistant Professor of Orthopaedic Surgery (Pending Executive Faculty Approval) (primary appointment)
MD Wright State University 2012
BS Kalamazoo College 2005
MPH Wright State University 2012
MS Columbia University 2016

**Neil A Ettinger, MD**
Assistant Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1983
BS Vanderbilt University 1979

**Eric Paul Eutsler, MD**
Instructor in Radiology (primary appointment)
MD Drexel University 2008
BS Wilkes University 2004

**Bradley A Evanoff, MD**
Richard A and Elizabeth Henby Sutter Professor of Occupational, Industrial, and Environmental Medicine in Medicine (primary appointment)
Professor of Occupational Therapy
Assistant Dean for Clinical and Translational Research
BA Cornell University 1982
MD Washington Univ in St. Louis 1986

**Lawrence Glennon Evans Jr**
Instructor in Orthopaedic Surgery (primary appointment)

**Alex S Evers**
Henry E Mallinckrodt Professor of Anesthesiology (primary appointment)
Head of the Department of Anesthesiology
Professor of Developmental Biology
Professor of Medicine
BS Yale University 1974

**Eugene Evra, MD**
Instructor in Clinical Neurology (primary appointment)
MD Smolensk State Medical Academy 1996

**Gregory A Ewald, MD**
Associate Professor of Medicine (primary appointment)
MD Northwestern University 1989

**Renee D Ewing, MD**
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Southern Illinois University 1984
BA University of MO St Louis 1979

**Elisa Fabbrini, PHD**
Adjunct Assistant Professor of Medicine (primary appointment)
PHD La Sapienza University 2006

**Roberta Faccio, PHD**
Professor of Orthopaedic Surgery (primary appointment)
Professor of Cell Biology and Physiology  
PHD University of Bari 2000

Raymond F Fada Jr, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)  
OD University of Missouri 1989  
BS University of Michigan 1984

Brian T Faddis, MS, PHD Assistant Professor of Otolaryngology (primary appointment)  
Assistant Professor of Audiology and Communication Sciences  
MS University of California 1989  
BS University of California 1982  
PHD University of California 1994

Mitch N Faddis, MD Associate Professor of Medicine (primary appointment)  
MD Washington Univ in St. Louis 1993  
BS Kansas State University 1985

Nuri Bradford Farber, MD Professor of Psychiatry (primary appointment)  
BA Washington Univ in St. Louis 1985  
MD Washington Univ in St. Louis 1989

Elliott H Farberman, MD Assistant Professor of Clinical Pediatrics (primary appointment)  
MD Saint Louis University 1973  
BA University of Rochester 1969

Cathleen Rae Faris, MD Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)  
BA University of Kansas 1977  
MD University of Kansas 1982  
Akinrinola Fatokhin Instructor in Clinical Medicine (primary appointment)

Justin C. Fay, PHD Associate Professor of Genetics (primary appointment)  
PHD University of Chicago 2001  
Adam Ross Fedyk Instructor in Clinical of Ophthalmology & Visual Sciences (primary appointment)

Todd A Fehniger, MD, PHD Associate Professor of Medicine (primary appointment)  
MD Ohio State University 2002  
PHD Ohio State University 2000

James J Fehr III Professor of Anesthesiology (primary appointment)  
Professor of Pediatrics  
Robert M Feibel Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)

Steven Edward Feit, MD Assistant Professor of Anesthesiology (primary appointment)  
MD University of MO Columbia 1982  
BA Indiana State University 1978  
Mary F Feitosa Associate Professor of Genetics (primary appointment)

John Matthew Felder III Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (Pending Executive Faculty Approval) (primary appointment)

David Feldman, MD Instr Emeritus In Clinical Medicine (primary appointment)  
MD Washington Univ in St. Louis 1943

Mario Federico Feldman, PHD Associate Professor of Molecular Microbiology (primary appointment)  
PHD Universidad del Buenos Aires 2004  
Richard A. Felkel Jr Instructor in Clinical Pediatrics (primary appointment)

Thomas A Ferguson Professor of Ophthalmology and Visual Sciences (primary appointment)
Thomas W Ferko, MD  
Professor of Pediatrics (primary appointment)

Alexis Hartmann MD  
Professor of Pediatrics

James A Fernandez  
Instructor in Clinical Otolaryngology (primary appointment)

Isabel Fernandez-Holtzman  
Instructor in Clinical Pediatrics (primary appointment)

Herman L Ferrell  
Instructor in Clinical Medicine (primary appointment)

Beverly J. Field, PHD, B MUS  
Associate Professor of Anesthesiology (primary appointment)

Mayte Ideliz Figueroa, MD  
Associate Professor of Pediatrics (Pending Executive Faculty Approval) (primary appointment)

Brian N. Finck, PHD  
Associate Professor of Medicine (primary appointment)

Mitchell Evan Fingerman, MD  
Assistant Professor of Anesthesiology (primary appointment)

Debra Fink, MS, DDENT  
Instructor in Clinical Otolaryngology (DMD) (primary appointment)

Kurt W Finklang, OD  
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)

Charles Coleman Finley  
Adjunct Research Associate Professor of Otolaryngology (primary appointment)
Gregory K Finn, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1992
BA Hendrix College 1985

Jill B Firszt, MS, PHD
Professor of Otolaryngology (primary appointment)
Professor of Audiology and Communication Sciences
MS University of Illinois 1982
BS University of Illinois 1978
PHD University of Illinois 1998

Lewis Conrad Fischbein, MD
Associate Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1974

Keith C Fischer, MD
Associate Professor of Radiology (primary appointment)
BA Oberlin College 1967
MD Johns Hopkns University Medic 1971

Peter Uwe Fischer, MS
Associate Professor of Medicine (primary appointment)
MS Free University of Berlin 1991

Marsha Nicole Fisher, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD University of Missouri 1992
BA Washington Univ in St. Louis 1988

Emily Faith Fishman, MD
Instructor in Pediatrics (primary appointment)
BS Youngstown St University 2005
MD Northeast Ohio Medical U 2009

Norman Fishman, MD
Assistant Professor of Clinical Medicine (primary appointment)
MD School Not Listed 1974
BA School Not Listed 1970

Anna M Fitz-James, MD, M PH
Assistant Professor of Clinical Pediatrics (primary appointment)
MD George Washington University 1981
M PH School Not Listed 1994
BA University of Massachusetts 1975

Robert T. Fitzgerald, MS
Instructor in Psychiatry (Child) (primary appointment)
BS Abilene Christian University 1998
MS Saint Louis University 2000

Sean C. Fitzmaurice, MD
Instructor in Emergency Medicine in Medicine (primary appointment)
MD Saint Louis University 1995
BS Georgetown University 1989

James Alexander John Fitzpatrick, PHD
Associate Professor of Neuroscience (primary appointment)
Associate Professor of Cell Biology and Physiology
PHD University of Bristol 2003

Susan M Fitzpatrick, PHD
Adjunct Associate Professor of Neuroscience (primary appointment)
Adjunct Associate Professor of Occupational Therapy
BS St Johns University 1978
PHD Cornell University 1984

Ellen E Fitzsimmons-Craft, MS PSYC, PSYD
Instructor in Psychiatry (primary appointment)
MS PSYC University North Carolina 2010
PSYD University North Carolina 2014
BS1 University of Notre Dame 2008

James M Fleckenstein, MD
Associate Professor of Medicine (primary appointment)
MD Saint Louis University 1985
BS Xavier University 1981
Jaquelyn F Fleckenstein, MD Professor of Medicine (primary appointment)
MD Saint Louis University 1985
BA Cornell University 1981

Julian B Fleischman, PhD Assoc Prof Emeritus Of Molecular Microbiology (primary appointment)
BS Yale University 1955
PHD Harvard University 1960

Timothy Peter Fleming Professor of Surgery (General Surgery) (primary appointment)

Edward B Fliesher, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MD Saint Louis University 1978
BA Northwestern University 1974

Julaine Marie Florence, DPT, MS Professor of Neurology (primary appointment)
Professor of Physical Therapy
DPT Washington Univ in St. Louis 2002
MS Washington Univ in St. Louis 1983
BS Washington Univ in St. Louis 1975

Avegail Gascon Flores, MD Assistant Professor of Medicine (primary appointment)
MD University of Pittsburgh 2007

Cynthia Florin, MD Instructor in Clinical Psychiatry (primary appointment)
MD Columbia University 1984
BS Grinnell College 1976

Justin Douglas Floyd, DOST Assistant Professor of Clinical Medicine (primary appointment)
DOST Kirksville College of Osteopat 2000
BS University of Arizona 1996

Gretchen Marie Foltz, MD Assistant Professor of Radiology (primary appointment)
Assistant Professor of Surgery (General Surgery)
MD Medical College of Wisconsin 2007
BS Univ of Wisconsin Milwaukee 2002

Emily Fondahn, MD Assistant Professor of Medicine (primary appointment)
MD Northwestern University 2008

Frank Donald Fontana, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Illinois College of Optometry 1950

Luigi Fontana, MD, PHD Professor of Medicine (primary appointment)
MD University of Verona 1994
PHD University of Padova 2004

Andria L Ford, MD Associate Professor of Neurology (primary appointment)
MD University of Oklahoma 2002
BS Duke University 1998

Shanon Alex Forseter Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Rebecca Hope Foster Instructor in Clinical Pediatrics (primary appointment)

Rosemary Foster, MD Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)
MD Saint Louis University 2013

Kathryn Fowler, MD Assistant Professor of Radiology (primary appointment)
BS University South Carolina 2001
MD Univ of Wisconsin Madison 2005

Glennon Joseph Fox, MD Instructor in Clinical Medicine (primary appointment)
MD University of MO Columbia 1984
Ida K Fox, MD Associate Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
BS Haverford College 1994
MD University of Rochester 1999

Judy Ann Frain, BN, MSN, PHD Adjunct Assistant Professor of Medicine (primary appointment)
BN Webster University 2003
MSN Saint Louis University 2004
PHD University of MO St Louis 2013

Myrto Frangos, MD Instructor in Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1981
MD Saint Louis University 1985

Bennett David Frank, MD, PHD Instructor in Clinical Neurology (primary appointment)
MD Beaufort Technical College 1988
PHD Beaufort Technical College 1987
BA Washington Univ in St. Louis 1982

Bruce S Frank, MD Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BS Mass Inst of Technology (MIT) 1972
MD Washington Univ in St. Louis 1976

Victoria J Fraser, MD Adolphus Busch Professor of Medicine (primary appointment)
Head of the Department of Internal Medicine
BS William Woods College 1978
MD University of MO Columbia 1983

John Lawrence Frater, MD Associate Professor of Pathology and Immunology (primary appointment)
MD Medical College of Ohio 1996
BS University of Notre Dame 1992

Sharon Glave Frazee Adjunct Assistant Professor of Pediatrics (primary appointment)

William A Frazier III Professor of Biochemistry and Molecular Biophysics (primary appointment)
Professor of Cell Biology and Physiology
Professor of Biomedical Engineering
BA Johns Hopkins University 1969

John Murray Fredrickson, MD Prof Emeritus Of Otolaryngology (primary appointment)
MD University of British Columbia 1957

Kenneth E Freedland Professor of Psychiatry (primary appointment)
Professor of Psychological & Brain Sciences
BS University of Oregon 1975

Bradley D. Freeman, MD Professor of Surgery (General Surgery) (primary appointment)
MD Duke University 1988
BS University of Central Florida 1984

James Matthew Freer, MD Assistant Professor of Medicine (primary appointment)
BS Truman State University 1998
MD University of MO Columbia 2002

Daved H Fremont, PHD Professor of Pathology and Immunology (primary appointment)
Professor of Biochemistry and Molecular Biophysics
BS Univ of Wisconsin Madison 1986
PHD University of CA San Diego 1993

Anthony Raymond French, PHD Associate Professor of Pediatrics (primary appointment)
Associate Professor of Pathology and Immunology
Associate Professor of Biomedical Engineering
PHD University of Illinois 1995

**Deborah Frenchie, MD**
Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1993
BA Washington Univ in St. Louis 1984

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Professor of Biochemistry and Molecular Biophysics (primary appointment)
BA Carleton College 1951
PHD Univ of Wisconsin Madison 1955

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Assistant Professor of Anesthesiology (primary appointment)
BS University of Kansas 1981
MD University of Kansas 1985

**Michael V Friedman**
Assistant Professor of Radiology (primary appointment)

**Ernst R Friedrich**
Prof Emeritus Of Ob & Gyn (primary appointment)
UNKNOWN School Not Listed 1951

**Darrin Friesen, MD**
Instructor in Clinical Psychiatry (primary appointment)
MD Washington Univ in St. Louis 1996
BA School Not Listed 1990

**Stuart Howard Friess, MD**
Associate Professor of Pediatrics (primary appointment)
MD Mount Sinai School of Medicine 1999
BS Brown University 1985

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Assistant Professor of Medicine (primary appointment)
MD University of AR Med Sciences 2008

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Assistant Professor of Pediatrics (primary appointment)
MD Medical College of Wisconsin 2001
MS Washington Univ in St. Louis 2008
BS Univ of Wisconsin Milwaukee 1997

**Brian R. Froelke, MD**
Assistant Professor of Emergency Medicine in Medicine (primary appointment)
MD University of Cincinnati 2002
Qiang Fu

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Professor of Neurology (primary appointment)
Adjunct Professor of Psychological & Brain Sciences
BA Washington Univ in St. Louis 1991
MA Washington Univ in St. Louis 1993
PHD Washington Univ in St. Louis 1997

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Assistant Professor of Surgery (General Surgery) (primary appointment)
BS School Not Listed 1994
PHD University of Manchester 2006
Lara A Fuchs
Instructor in Clinical Psychiatry (primary appointment)

**Katherine C Fuh, MD**
Assistant Professor of Obstetrics and Gynecology (primary appointment)
MD Georgetown University 2005

**Brian M Fuller, MD**
Assistant Professor of Emergency Medicine in Medicine (primary appointment)
Assistant Professor of Anesthesiology
Assistant Professor of Anesthesiology
MD University of Alabama 2003
BA University of Alabama 1998

**Michael Paul Fuller, MD**
Associate Professor of Clinical Medicine (primary appointment)
MD University of Utah 1994
BA Brigham Young University 1990
Robert S. Fulton Academic Rank held in Genetics (primary appointment)
Instructor in Genetics
Suzanne Furesz Instructor in Clinical Medicine (primary appointment)
Harrison W. Gabel, PHD, AB Assistant Professor of Neuroscience (primary appointment)
PHD Harvard University 2008
AB Princeton University 2001
H Michael Gach, PHD Associate Professor of Radiation Oncology (primary appointment)
Associate Professor of Radiology
PHD University of Pittsburgh 1998
Gary Gaddis, PHD, MD Professor of Emergency Medicine in Medicine (Pending Executive Faculty Approval) (primary appointment)
PHD Indiana State University 1984
MD Indiana University School of M 1986
Michael S Gaffrey, PHD Assistant Professor of Psychiatry (primary appointment)
PHD Univ of Wisconsin Milwaukee 2009
Brian F Gage, MD Professor of Medicine (primary appointment)
MD University of California 1988
BS Stanford University 1984
Carrie S Gaines, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD University of Missouri 1988
BS University of Missouri 1984
Daniel Gaitan, MD Associate Professor of Clinical Medicine (primary appointment)
BS University of AL Birmingham 1980
MD University of Mississippi 1986
Andrew E Galakatos, MD Professor of Clinical Obstetrics and Gynecology (primary appointment)
BS St Louis College of Pharmacy 1960
MD University of Missouri 1965
Eric A Galburt, PHD Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)
PHD University of Washington 2002
Arthur H Gale, MD Associate Professor of Clinical Medicine (primary appointment)
MD University of Missouri 1959
John P Galgani Jr, MD Associate Professor of Clinical Pediatrics (primary appointment)
MD Saint Louis University 1982
BS Massachusetts College of Phar 1977
Rafael Galindo, PHD Assistant Professor of Neurology (primary appointment)
PHD University of New Mexico 2005
BS University of New Mexico 1996
Gilbert Gallardo, MS, PHD Assistant Professor of Neurology (primary appointment)
MS Univ of Texas San Antonio 2002
BS University of Texas El Paso 1999
PHD University of Texas Southwest 2008
Roberto Galletto, MS, PHD Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)
MS University of Genova 1996
PHD University of Texas Galveston 2002
Maria Virginia Ganninger Instructor in Clinical Pediatrics (primary appointment)
Lawrence A Gans, MD Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Columbia University 1972
MD Case Western Reserve Univ 1977
Feng Gao, PHD Associate Professor of Surgery (Public Health Science) (primary appointment)
Associate Professor of Biostatistics
Associate Professor of Medicine
PHD Emory University 2003
Charles M Gaona, MA
MA Air Force Institute Tech 2005
BA University of Colorado Boulder 1994
Joel Richard Garbow, PHD Professor of Radiology (primary appointment)
PHD University of CA Berkeley 1983
Jane M. Garbutt, MHS, MBCHB Professor of Medicine (primary appointment)
Professor of Pediatrics
MHS University of Toronto 1988
MBCHB Bristol University 1977
John A Garcia, MD Instructor in Clinical Medicine (primary appointment)
BA Carleton College 1985
MD University of Illinois 1990
Jose L Garcia, MS Assistant Professor of Radiation Oncology (primary appointment)
MS Finch Univ of Health Sciences 1997
BS University of Puerto Rico 1995
Tessa D Gardner, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MD Harvard University 1972
BS Mass Inst of Technology (MIT) 1968
Nick S. Garg Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)
Marcie Epstein Garland, MD Assistant Professor of Psychiatry (primary appointment)
MD University of MO Kansas City 2008
BA University of MO Kansas City 2008
Stephen M Garnett, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Indiana University Bloomington 1980
BS Indiana University Bloomington 1978
Heather Vallhonrat Garrett Assistant Professor of Radiology (primary appointment)
BA University of Virginia 1996
Jacquelyn B Garrett, MD Instructor in Clinical Medicine (Dermatology) (primary appointment)
MD Howard University 1985
BS Howard University 1983
Caryn Garriga Assistant Professor of Clinical Pediatrics (primary appointment)
Francisco J Garriga, MD Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1970
BS University of Puerto Rico 1966
Charles F Garvin Instructor in Clinical Radiology (primary appointment)
BA University of MO Columbia 1980
Sarah Kathryn Garwood, MD Assistant Professor of Pediatrics (primary appointment)
Karen J Garz\textit{ia} \textbf{Instructor in Clinical Pediatrics} (primary appointment)
Dawn Lee Garzon \textbf{Adjunct Instructor in Psychiatry} (primary appointment)
Fred W Gaskin \textbf{Associate Professor of Clinical Psychiatry} (primary appointment)
BS University of Minnesota 1964
Felicitas Z Gatachalian, MD \textbf{Instructor in Clinical Medicine} (primary appointment)
MD University of Santo Tomas 1976
BS University of Santo Tomas 1970
Joseph H Gatewood, MD \textbf{Instructor in Emergency Medicine in Medicine} (primary appointment)
MD University of Chicago 1970
BA Swarthmore College 1966
Joseph P. Gaut, PHD, MD \textbf{Assistant Professor of Pathology and Immunology} (primary appointment)
Assistant Professor of Medicine
BA Washington Univ in St. Louis 1996
PHD Washington Univ in St. Louis 2004
MD Washington Univ in St. Louis 2004
Narasimhan Gautam, MS, PHD \textbf{Professor of Anesthesiology} (primary appointment)
Professor of Genetics
MS School Not Listed 1979
BS School Not Listed 1977
PHD University of Bombay 1985
Karen Marie Gauvain, MD \textbf{Assistant Professor of Pediatrics} (primary appointment)
BS University of MO St Louis 1989
MD Saint Louis University 1998
Hiram Alberto Gay, MD \textbf{Associate Professor of Radiation Oncology} (primary appointment)
BS University of Puerto Rico 1996
MD University of Puerto Rico 2000
William A Gay \textbf{Prof Emeritus of Surgery (Cardio Surg)} (primary appointment)
William D Gay, LLB, DDENT \textbf{Assoc Prof Emeritus of Otolaryngology} (primary appointment)
LLB La Salle University 1973
DDENT University of Tennessee 1966
Avihu Gazit, MD \textbf{Associate Professor of Pediatrics} (primary appointment)
MD Technion - Israel Inst. of Tec 1997
William M Gee, MD \textbf{Instructor in Clinical Medicine} (primary appointment)
MD Washington Univ in St. Louis 1981
BA Cornell College 1977
Stefanie Geisler, MD \textbf{Instructor in Neurology} (primary appointment)
MD Humboldt University 2001
Richard A Geisman, MD \textbf{Instructor in Clinical Medicine} (primary appointment)
MD Tulane University 1983
BS Saint Louis University 1979
Richard H Gelberman, MD \textbf{Professor of Orthopaedic Surgery} (primary appointment)
BA University of North Carolina 1965
MD University of Tennessee 1969
Barbara Geller, MD \textbf{Prof Emeritus of Psychiatry (Child Psychiatry)} (primary appointment)
BA Barnard College 1960
MD Albert Einstein College of Med 1964
Elliot Field Gellman, MD Professor of Clinical Pediatrics (primary appointment)
MD University of MO Columbia 1961
BA Iowa State University 1957
Andrew E. Gelman, PhD Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Professor of Pathology and Immunology
PHD University of Pennsylvania 2006
BS University of CA Los Angeles 1996
Edward M Geltman, MD Professor of Medicine (primary appointment)
Assistant Professor of Radiology
BS Mass Inst of Technology (MIT) 1967
MD New York University 1971
Ige A George, MBBS Instructor in Medicine (primary appointment)
MBBS Christian Medical College 1998
Preeta George Instructor in Anesthesiology (primary appointment)
Patrick J Geraghty, MD Professor of Surgery (General Surgery) (primary appointment)
BS Northwestern University 1989
MD Northwestern University 1991
Robert W Gereau, PhD Dr Seymour and Rose T Brown Professor of Anesthesiology (primary appointment)
Professor of Neuroscience
PHD Emory University 1995
BS Southwest Misouri St Universi 1991
Chiara G.I. Ghetti, MD Associate Professor of Obstetrics and Gynecology (primary appointment)
MD Indiana University Indianapolis 1997
Armin Ghobadi, MD Assistant Professor of Medicine (primary appointment)
MD Iran Univ of Medical Sciences 2001
N. Rex Ghormley Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
Nupur Ghoshal, PhD, MD Assistant Professor of Neurology (primary appointment)
BA Iowa State University 1995
PHD Northwestern University Med 2001
MD Northwestern University Med 2003
Joseph Giardina, MD Instructor in Radiology (primary appointment)
BA Williams College 2004
MD New York Medical College 2010
Erin A Gibbons Assistant Professor of Anesthesiology (primary appointment)
Matthew John Gibfried, MD Instructor in Clinical Medicine (primary appointment)
MD University of MO Columbia 2003
Stephen James Giddings, MD, PhD Associate Professor of Medicine (primary appointment)
MD University of Rochester 1976
PHD Dartmouth College 1973
BA Dartmouth College 1968
David S Gierada Professor of Radiology (primary appointment)
BS Davenport University 1983
Ralph V Gieselman, MD Prof Emeritus Of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1947
Nicole Marie Gilbert Instructor in Obstetrics and Gynecology (primary appointment)
Susan Gilfillan, PhD Assistant Professor of Pathology and Immunology (primary appointment)
William Ewald Gillanders, MD, MS Professor of Surgery (General Surgery) (primary appointment)
Vice Chair for Research, Department of Surgery
MD Duke University 1991
BA Williams College 1987
MS1 Medical University of South Carolina 2006
Jason R Gillihan, MD Assistant Professor of Anesthesiology (primary appointment)
MD Southern Illinois University 2006
Yehuda Ginosar, MD Professor of Anesthesiology (primary appointment)
MD University of London 1986
Thomas J Girard, PhD Assistant Professor of Medicine (primary appointment)
BS University of Wisconsin Oshkosh 1979
PhD Iowa State University 1985
Margo Renee Girardi, MD Assistant Professor of Medicine (primary appointment)
MD Saint Louis University 2005
BS University of Illinois 2001
Gardar T Gislason Adjunct Instructor in Medicine (primary appointment)
Luis Giuffra, MS, PhD Professor of Clinical Psychiatry (primary appointment)
MS School Not Listed 1985
PhD Yale University 1991
BS School Not Listed 1983
Josephine Lee Aguhob Glaser Instructor in Clinical Medicine (primary appointment)
Paul E Glaser, PhD, MD Professor of Psychiatry (Child Psychiatry) (primary appointment)
PhD Washington University in St. Louis 1996
MD Washington University in St. Louis 1996
MS1 University of Illinois Chicago 1986
BS1 University of Illinois Chicago 1986
Sean C. Glasgow, MD Assistant Professor of Surgery (General Surgery) (Pending Executive Faculty Approval) (primary appointment)
BS Duke University 1995
MD Duke University 1999
Harvey S Glazer Professor of Radiology (primary appointment)
BA Washington University in St. Louis 1971
John F Gleeson Jr Instructor in Pediatrics (primary appointment)
Marye J Gleva, MD Professor of Medicine (primary appointment)
MD University of Washington 1988
BA Wellesley College 1984
Katherine LuBell Glover-Collins Assistant Professor of Surgery (General Surgery) (Pending Executive Faculty Approval) (primary appointment)
Anne L Glowinski, MS, MD Professor of Psychiatry (Child Psychiatry) (primary appointment)
BS University of Houston 1988
MS Washington University in St. Louis 2001
MD Baylor University 1992
Thomas James Goblirsch, MD Assistant Professor of Anesthesiology (primary appointment)
MD Loyola University Chicago 1985
BS University of Notre Dame 1980
Sreekrishna M Goddu, MS, PHD Associate Professor of Radiation Oncology (primary appointment)
BS Andhra University
MS Andhra University
PHD Andhra University 1991
Joel Goebel, MD Professor of Otolaryngology (primary appointment)
Vice Chairman of Otolaryngology
MD Washington Univ in St. Louis 1980
BS University of Notre Dame 1976
Simon P Goedegebuure, PHD, MA Associate Professor of Surgery (General Surgery) (primary appointment)
PHD Erasmus University Rotterdam 1989
MA School Not Listed 1985
BS School Not Listed 1982
George W Gokel, PHD Adjunct Professor of Molecular Biology and Pharmacology (primary appointment)
PHD University of Southern Calif 1971
Andrew S Gold, MD Instructor in Clinical Medicine (primary appointment)
MD University of Iowa 1989
BS University of Illinois 1985
Mark Gold, MD Adjunct Professor of Psychiatry (primary appointment)
MD University of Florida 1975
Anne Carol Goldberg, MD Professor of Medicine (primary appointment)
BA Harvard University 1973
MD University of Maryland 1977
Daniel E Goldberg, MD David M and Paula L Kipnis Distinguished Professor (primary appointment)
Professor of Molecular Microbiology
MD Washington Univ in St. Louis 1985
Gregory I Goldberg, PHD Professor of Medicine (Dermatology) (primary appointment)
Professor of Biochemistry and Molecular Biophysics
PHD Weizmann Institute of Science 1977
Richard I Goldberg, DDENT Instructor in Clinical Otolaryngology (DMD) (primary appointment)
DDENT Washington Univ in St. Louis 1988
BA Washington Univ in St. Louis 1981
Seth Goldberg, MD Assistant Professor of Medicine (primary appointment)
BS University of South Florida 1999
MD University of South Florida 2003
Judith P Golden, PHD Assistant Professor of Anesthesiology (primary appointment)
PHD Saint Louis University 1994
BS Hofstra University 1984
Barry Steven Goldenberg, DDENT, MS Instructor in Clinical Otolaryngology (DMD) (primary appointment)
BA Fairleigh Dickinson University 1975
DDENT Washington Univ in St. Louis 1982
MS University of Missouri 1987
Joseph K Goldberg, MD Associate Professor of Clinical Pediatrics (primary appointment)
MD University of MO Kansas City 1980
Charles A Goldfarb, MD Professor of Orthopaedic Surgery (primary appointment)
BA Williams College 1992
MD University of Alabama 1996
Gordon Goldman, MD Instructo in Clinical Obstetrics and Gynecology (primary appointment)
BS University of Toledo 1962
MD Saint Louis University 1966
David Goldmeier, MD Instructor in Clinical Psychiatry (primary appointment)
BA Dartmouth College 1978
MD Washington Univ in St. Louis 1982
James M Goldring, MD, PHD Instructor in Clinical Neurology (primary appointment)
MD Washington Univ in St. Louis 1986
PHD Washington Univ in St. Louis 1977
Matthew I Goldsmith, MD, MS Associate Professor of Pediatrics (primary appointment)
Assistant Professor of Genetics
BS University of Toronto 1987
MD University of Toronto 1995
MS University of Toronto 1990
Scott Ryan Goldsmith Instructor in Medicine (primary appointment)
Benjamin M Goldstein, MD Associate Professor of Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1960
MD Washington Univ in St. Louis 1964
Paul T Golumbek, MD, PHD Assistant Professor of Neurology (primary appointment)
Assistant Professor of Pediatrics
MD Johns Hopkns University Medic 1995
BA University of Maryland 1984
PHD Johns Hopkins University 1995
Yong-feng Gong, MS, PHD Instructor in Medicine (primary appointment)
MS China Medical University 2005
PHD Zhejiang Medical University 2009
Debra Ann Gonzalez, MD Assistant Professor of Otolaryngology (primary appointment)
MD Cornell University 1987
BS Wellesley College 1982
Maria Cristina Gonzalez-Mayda, MD Assistant Professor of Medicine (primary appointment)
MD University of Puerto Rico 2008
BS University of Puerto Rico 2004
Vivian Maria Gonzalez-Perez, PHD Instructor in Anesthesiology (primary appointment)
PHD University of Valparaiso 2009
Misty Lynn Good, MD Assistant Professor of Pediatrics (Pending Executive Faculty Approval)
(primary appointment)
MD American U of Carribean SchMed 2005
Daniel M Goodenberger Professor of Medicine (primary appointment)
Gary M Goodman Assistant Professor of Clinical Pediatrics (primary appointment)
Melody Serene Goodman, MS, PHD Assistant Professor of Surgery (Public Health Sciences)
(primary appointment)
BS State Univ of NY Stonybrook 1999
MS Harvard University 2003
PHD Harvard University 2006
Brian A Gordon, MS PSYC, PHD Instructor in Radiology (primary appointment)
MS PSYC University of Illinois 2006
J. Eric Gordon, MD  Professor of Orthopaedic Surgery (primary appointment)
MD University of CA Davis 1988

James M Gordon, MD  Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MD University of Minnesota 1966
BA University of Minnesota 1962

Jeffrey I Gordon, MD  Professor of Pathology and Immunology (primary appointment)

Dr Robert J Glaser Distinguished University Professor
Director of the Center for Genome Sciences

Professor of Medicine
Professor of Developmental Biology
BA Oberlin College 1969
MD University of Chicago 1973

Mae Etsuko Gordon, MS, PhD  Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Biostatistics
MS Univ of Wisconsin Madison 1970
PHD Univ of Wisconsin Madison 1979
BA Portland St University 1967

Mary Jo Gorman, MBA  Instructor in Clinical Medicine (primary appointment)
MBA Washington Univ in St. Louis 1996
BA Saint Louis University 1981

Jaya Goswami, MA, MD  Instructor in Pediatrics (primary appointment)
MA State University of New York 2008
BS Calcutta University 2004
MD SUNY DOWNSTATE MED BROOKLYN 2012

David I Gottlieb, PHD, MA  Prof Emeritus of Neurobiology (primary appointment)
PHD Washington Univ in St. Louis 1971
MA Univ of Wisconsin Madison 1969
BA Harpur College 1964

James Dean Gould, MD  Instructor in Clinical Otolaryngology (primary appointment)
BA University of Virginia 1989
MD University of Virginia 1993

Jennifer E Gould, MD  Associate Professor of Radiology (primary appointment)
BA Cornell University 1993
MD Washington Univ in St. Louis 1997

Ramaswamy Govindan, MD  Professor of Medicine (primary appointment)
MD University of Madras 1986

Siddhesh Gowda  Associate Professor of Clinical Medicine (primary appointment)

Bella Goyal  Instructor in Pathology and Immunology (Pending Dean's Approval) (primary appointment)

Manu Shri Goyal, MD, MS  Assistant Professor of Radiology (primary appointment)
MD University of Chicago 2005
MS Oxford University 2001
BS University of Illinois Chicago 2000

Ronald M Grady, MD, MA  Associate Professor of Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1989
BA Princeton University 1984
MA Washington Univ in St. Louis 1989

**Thomas J Graetz, MD** Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
MD Saint Louis University 2005

**Barry A Graff, MD** Assistant Professor of Anesthesiology (primary appointment)
BA Macmurray College 1973
MD Saint Louis University 1976

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MD Saint Louis University 1996
BA Washington Univ in St. Louis 1991

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MD Universidad Nacional de Columbia 2015

**Mark Gilbert Grand, MD** Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BS Tufts University 1964
MD Yale University 1968

**Dorothy K. Grange** Professor of Pediatrics (primary appointment)
BA Mount Holyoke College 1976

**Gregory Alan Grant, PHD** Professor of Biochemistry in Medicine (Dermatology) (primary appointment)
PhD Univ of Wisconsin Madison 1975
BS Iowa State University 1971

**Julia D. Grant, PHD, MA** Associate Professor of Psychiatry (primary appointment)
PhD Pennsylvania State University 1997
BA Davidson College 1989
MA Wake Forest University 1993

Michael Anne Gratton Professor of Otolaryngology (Pending Executive Faculty Approval) (primary appointment)

**Diana Lee Gray** Professor of Obstetrics and Gynecology (primary appointment)
Professor of Radiology
Associate Dean for Faculty Affairs
Professor of Engineering
BS University of Illinois 1977

**Margaret Rosanna Gray-Swain, MD** Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Washington Univ in St. Louis 2002

**Jonathan M Green, MD** Professor of Medicine (primary appointment)
Associate Dean for Human Studies
Professor of Pathology and Immunology
BS University of Michigan 1982
MD Wayne State University 1986

**Kenneth O Green, MD** Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MD University of Missouri 1960

**Olga Leonidovna Green, MS** Assistant Professor of Radiation Oncology (primary appointment)
Ted Allen Green, MD
MD University of Illinois 1994
Michael Jonathan Greenberg Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)
Deanna Greene, PHD, MS Assistant Professor of Psychiatry (primary appointment)
Assistant Professor of Radiology
PHD University of CA Los Angeles 2010
BA University of CA San Diego 2003
MS University of CA Los Angeles 2006
Aaron Greenspan Instructor in Clinical Medicine (primary appointment)
Mark H Gregory, MD Assistant Professor of Clinical Medicine (primary appointment)
MD University of Vermont 1986
Kevin William Greuloch, MD Instructor in Ophthalmology and Visual Sciences (primary appointment)
MD University of Michigan 1999
BS University of Notre Dame 1995
Valerie Janet Gribben Instructor in Pediatrics (primary appointment)
BA University of AL Birmingham 2008
Walter Blake Gribben, MD Instructor in Medicine (primary appointment)
MD University of Alabama 2010
Richard T Griffey Jr, MD Associate Professor of Emergency Medicine in Medicine (primary appointment)
MD Norfolk General Hospital 1977
Nicholas Wayne Griffin, PHD Instructor in Pathology and Immunology (primary appointment)
PHD Washington Univ in St. Louis 2010
Malachi Griffith, PHD Academic Rank held in Genetics (primary appointment)
Assistant Professor of Genetics
PHD University of British Columbia 2010
BS University of Winnipeg 2002
BS1 University of Winnipeg 2002
Obi Lee Griffith, PHD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Genetics
PHD British Columbia Open Univ 2008
Perry W Grigsby, MD Professor of Radiation Oncology (primary appointment)
Professor of Radiology
Professor of Obstetrics and Gynecology
BS University of Kentucky 1974
MD University of Kentucky 1982
Russell J.I. Groener, MBCHB Associate Professor of Anesthesiology (primary appointment)
MBCHB University of Cape Town 1983
Scott D. Groesch, MD Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1994
Georgeann Keh-Teng Groh, MD Instructor in Pediatrics (primary appointment)
BS Rice University 2001
MD Baylor College of Medicine 2006
Jesse Brookshire Groh, MD Instructor in Clinical Pediatrics (primary appointment)
John R Groll, MD: Instructor in Clinical Medicine (primary appointment)

Steven J Grondalski, OD: Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)

Ann Marie Gronowski, PhD: Professor of Pathology and Immunology (primary appointment)

Robert John Gropler, MD: Professor of Radiology (primary appointment)

Richard Warren Gross, PhD, AB, MD: Professor of Developmental Biology

Brenda Jean Grossman, MS, MD: Professor of Pathology and Immunology (primary appointment)

Jessica Rosenbaum Grubb, MD: Assistant Professor of Medicine (primary appointment)

Robert Lee Grubb III, MD: Associate Professor of Surgery (Urologic Surgery) (primary appointment)

Robert L Grubb Jr, MD: Professor of Neurological Surgery (primary appointment)

Richard Grucza, MS, PhD: Associate Professor of Psychiatry (primary appointment)

Royal Gene Grueneich, PhD: Assistant Professor of Clinical Neurology (primary appointment)

Brian Anthony Grus, MD: Instructor in Clinical Medicine (primary appointment)
Chi Gu, PHD
Associate Professor of Biostatistics (primary appointment)
Associate Professor of Genetics
BS Nanjing Medical University 1982
PHD Washington Univ in St. Louis 1992

Yuxing Gu, PHD
Assistant Professor of Radiation Oncology (primary appointment)
PHD University of MO St Louis 2014

Anthony Herbert Guarino, MA, MD
Associate Professor of Anesthesiology (primary appointment)
MA Yale University 1988
MD University of Maryland 1992
BA Yale University 1986

Rejean Michael Guerriero, MD
Assistant Professor of Neurology (primary appointment)
BS Bates College 2001
MD University of New England 2009

Ryan C Guffey, MD
Assistant Professor of Anesthesiology (primary appointment)
MD Wayne State University 2007

Farshid Guilak, MS, MPH
Professor of Orthopaedic Surgery (primary appointment)
Professor of Development Biology
Professor of Biomedical Engineering
MS Rensselaer Poly Institute 1987
MPH Columbia University 1990
BS Rensselaer Poly Institute 1985

Kristin Guilliams, MD
Assistant Professor of Neurology (primary appointment)
Assistant Professor of Pediatrics
MD University of Virginia 2006
BS Furman University 2002

Guner B Gulmen, PHD
Assistant Professor of Clinical Medicine (primary appointment)
PHD University of Minnesota 1974

Vyjanthanath R. Gunasingham, MD
Instructor in Clinical Medicine (primary appointment)
MD School Not Listed 1982
BS School Not Listed 1975

Subhadra C Gunawardana, PHD
Associate Professor of Cell Biology and Physiology (primary appointment)
PHD Cornell University 2002

Mark Cobb Gunby, DOCT
Assistant Professor of Clinical Medicine (primary appointment)
BS University of Tulsa 1981
DOST Oklahoma St University 1988

Joseph Donald Gunn, MD
Associate Professor of Pediatrics (primary appointment)
MD University of Virginia 1989

Jun Guo, PHD, MS
Assistant Professor of Surgery (Pediatric Surgery) (primary appointment)
PHD Shanghai Medical University 2000
MS Dalian Medical University 1997

Jitendra K Gupta, MS
Instr Emeritus In Clinical Medicine (primary appointment)
MS School Not Listed 1963
UNKNOWN School Not Listed 1963

Munish C Gupta, MD
Mildred B. Simon Distinguished Professor of Orthopaedic Surgery (primary appointment)
BS Northwestern University 1982
MD Northwestern University Med 1986
Punita Gupta, MPH, MD
Instructor in Radiology (primary appointment)
MPH Saint Louis University 1996
BA Washington Univ in St. Louis 1995
MD University of Illinois 2000

Santosh K Gupta, DC
Associate Professor of Clinical Pediatrics (primary appointment)
UNKNOWN School Not Listed 1963
DC University of London 1966
UNKNOWN1 University of London 1970

Christina A. Gurnett, PHD, MD
Associate Professor of Neurology (primary appointment)
Associate Professor of Orthopaedic Surgery
Assistant Professor of Pediatrics

Maria Gurrieri, MD, DIP
Instructor in Clinical Medicine (primary appointment)
MD Catholic University 1989
DIP School Not Listed 1982

Reena Gurung, MD
Instructor in Medicine (primary appointment)
MD Kathmandu University 2007

Christine Hillery Gustus, MS
Instructor in Otolaryngology (primary appointment)
Instructor in Audiology and Communication Sciences

Alexandra Gutierrez, MD, M PH
Associate Professor of Medicine (primary appointment)
MD Case Western Reserve Univ 2000
M PH Harvard University 2006
BS Brown University 1996

Fernando R Gutierrez
Professor of Radiology (primary appointment)

David H Gutmann
Donald O. Schnuck Family Professor of Neurology (primary appointment)
Professor of Genetics
Professor of Neurological Surgery
Professor of Pediatrics

Steven William Guyton
Associate Professor of Clinical Surgery (Cardiothoracic Surgery) (primary appointment)

Chandra Prakash Gyawali, MBBS, MD
Professor of Medicine (primary appointment)
MBBS University of Calicut 1985
MD University of Calicut 1990

Allah B Haafiz
Adjunct Associate Professor of Pediatrics (primary appointment)

Ramsey R Hachem, MD
Professor of Medicine (primary appointment)

Tracey C Marshall - Dr. Elbert P Trulock Distinguished Professor of Medicine
MD1 University of Texas Southwest 1997
MD University of Texas Southwest 1997
BA1 Southern Methodist University 1992
BA Southern Methodist University 1992

Brian P Hackett, PHD, MD
Professor of Pediatrics (primary appointment)
BA Middlebury College 1975
PHD Boston College 1984
MD Saint Louis University 1986

Matthew D Hageman
Instructor in Clinical Medicine (primary appointment)
Andrea Ruth Hagemann, MD  
Assistant Professor of Obstetrics and Gynecology  
MD Washington Univ in St. Louis 2004  
BA Princeton University 2000  

Ian Sean Hagemann, PHD, MD  
Assistant Professor of Pathology and Immunology  
MD Washington Univ in St. Louis 2008  
BA Princeton University 2000  

Jennifer Christine Hagopian  
Adjunct Instructor in Medicine  
BA Princeton University 2000  

Ashfaq H Hakim, MD, MBBS  
Instructor in Clinical Medicine  
MD RNT Medical College 1973  
MBBS RNT Medical College 1968  

Carmen Marie Halabi, PHD, MD  
Instructor in Pediatrics  
BS University of Iowa 2001  
PHD University of Iowa 2009  
MD University of Iowa 2009  

Ilia Gueorguev Halatchev, MD  
Assistant Professor of Medicine  
MD Oregon Health Science Univ 2007  

Sarah Eliza Halcomb, MD  
Assistant Professor of Emergency Medicine in Medicine  
MD Royal College of Surgeons 2000  

Angela Marie Hall, PHD  
Assistant Professor of Medicine  
PHD Univ of Minnesota Twin Cities 2005  
BS University of MO Columbia 1999  

Bruce Lee Hall, MD  
Professor of Surgery (General Surgery)  
Professor of Health Care Management (Olin School of Business)  
Fellow in the Center for Health Policy  
BA Princeton University 1984  
MD Duke University 1992  

Ira McCarthy Hall, PHD  
Associate Professor of Medicine  
Associate Professor of Genetics  
Associate Director of the Genome Center  
BS University of CA Berkeley 1998  
PHD Cold Spring Harbor Laboratory 2003  

Kathleen Hall, PHD  
Professor of Biochemistry and Molecular Biophysics  
BS University of Minnesota 1974  
PHD University of CA Berkeley 1985  

Lannis Hall, MD  
Assistant Professor of Clinical Radiation Oncology  
MD Howard University 1992  
BA University of Michigan 1988  

Laura Evelyn Hall, MD  
Instructor in Pediatrics  
MD University of Toledo 2010  
BS Allegheny College 2005  

Dennis E Hallahan, MD  
Professor of Radiation Oncology  
Professor of Cell Biology and Physiology  
Professor of Pathology and Immunology
Elizabeth H and James S McDonnell III Distinguished Professor of Medicine
Head of the Department of Radiation Oncology
Professor of Molecular Microbiology
MD Rush University 1984
BS University of Illinois 1980

Mark E. Halstead, MD
Associate Professor of Orthopaedic Surgery (primary appointment)
Associate Professor of Pediatrics
BS Univ of Wisconsin Madison 1994
MD Univ of Wisconsin Madison 1998

Yasir A Hamad
Instructor in Medicine (primary appointment)

Duncan Lee Hamilton, MD
Instructor in Anesthesiology (primary appointment)
MD University of Nottingham 1992

Kim P Hamlin, MD
Assistant Professor of Pediatrics (primary appointment)
MD University of MO St Louis 2001
BS University of MO St Louis 1997

Stephanie M Hammer, MD
Instructor in Clinical Medicine (primary appointment)
MD Chicago St University 1995

Roman E Hammes, MD
Instructor in Clinical Pediatrics (primary appointment)
MD University of Iowa 1954
BA University of Iowa 1950

Melanie G Hampton, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
BS Georgetown College 1976
MD University of Louisville 1981

Dong Hyun Han
Visiting Instructor in Psychiatry (primary appointment)

Edward B. Han, PhD
Assistant Professor of Neuroscience (primary appointment)

Assistant Professor of Anesthesiology
PHD University of CA San Diego 2004
BS Cornell University 1995

Martha B. Han, PhD
Assistant Professor of Neuroscience (primary appointment)
BS Yale University 2000
PHD University of CA San Diego 2008

Se Young Han
Instructor in Medicine (primary appointment)

Joseph Hanaway, MD
Assistant Professor of Clinical Neurology (primary appointment)
BA McGill University 1956
MD McGill University 1960

Elinor F Hancock, MD
Instructor in Clinical Pediatrics (primary appointment)
MD Meharry Med College 1982
BA Fisk University 1975

Scott A Handley, PhD
Assistant Professor of Pathology and Immunology (primary appointment)
PHD Washington Univ in St. Louis 2006
BS Southwest Misouri St Universi 1998

Thomas Joseph Hannan, DVM
Instructor in Pathology and Immunology (primary appointment)
BA Georgetown University 1989
BA1 Georgetown University 1989
DVM Tufts University 1995

Ted H Hansen, MS, PhD
Prof Emeritus of Pathology & Immunol (primary appointment)
BS Michigan State University 1970
MS University of Michigan 1972
PHD University of Michigan 1975
**Jason M. Hanson, MD** Instructor in Clinical Otolaryngology (primary appointment)
MD Northwestern University 1992
**Phyllis I Hanson, PHD** Professor of Cell Biology and Physiology (primary appointment)
Gerty T Cori Professor
PHD Stanford University 1993
BA Yale University 1985
**Robin D Hanson** Instructor in Clinical Pediatrics (primary appointment)
BA Johns Hopkins University 1985
Suzanne M Hanson Assistant Professor of Clinical Pediatrics (primary appointment)
**Charles B Hantler, MA, MD** Professor of Anesthesiology (primary appointment)
MA Davenport University 1973
MD Davenport University 1977
BS Davenport University 1971
**Hoosna Haque, MD** Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS University of Texas Arlington 1992
MD Beaufort Technical College 1996
Zahirul Haque Instructor in Clinical Medicine (primary appointment)
**Oscar Marcos Harari, PHD, MA** Assistant Professor of Psychiatry (Pending Executive Faculty Approval) (primary appointment)
PHD University of Granada 2009
BA Universidad del Buenos Aires 1997
MA Universidad del Buenos Aires 1999
**Melissa A. Harbit, MD** Associate Professor of Psychiatry (primary appointment)
MD University of Iowa 1997
BS University of Iowa 1993
**William B Hardin Jr, MD** Asst Prof Emeritus Of Clinical Neurology (primary appointment)
BA Rice University 1953
BA1 Rice University 1953
MD University of Texas Austin 1957
David A. Hardy Instructor in Surgery (Urologic Surgery) (primary appointment)
Lisa Adel Harker Instructor in Clinical Neurology (primary appointment)
**Archie B Harmon Jr, MA, PHD** Instructor in Otolaryngology (primary appointment)
MA University of Central Florida 2006
BA University of Florida 2002
PHD Florida State University 2010
Michael P. Harms Assistant Professor of Psychiatry (primary appointment)
**George J Harocopos, MD** Associate Professor of Ophthalmology and Visual Sciences (primary appointment)
Assistant Professor of Pathology and Immunology
MD University of Virginia 2000
BA Harvard University 1995
**Simon Haroutounian, PHD, MA** Assistant Professor of Anesthesiology (primary appointment)
PHD Hebrew University 2011
MA Hebrew University 2005
**Alexander D Harris, OD, MA** Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BA University of Evansville 1969
OD University of Missouri 1986
MA Washington Univ in St. Louis 1972
Charles A. Harris 
  Assistant Professor of Medicine (primary appointment)
  Assistant Professor of Developmental Biology
Charles R Harris 
  Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
UNKNOWN University of Missouri 1971
BS University of Missouri 1970
Dehra Anne Harris, MD 
  Assistant Professor of Psychiatry (Child Psychiatry) (primary appointment)
MD University of Arkansas 2000
BS Washington Univ in St. Louis 1996
Lydia-Ann Lynell Harris, PhD 
  Instructor in Medicine (primary appointment)
PHD State University of New York 2011
Michael Dennison Harris 
  Assistant Professor of Physical Therapy (primary appointment)
BS University of Utah 2007
Michael Raymond Harris, MS 
  Professor of Pediatrics (primary appointment)
MS Saint Louis University 1976
Elizabeth Avis Harrison, MD 
  Instructor in Clinical Pediatrics (primary appointment)
BA Vanderbilt University 2002
MD Washington Univ in St. Louis 2006
Thomas J. Harrison Jr, MD 
  Instructor in Clinical Pediatrics (primary appointment)
BA Saint Louis University 1970
MD University of Missouri 1979
Kathryn Ming Hart 
  Instructor in Biochemistry and Molecular Biophysics (primary appointment)
William M Hart Jr, PhD, MD 
  Prof Emeritus of Ophthalmol & Vis Sci (primary appointment)
PHD University of Maryland 1970
MD University of Maryland 1970
BA Dartmouth College 1963
William Hart 
  Instructor in Clinical Otolaryngology (primary appointment)
David E Hartenbach 
  Associate Professor of Clinical Pediatrics (primary appointment)
BA Saint Louis University 1983
Laura Hartman
Mary E Hartman, M PH, MD 
  Assistant Professor of Pediatrics (primary appointment)
M PH University of Pittsburgh 2006
BA Mount Holyoke College 1994
MD University of Rochester 1999
Richard Alan Hartman, MD 
  Associate Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD University of Missouri 1978
Thomas D Hartnett, MD 
  Asst Prof Emeritus of Clinical Psychiatry (primary appointment)
BS Loyola University 1955
MD University of Ottawa 1959
Jack Hartstein, MD 
  Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA University of Missouri 1953
MD University of Cincinnati 1955
John Edward Hartweg 
  Instructor in Clinical Pediatrics (primary appointment)
Sarah McConnell Hartz, MD, PhD 
  Assistant Professor of Psychiatry (primary appointment)
Alan A Harvey, Assistant Professor of Clinical Otolaryngology (primary appointment)

Steven Arthur Harvey, MD, Instructor in Clinical Psychiatry (primary appointment)

James Larry Harwell, MD, Assistant Professor of Clinical Pediatrics (primary appointment)

Jeffrey A Haspel, Assistant Professor of Medicine (primary appointment)

Anisa Hassan, MD, Instructor in Clinical Medicine (primary appointment)

Anjum Hassan, MD, Associate Professor of Pathology and Immunology (primary appointment)

Jason J Hassenstab, PHD, MS, Assistant Professor of Neurology (primary appointment)

Mary Kent Hastings, MS, DPT, Associate Professor of Physical Therapy (primary appointment)

J Michael Hatlelid, MD, Associate Professor of Clinical Neurology (primary appointment)

Sherrie M Hauft, MD, Professor of Pediatrics (primary appointment)

Jay Fredrick Hauser, DDENT, Instructor in Clinical Otolaryngology (primary appointment)

James J Havranek, PHD, Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)

William G. Hawkins, MD, Professor of Surgery (General Surgery) (primary appointment)

Robert J Hayashi, MD, Professor of Pediatrics (primary appointment)
Michael E Hayek, MS, MD
Instructor in Clinical Surgery (General Surgery) (primary appointment)
BA Saint Louis University 1976
MS Saint Louis University 1978
MD University of Missouri 1982

Ericka V. Hayes, MD
Associate Professor of Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1998
BS Washington Univ in St. Louis 1994

Heather Hayes, M Ed, PhD
Associate Professor of Otolaryngology (primary appointment)
Associate Professor of Audiology and Communication Sciences
Director of Deaf Education Studies in Audiology and Communication Sciences
M Ed Smith College 2005
BA Emory University 1995
PHD Washington Univ in St. Louis 2009

Marcie Harris Hayes, MS, DPT
Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
BS Southwest Misouri St Universi 1994
MS Northwestern University 1996
DPT Washington Univ in St. Louis 2003

Damon Joseph Louis Hays, MD
Instructor in Clinical Orthopaedic Surgery (primary appointment)
BS Truman State University 1998
MD Ohio University 2003

Mai He
Associate Professor of Pathology and Immunology (Pending Executive Faculty Approval) (primary appointment)

Richard D Head
Associate Professor of Genetics (primary appointment)
Associate Professor of Pathology and Immunology

Andrew C Heath, PhD
Spencer T. Olin Professor of Psychology in Psychiatry (primary appointment)
Associate Professor of Psychological & Brain Sciences
Professor of Genetics
PHD Oxford University 1983

Krysta Lynn Heath, MD
Instructor in Medicine (primary appointment)
MD University of AR Med Sciences 2011

George Heberton, MD
Instructor in Medicine (primary appointment)
MD Univ of Texas Med Sch Houston 2013

Jay Paul Heiken, MD
Professor of Radiology (primary appointment)
MD Columbia University 1978
BA Williams College 1974

Mark Francis Heiland
Assistant Professor of Clinical Surgery (General Surgery) (primary appointment)

James N Heins, MD
Professor of Clinical Medicine (primary appointment)
Adjunct Professor of Medicine
MD University of Louisville 1961
BA University of Louisville 1957

Laura Elaina Heitsch
Assistant Professor of Emergency Medicine in Medicine (primary appointment)

Assistant Professor of Neurology

Jason M Held, PhD
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Anesthesiology
PHD University of San Francisco 2006
BS Duke University 2001
Daniel Luke Helsten, MD Associate Professor of Anesthesiology (primary appointment)
MD University of Kentucky 2001
BS University of Kentucky 1997
Mohammad Anas Helwani, MD Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
MD Damascus University 1998
Kenneth Edmond Hemba, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Jefferson Medical College 2011
Jeffrey P. Henderson, PHD, MD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Molecular Microbiology
PHD Washington Univ in St. Louis 2002
BS Univ of Wisconsin Madison 1994
MD Washington Univ in St. Louis 2002
Katherine Eileen Henderson Assistant Professor of Clinical Medicine (primary appointment)
BS Univ of Wisconsin Madison 1993
Kristina Louise Henderson, MD Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1991
BA Saint Louis University 1982
Kara E Hennelly, MD Assistant Professor of Pediatrics (primary appointment)
MD UMICCSOM 2015
Nathan Henninger Instructor in Clinical Pediatrics (primary appointment)
William L Herbold, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD School Not Listed 1967
BS School Not Listed 1967
Celeste Eileen Herleth Instructor in Psychiatry (primary appointment)
BA I Loyola University 2005
Daniel Robert Herleth Instructor in Clinical Medicine (primary appointment)
Cheryl R Herman, MD Assistant Professor of Radiology (primary appointment)
MD Meharry Med College 1990
BS Loma Linda University 1986
Catherine Hermann Instructor in Clinical Medicine (primary appointment)
Leonel F. Hernandez Aya, MD Assistant Professor of Medicine (primary appointment)
MD Universidad Nacional de Columb 2007
Mary Jo Hernandez-Zipfel, MD Instructor in Clinical Pediatrics (primary appointment)
BS University of North Carolina 1996
MD University of Florida 2001
Robert E Herold, MD Assistant Professor of Anesthesiology (primary appointment)
BA Wabash College 1970
MD Washington Univ in St. Louis 1974
Pilar Herrero, MS, ME Associate Professor of Radiology (primary appointment)
MS Vanderbilt University 1984
ME Washington Univ in St. Louis 1997
BS Loyola University Chicago 1981
Cynthia Joan Herrick, MD Assistant Professor of Medicine (primary appointment)
Andreas Herrlich, PhD, MD
Associate Professor of Medicine (primary appointment)
PHD Freie University 1998
MD Freie University 1994
Virginia M Herrmann, MD
Professor of Surgery (General Surgery) (primary appointment)
Professor of Medicine
MD Saint Louis University 1974

Tamara G Hershey
Professor of Psychiatry (primary appointment)
Adjunct Professor of Psychological & Brain Sciences (Courtesy)
Professor of Neurology
Professor of Radiology

John C Herweg, MD
Assoc Dean Emeritus (primary appointment)
BS Drury College 1943
MD Washington Univ in St. Louis 1945

Godofredo M Herzog
Assoc Prof Emeritus Of Clinical Ob & Gyn (primary appointment)
BS Louisiana St University 1953
Jacques A Herzog, MD
Assistant Professor of Clinical Otolaryngology (primary appointment)
BA University of Missouri 1980
MD University of MO Kansas City 1980

Albert E Hesker, MD
Assistant Professor of Clinical Radiology (primary appointment)
MD University of MO Columbia 1964

Jennifer Kristen Hester
Instructor in Clinical Medicine (primary appointment)

John E Heuser
Prof Emeritus of Cell Biology/Physiol (primary appointment)
BS Harvard University 1964

Laurel D Hibbs
Instructor in Clinical Obstetrics and Gynecology (primary appointment)

Christina Kim Ahn Hickey, MD
Instructor in Pediatrics (primary appointment)

Scott G Hickman, MD
Professor of Medicine (primary appointment)
BA Duke University 1966
MD Washington Univ in St. Louis 1970

Robert Jerome Hickok
Asst Prof Emeritus of Physical Therapy (primary appointment)

Frederick G Hicks
Assistant Professor of Clinical Psychiatry (primary appointment)

Tunde Hidvegi, MS, PhD
Associate Professor of Pediatrics (primary appointment)
MS Eötvös Loránd University 1980
PHD Eötvös Loránd University 1988

Stuart T. Higano, MD
Instructor in Clinical Medicine (primary appointment)
MD University of Massachusetts 1984

SueLin Ming Hilbert
Assistant Professor of Emergency Medicine in Medicine (primary appointment)

Charles F Hildebolt, MA, PhD
Prof Emeritus of Radiology (primary appointment)
MA Washington Univ in St. Louis 1985
PHD Washington Univ in St. Louis 1987
Laura Hill, MD
Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
MD University of Illinois Chicago 2002
Travis J Hillen
Assistant Professor of Radiology (primary appointment)
Elizabeth Hilliker, MA
Assistant Professor of Emergency Medicine in Medicine (primary appointment)
Assistant Professor of Surgery (General Surgery)
BA Washington Univ in St. Louis 1965
MA Washington Univ in St. Louis 1970
Jennifer M Hinton
Instructor in Clinical Pediatrics (primary appointment)
Paul Flack Hintze, MD
Assistant Professor of Clinical Medicine (primary appointment)
MD University of Utah 1978
BS Brigham Young University 1974
Angela Christine Hirbe, MD, PHD
Assistant Professor of Medicine (primary appointment)
BS Washington Univ in St. Louis 2001
MD Washington Univ in St. Louis 2009
PHD Washington Univ in St. Louis 2009
Keiko Hirose, MD
Associate Professor of Otolaryngology (primary appointment)
Associate Professor of Audiology and Communication Sciences
Associate Professor of Pediatrics
Vice Chairman of Otolaryngology
MD Harvard University 1993
Gary E Hirshberg, MD
Professor Emeritus of Anesthesiology (primary appointment)
BA Princeton University 1968
MD Hahnemann University 1972
Stanley P Hmiel, MD, M PHIL, PHD
Professor of Pediatrics (primary appointment)
MD Case Western Reserve Univ 1989
BS Case Western Reserve Univ 1980
M PHIL Cambridge University 1981
PHD Case Western Reserve Univ 1987
Sandra Jean Hodel
Instructor in Clinical Pediatrics (primary appointment)
Dee Hodge III, MD
Professor of Pediatrics (primary appointment)
BA Occidental College 1974
MD University of CA San Francisco 1978
Didier Hodzic, PHD
Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
Assistant Professor of Cell Biology and Physiology
BS University of Liege 1991
PHD University of Liege 1998
James R Hoekel, OD
Instructor in Ophthalmology and Visual Sciences (primary appointment)
BS University of MO Columbia 1990
OD University of MO St Louis 1994
Grant S. Hoekzema, MD
Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1992
John T Hoff, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS Xavier University 2002
MD Medical College of Wisconsin 2006
J. Langston Hoffman, MD
Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1999
Lawrence M Hoffman, DDENT Instructor in Clinical Otolaryngology (DMD) (primary appointment)
BA Indiana University Bloomington 1972
DDENT Washington Univ in St. Louis 1976
Robert J Hoffman, MD Professor of Clinical Pediatrics (primary appointment)
MD Saint Louis University 1976
BS University of Illinois 1972
Russell G. Hoffmann, PHD Instructor in Clinical Pediatrics (primary appointment)
PHD University of Florida 1995
Sandra S Hoffmann, MD Instructor in Clinical Medicine (primary appointment)
BA University of Kansas 1972
MD University of Kansas 1976
Kathleen M Hogan, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA Westminster College 1985
MD University of Missouri 1989
Robert Edward Hogan III, MD Professor of Neurology (primary appointment)
MD University of MO Columbia 1989
Joshua Wade Hogins Instructor in Clinical Psychiatry (primary appointment)
Nancy Melberg Holekamp, MD Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MD Johns Hopkins University 1989
BA Wellesley College 1985
Nicholas Alan Holekamp, MD Instructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1987
BA Dartmouth College 1982
Nilsson Holguin, MS, PHD Instructor in Orthopaedic Surgery (primary appointment)
MS Stony Brook University 2007
PHD Stony Brook University 2010
Abby Solomon Hollander, MD Associate Professor of Pediatrics (primary appointment)
BA Cornell University 1982
MD University of Cincinnati 1986
Carey Lane Holleran, MS, PHD Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Neurology
MS Duquesne University 2004
BS Duquesne University 2003
PHD University of Indianapolis 2014
John Otto Holloszy, MD Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1957
Robert Franklyn Holloway Jr Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Nancy E Holmes, MD Professor of Clinical Pediatrics (primary appointment)
MD University of Missouri 1976
BA University of Kansas 1972
William F Holmes, PHD Assoc Prof Emeritus Of Biological Chemistry (primary appointment)
PHD University of Pennsylvania 1960
BA Princeton University 1953
Sheldon G Holstad, PHD, PHS Assistant Professor of Clinical Pharmacy in Psychiatry (On Staff at Jewish Hospital and St Louis College of Pharmacy) (primary appointment)
PHD University of Iowa 1986
PHS University of Iowa 1986
BS University of Iowa 1984
Christopher Vincent Holthaus Assistant Professor of Emergency Medicine in Medicine (primary appointment)

Lori Rachel Holtz, MD Assistant Professor of Pediatrics (primary appointment)
MD Ohio State University 2003
Sumner Holtz Associate Professor of Clinical Radiology (primary appointment)

David Michael Holtzman, MD Andrew B. and Gretchen P. Jones Professor of Neurology (primary appointment)
Head of the Department of Neurology

Professor of Developmental Biology
MD Northwestern University 1985
BS Northwestern University 1983
Gregory William Holtzman, MS, DPT Associate Professor of Physical Therapy (primary appointment)

Associate Professor of Orthopaedic Surgery

Associate Director of Clinical Practice in Physical Therapy
BA Emory University 1995
MS Washington Univ in St. Louis 2001
DPT Washington Univ in St. Louis 2007
Michael J Holtzman Selma and Herman Seldin Professor of Medicine (primary appointment)

Professor of Cell Biology and Physiology

Rochelle LeAnn Holtzman, PHD, MS Instructor in Clinical Pediatrics (primary appointment)

PhD University of Kansas 2010
BS Loyola University 2003
MS University of Kansas 2006

Timothy E. Holy, MA, PHD Associate Professor of Neuroscience (primary appointment)

MA Princeton University 1992
BA Rice University 1991
PhD Princeton University 1997

Neal Holzum Instructor in Clinical Medicine (primary appointment)
Hitoshi Honda Adjunct Assistant Professor of Medicine (primary appointment)

Augustine Richard Hong Assistant Professor in Ophthalmology and Visual Sciences (primary appointment)

BA University of Illinois 2004
Barry Allen Hong, MDI Professor of Psychiatry (primary appointment)

Professor of Psychological & Brain Sciences
Vice Chairman for Clinical Affairs, Department of Psychiatry

Professor of Medicine
BA Concordia University 1969
MDI Concordia University 1972

Bruce Jay Hookerman, MD Assistant Professor Emeritus of Clinical Medicine (Dermatology) (primary appointment)

Asst Prof Emeritus of Clin Medicine (Derm) (primary appointment)
MD Saint Louis University 1968
BA Dartmouth College 1964

J. Joseph Horan, MD Instructor in Clinical Pediatrics (primary appointment)
Amjad Horani, MD  Assistant Professor of Pediatrics (primary appointment)
BS Hebrew University-Hadassah Med 2015
MD Hebrew University-Hadassah Med 2004

Barbra A Horn, MD  Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1982
BA Clark University 1975

Linda S Horne, MD  Instructor in Clinical Psychiatry (primary appointment)
MD Ohio State University 1986

Caroline Clare Horner, MD  Associate Professor of Pediatrics (primary appointment)
MD Saint Louis University 2000
BA Washington Univ in St. Louis 1993

Ian Kerst Hornstra, PHD, MD  Associate Professor of Medicine (Dermatology) (primary appointment)
PHD University of Florida 1993
MD University of MO Kansas City 1986
BA University of MO Kansas City 1985

Jennifer A. Horst, MD  Instructor in Pediatrics (primary appointment)
BS University of Missouri Columbi 2003
MD University of Missouri Columbi 2007

Pooya Hosseinzadeh  Assistant Professor of Orthopaedic Surgery (Pending Executive Faculty Approval) (primary appointment)

Terri L Hosto, BSW, MSW  Instructor in Neurology (primary appointment)
BSW University of Illinois 1981
MSW University of Michigan 1986

Richard S Hotchkiss  Professor of Anesthesiology (primary appointment)
Professor of Surgery (General Surgery)
Professor of Developmental Biology
Professor of Medicine

William Edward Houck, MD  Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD University of Cincinnati 1981
BS Brown University 1977

Dennis Emil Hourcade, MA, PHD  Professor of Medicine (primary appointment)
BS Mass Inst of Technology (MIT) 1971
MA Harvard University 1974
PHD Harvard University 1978

Stacey L House  Instructor in Emergency Medicine in Medicine (primary appointment)
BS Yale University 1999

Jacqueline Howard  Instructor in Clinical Medicine (primary appointment)
UNKNOWN School Not Listed 1995

Matthew A Howard  Adjunct Assistant Professor of Neurological Surgery (primary appointment)
David Thomas Howell  Instructor in Clinical Medicine (primary appointment)
Randall A Howell, MD Assistant Professor of Emergency Medicine in Medicine (primary appointment)
BS Kansas State University 1974
MD Kansas State University 1978
Christine M Hrach, MD, BSW Assistant Professor of Pediatrics (primary appointment)
MD Saint Louis University 2002
BSW Saint Louis University 1998
Keith A Hruska, MD Professor of Pediatrics (primary appointment)
Professor of Cell Biology and Physiology
Professor of Medicine
BS Creighton University 1965
MD Creighton University 1969
Paul W. Hruz, PHD, MD Associate Professor of Pediatrics (primary appointment)
Associate Professor of Cell Biology and Physiology
PHD Medical College of Wisconsin 1993
MD Medical College of Wisconsin 1994
BS Marquette University 1987
Chyi-Song Hsieh Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology
Alan A and Edith L Wolff Distinguished Professor
Chung Hsu, MD, PHD Adjunct Professor of Neurology (primary appointment)
MD National Taiwan University 1970
PHD University of Virginia 1975
Fong Fu Hsu, PHD, MS Professor of Medicine (primary appointment)
PHD University of Utah 1986
MS Tsinghua University, China 1975
Hawpeng Stephen Hsu, MS, MD Assistant Professor of Anesthesiology (primary appointment)
BA Georgia St University 1991
MS Emory University 1993
MD Taipei Medical University 1983
Kevin Hsueh, MD Instructor in Medicine (primary appointment)
BS Williams College 2003
BS1 Williams College 2003
MD New York University 2008
Hongzhen Hu, PHD Associate Professor of Anesthesiology (primary appointment)
PHD Ohio State University 2004
Raymond J Hu Instructor in Clinical Medicine (primary appointment)
David H Hua Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS University of California 1990
Frederick Szujuei Huang, MD Associate Professor of Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1990
MD Baylor University 1994
Henry V Huang, PHD Associate Professor of Molecular Microbiology (primary appointment)
PHD California Institute Technolo 1977
Jiayi Huang, MD Assistant Professor of Radiation Oncology (primary appointment)
MD University of Massachusetts 2007
Jing-Wei Huang, MD Professor of Ophthalmology and Visual Sciences (primary appointment)
MD National Taiwan University 1981
Wei-Wei Huang, Instructor in Clinical Medicine (Dermatology) (primary appointment)
Yafei Huang, PHD, MS, Instructor in Medicine (primary appointment)
PHD Univ of Texas Med Sch Houston 2007
MS Beijing Medical University 2000
Dee Jay Hubbard, MA, PHD, Adjunct Assistant Professor of Otolaryngology (Speech Pathology) (primary appointment)
MA University of Iowa 1965
BS Kansas State University 1962
PHD University of Iowa 1967
John W Hubert, MD, Associate Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1975
BA Wabash College 1971
Richard W Hudgens, MD, Prof Emeritus of Psychiatry (primary appointment)
MD Washington Univ in St. Louis 1956
BA Princeton University 1952
James J Hudziak, Adjunct Professor of Psychiatry (primary appointment)
Donald V Huebener, MA, DDENT, MS, Prof Emeritus of Surgery (primary appointment)
MA Washington Univ in St. Louis 1975
DDENT Washington Univ in St. Louis 1969
MS Case Western Reserve Univ 1971
Elizabeth Stack Huebner, MD, Assistant Professor of Medicine (primary appointment)
BA Washington Univ in St. Louis 1995
MD Loyola University Chicago 2000
Rocco Hueneke, Assistant Professor of Anesthesiology (primary appointment)
James E Huettner, PHD, Professor of Cell Biology and Physiology (primary appointment)
Professor of Biomedical Engineering
PHD Harvard University 1987
BS Indiana University 1980
BA Indiana University 1981
Douglas Lee Huff, OD, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD So Cal College of Optometry 1981
BS School Not Listed 1980
Laura Huff, MD, Assistant Professor of Medicine (Dermatology) (primary appointment)
MD U of Colorado Health Sci Ctr 2011
BS Colorado St University 2006
Jing Hughes, MD, Instructor in Medicine (primary appointment)
MD University of Pennsylvania 2009
BS Stanford University 2002
Laura Hulbert, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Washington Univ in St. Louis 1981
BA Washington Univ in St. Louis 1976
Monica L Hulbert, Associate Professor of Pediatrics (primary appointment)
BS Indiana University Bloomington 1996
Rebecca L Hulett, Assistant Professor of Radiology (primary appointment)
Timothy Everett Hullar, MD, Adjunct Professor of Otolaryngology (primary appointment)
BS Stanford University 1990
MD Harvard University 1996
Scott James Hultgren, PHD
Helen L Stoever Professor of Molecular Microbiology (primary appointment)
BS Indiana University Bloomington 1981
PHD Northwestern University 1987
Theresa Human
Instructor in Clinical Neurology (primary appointment)
Benjamin Duane Humphreys
Associate Professor of Medicine (primary appointment)
David A Hunstad, MD
Associate Professor of Pediatrics (primary appointment)
Associate Professor of Molecular Microbiology
MD Washington Univ in St. Louis 1995
BA Carleton College 1991
Devyni M. Hunt, MD
Associate Professor of Orthopaedic Surgery (primary appointment)
Associate Professor of Neurology
MD University of Texas Houston 2000
BS University of Texas Austin 1995
Jane Alyce Hunt, MD
Instructor in Pediatrics (primary appointment)
MD Washington Univ in St. Louis 2014
BS Washington Univ in St. Louis 2014
Linda Ann Hunt
Adjunct Associate Professor of Neurology
Adjunct Associate Professor of Occupational Therapy
Steven R Hunt, MD
Associate Professor of Surgery (General Surgery) (primary appointment)
BA Dartmouth College 1992
MD Stanford University 1997
Eva A Hurst, MD
Associate Professor of Medicine (Dermatology) (primary appointment)
MD Washington Univ in St. Louis 2002
Mark Albert Hurt, MD
Instructor in Clinical Medicine (Dermatology) (primary appointment)
MD University of Missouri 1982
BS Southeast Missouri St Univers 1978
Kareem D. Husain
Assistant Professor of Surgery (General Surgery) (primary appointment)
BS University of Notre Dame 1995
Thy N Huskey, MD
Associate Professor of Neurology (primary appointment)
MD Northwestern University Med 1996
BS Northwestern University 1993
Jennifer L Hyde, PHD
Instructor in Medicine (primary appointment)
BS University of Queensland 2005
PHD University of Queensland 2011
Krzysztof L Hyrc, PHD, MS
Assistant Professor of Neurology (primary appointment)
PHD Jagiellonian University 1987
MS Jagiellonian University 1981
Mohsen Ibrahim
Instructor in Surgery (Cardiothoracic Surgery) (primary appointment)
Catherine Ifune, MD, PHD
Associate Professor of Anesthesiology (primary appointment)
MD Washington Univ in St. Louis 1997
PHD Washington Univ in St. Louis 1990
BS California Institute Technolo 1985
Richard G. Ihnat
Instructor in Clinical Medicine (primary appointment)
Richard J Iken, MD
Instructor in Clinical Pediatrics (primary appointment)
BA Univ of Wisconsin Madison 1972
MD University of MO Columbia 1978
Maxenia Garcia Ilagan
Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)
Assistant Professor of Developmental Biology
Obeid Noor Ilahi, MD (primary appointment)
MD Aga Khan University 1992
Shin-Ichiro Imai, MD Professor of Developmental Biology (primary appointment)

Professor of Medicine
Carl S Ingber, MD Instructor in Clinical Pediatrics (primary appointment)
MD Boston University 1972
BA University of Rochester 1968
Donald R Ingram, MD Asst Prof Emeritus Of Clin Otolaryngology (primary appointment)
BS University of Illinois 1954
MD University of Illinois 1956

Joseph Edward Ippolito, MD, PHD Instructor in Radiology (primary appointment)
BS Cornell University 1998
MD Washington Univ in St. Louis 2007
PHD Washington Univ in St. Louis 2007

Belinda K. Ireland, MD Adjunct Assistant Professor of Medicine (primary appointment)
MD University of MO Columbia 1976

Susan Allison Ironstone, MD Assistant Professor of Anesthesiology (primary appointment)
MD Tel-Aviv University 2009

Warren Isakow, MD Associate Professor of Medicine (primary appointment)
MD University of the Witwatersra 1998

Jill Christine Isenberg, MS PSYC Instructor in Clinical Neurology (primary appointment)
BA Wake Forest University 1998
MS PSYC Wake Forest University 2003

Keith E Isenberg, MD Prof Emeritus of Psychiatry (primary appointment)
BA Wabash College 1974
MD Indiana University Bloomington 1978

Selma E.h.o. Ishag, PHD, MD Assistant Professor of Anesthesiology (primary appointment)
PHD University of Khartoum 1996
MD University of Khartoum 1987

Hassan Issa, MD Instructor in Medicine (primary appointment)
MD Tishreen Univ College of Med 2003

Michael J Isserman, MD Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MD Washington Univ in St. Louis 1975

Eva Susanne Istvan Assistant Professor of Medicine (primary appointment)

HHMI Specialist II
BS University of Houston 1993

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Renee A. Ivens, DPT, MHS Associate Professor of Physical Therapy (primary appointment)

Associate Professor of Orthopaedic Surgery
BS Maryville University 1984
DPT Washington Univ in St. Louis 2006
MHS Washington Univ in St. Louis 1996

Yukitoshi Izumi Professor of Psychiatry (primary appointment)

Carolyn M Jachna, MD Assistant Professor of Medicine (primary appointment)
BS Washington Univ in St. Louis 1993
Ryan Scott Jackson, MD Assistant Professor of Otolaryngology (primary appointment)
MD Saint Louis University 2009
BA Saint Louis University 2004
Ronald R Jackups Jr. Assistant Professor of Pathology and Immunology (primary appointment)
Assistant Professor of Pediatrics
BS Washington Univ in St. Louis 2000
Jeffrey H Jacob, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BA University of Missouri 1975
OD So Cal College of Optometry 1980
BS So Cal College of Optometry 1978
Saji Jacob, MD, MS Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD School Not Listed 1993
UNKNOWN School Not Listed 1996
MS Kerala University 1989
Sindhu Saji Jacob Assistant Professor of Neurology (primary appointment)
Daryl Jacobs, MD, ME Instructor in Clinical Medicine (primary appointment)
BS Washington Univ in St. Louis 1977
MD Washington Univ in St. Louis 1983
ME Carnegie Mellon University 1979
Myron H Jacobs, MD Instructor in Clinical Medicine (primary appointment)
BA Vanderbilt University 1965
MD Louisiana St Univ Hlth Sci 1969
Arnold Scott Jacobson, DDENT, MS Instructor in Clinical Otolaryngology (DMD) (primary appointment)
DDENT Washington Univ in St. Louis 1976
BA University of Missouri 1970
MS University of Missouri 1977
Steven Jacobson, MD Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1985
Meagan A. Jacoby, MD Assistant Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 2005
Mark F Jacquin, PHD Professor of Neurology (primary appointment)
BS Brandeis University 1975
PHD City University of New York 1980
David M Jaffe, MD Adjunct Professor of Pediatrics (primary appointment)
MD University of Chicago 1978
BA Stanford University 1972
Sue E Jagler Instructor in Clinical Pediatrics (primary appointment)
Sanjay Jain Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology
BA University of California 1990
Siddharth Vinod Jain, MD Assistant Professor of Neurology (primary appointment)
Assistant Professor of Pediatrics
MD D.Y. Patil Medical College 2003
Sudhir Kumar Jain, MBBS Associate Professor of Medicine (primary appointment)
MBBS Maulana Azad Medical College 1986
Patricia A Jamerson, Instructor in Clinical Pediatrics (primary appointment)
Aimee S. James, PHD, MA, M PH, Associate Professor of Surgery (General Surgery) (primary appointment)
PHD University of Houston 1999
MA University of Houston 1998
M PH University of Texas Houston 2000
BA Goucher College 1995
William P James, MD, Assistant Professor of Radiology (primary appointment)
MD University of MO Columbia 1993
BA Washington Univ in St. Louis 1989
Aleksandar Janca, MD, Adjunct Professor of Psychiatry (primary appointment)
MD School Not Listed
James W Janetka, Associate Professor of Biochemistry and Molecular Biophysics (primary appointment)
BS University of Illinois 1990
David P. Jaques, Professor of Surgery (General Surgery) (primary appointment)
George Jarad, Assistant Professor of Medicine (primary appointment)
Michael R Jarvis, MD, Professor of Psychiatry (primary appointment)
Vice Chairman for Clinical Affairs, Department of Psychiatry
MD Washington Univ in St. Louis 1985
Daniel Ragin Jasper, MD, Instructor in Clinical Medicine (primary appointment)
BA University of Texas Austin 1990
MD Saint Louis University 1994
Anuja Java, MD, Instructor in Medicine (primary appointment)
MD Government Medical College 2002
Cylene Javidan, MD, Associate Professor of Radiology (primary appointment)
MD Iran Univ of Medical Sciences 1994
Patrick Y Jay, Associate Professor of Pediatrics (primary appointment)
Associate Professor of Genetics
Yasangi Maina Jayasiha, Instructor in Clinical Pediatrics (primary appointment)
Donna Beth Jeffe, MA, Professor of Medicine (primary appointment)
MA Washington Univ in St. Louis 1990
BA Washington Univ in St. Louis 1972
Christopher M. Jenkins, PHD, Assistant Professor of Medicine (primary appointment)
PHD Vanderbilt University 1997
BS Michigan State University 1991
Jack W Jennings, MS, PHD, Associate Professor of Radiology (primary appointment)
MS Ohio State University 1995
PHD University of South Florida 1999
Susan Jerger, Adjunct Research Professor of Otolaryngology (primary appointment)
Xuntian Jiang, PHD, Assistant Professor of Medicine (primary appointment)
PHD China Pharmaceutical Univ 1992
Sharon Leslie Jick, Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
Jeffrey Jim, MS, MD, Associate Professor of Surgery (General Surgery) (primary appointment)
BS University of Southern Calif 1996
MS University of Southern Calif 1999
MD University of CA Irvine 2003
Hongjun Jin, Instructor in Radiology (primary appointment)
Shannon M. Joerger, MD Instructor in Pediatrics (primary appointment)
BS Lanzhou University 1994
BS Southern Ill Univ Edwardsville 1995
MD University of Missouri-Columbi 2007

William Steven Joffe, MD Asst Prof Emeritus Of Clin Ophthal & VIs Sci (primary appointment)
BS Lanzhou University 1994
BS Southern Ill Univ Edwardsville 1995
MD University of Missouri-Columbi 2007

Morris Joftus, MD Assistant Professor of Clinical Medicine (primary appointment)
BS Washington Univ in St. Louis 1959
MD Washington Univ in St. Louis 1963

Audrey Ragan Odom John, PHD, MD Associate Professor of Pediatrics (primary appointment)
BS Duke University 1996
PHD Duke University 2002
MD Duke University 2003

Cassandra Johnson, PHD Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
BS Duke University 1996
PHD Duke University 2002
MD Duke University 2003

Denise R Johnson, MD Associate Professor of Clinical Pediatrics (primary appointment)
BA Oakwood College 1979
MD Loma Linda University 1984

Eric Keith Johnson, MD Instructor in Medicine (primary appointment)
BS1 University of Maryland 1998
PHD Harvard University 2003
MS1 Harvard University 2000

Jeffrey E Johnson, MD Professor of Orthopaedic Surgery (primary appointment)
MD University of Illinois 1997
BA Duke University 1976

Joyce D Johnson, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MD Case Western Reserve Univ 1982
BS Oberlin College 1977

Mark C Johnson, MD Associate Professor of Pediatrics (primary appointment)
MD Johns Hopkins University 1982

Mark C. Johnson Associate Professor of Clinical Psychiatry (primary appointment)
MD Johns Hopkins University 1982

Michael K Johnson, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Johns Hopkins University 1982

Reuben D Johnson, BE, MD Assistant Professor of Emergency Medicine in Medicine (primary appointment)
BE Georgia Tech 1996
BS1 Morehouse College 1996
MD Howard University College of Medicine 2002

Staci R. Johnson, MD Instructor in Clinical Pediatrics (primary appointment)
MD Southern Illinois University 2002

Stephen L Johnson Professor of Genetics (primary appointment)
BA Vanderbilt University 1983

William F Johnson Adjunct Instructor in Medicine (primary appointment)
William Lee Johnson, MD Associate Professor of Clinical Pediatrics (primary appointment)
Adjunct Associate Professor of Pediatrics
MD University of Missouri 1981
BS University of Missouri 1977
Eugene Malcolm Johnson Jr, PHDProf Emeritus of Neurology (primary appointment)
PHD University of Maryland 1970
BS University of Maryland 1966
Glen P JohnstonAssoc Prof Emeritus Of Clin Ophthal & VIs Sci (primary appointment)
Angela Marie Jones, MDInstructor in Clinical Pediatrics (primary appointment)
MD Universidad Nacional de Columb 1989
Katherine McMullin Jones, MDInstructor in Pediatrics (Pending Dean's Approval) (primary appointment)
BA Amherst College 2001
MD Washington Univ in St. Louis 2007
La Rhonda JonesInstructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)
Larry A Jones, MDAssistant Professor of Clinical Pediatrics (primary appointment)
BA Johns Hopkins University 1972
MD Johns Hopkins University Medic 1976
Sushma Jonna, MDInstructor in Medicine (primary appointment)
MD Saint Louis University 2013
Amy M JosephAssociate Professor of Medicine (primary appointment)
BA Johnston Community College 1977
Daniel Paul JosephAssociate Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BS Cornell University 1981
Barbara Jost, MSInstructor in Clinical Medicine (primary appointment)
MS Northwestern University 1995
BS University of Missouri 1993
R. Gilbert Jost, MDPProfessor of Radiology (primary appointment)
BA Harvard University 1964
MD Yale University 1969
Sandy Lynn JostAdjunct Instructor in Obstetrics and Gynecology (primary appointment)
Sarah C. JostAdjunct Assistant Professor of Neurological Surgery (primary appointment)
Mark J Jostes, MDAssistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
BS Rockhurst College 1976
MD University of Missouri 1981
Randall S JotteAssociate Professor of Emergency Medicine in Medicine (primary appointment)
Heather Robin Joyce, MDInstructor in Clinical Pediatrics (primary appointment)
MD University of MO Columbia 2006
BS University of MO Columbia 2002
Yo-El S Ju, MDAssistant Professor of Neurology (primary appointment)
MD Columbia University 2005
BS Harvard University 2001
William G Juergens Jr, MDAssoc Prof Emeritus Of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1961
Neringa Juknis, MDAssociate Professor of Neurology (primary appointment)
BA School Not Listed 1985
MD Kaunas Medical Institute 1989
Samuel F. Julian, MDInstructor in Pediatrics (primary appointment)
MD University of Texas Southwest 2007
BS University of Texas Austin 2001

Erzsebet Jung, MDInstructor in Clinical Pediatrics (primary appointment)
MD School Not Listed 1987

Emily Susan Jungheim, MDAssociate Professor of Obstetrics and Gynecology (primary appointment)
BS University of Illinois 1997
MD Loyola University Chicago 2001

James A JunkerInstructor in Clinical Radiology (primary appointment)

Puja Kachroo, MD, MSInstructor in Surgery (Cardiothoracic Surgery) (primary appointment)
BS Boston University 2001
MD Ross Univ School of Medicine 2007
MS Columbia University 2003

Brad S Kahl, MDProfessor of Medicine (primary appointment)
BS University of Wisconsin-Madiso 1989
MD Tufts University 1994

Caroline Holleck Kahle, MDAssistant Professor of Medicine (primary appointment)
MD University of North Carolina 2006

Lawrence I Kahn, MDProf Emeritus Of Pediatrics (primary appointment)
BA University of Alabama 1941
MD Louisiana St Univ Hlth Sci 1945
Timothy N KaiserAssistant Professor of Clinical Otolaryngology (primary appointment)

Aadil Kausarali Kakajiwala, MBBSInstructor in Pediatrics (primary appointment)
MBBS Topiwala National Med College 2008

Sergey Kaliberov, MDAssistant Professor of Radiation Oncology (primary appointment)
MD First Moscow Medical Institute 1984

Krishna Priya Kalyam, MDInstructor in Ophthalmology and Visual Sciences (primary appointment)
MD Robert Wood Johnson Medical Sc 2012
BS Rutgers University 2008
Sona Sharad KamatInstructor in Clinical Medicine (primary appointment)
Vinay Gopal Kamat, MDInstructor in Clinical Medicine (primary appointment)
MD University of Pennsylvania 1994

Stephen A Kamenetzky, MDProfessor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Washington Univ in St. Louis 1967
MD1 School Not Listed 1970
MD Washington Univ in St. Louis 1970

Daniel Thomas Kane, MDAssistant Professor of Anesthesiology (primary appointment)
MD Washington Univ in St. Louis 1989

Deborah Shipley Kane, MDAy Assistant Professor of Emergency Medicine in Medicine (primary appointment)
BA University of MO Kansas City 2006
MD University of MO Kansas City 2006

Ivan M Kangrpa, MDProfessor of Anesthesiology (primary appointment)
MD University of Belgrade 1982
Akash Pravin KansagraAssistant Professor of Radiology (primary appointment)
Patricia F Kao, BE, MD
Associate Professor of Medicine (Pending Executive Faculty Approval)
(primary appointment)
MS2 Ohio State University 1997
BE Princeton University 1994
MD Case Western Reserve Univ 2001

Humeyra Karacal, MD
Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
MD Hacettepe University 1994

Menelaos Karanikolas, MD
Associate Professor of Anesthesiology (primary appointment)
MD Athens University Med School 1988

Wajiha Parveen Karatela
Instructor in Clinical Psychiatry (Child) (primary appointment)

Celeste Marie Karch
Assistant Professor of Psychiatry (primary appointment)

Eugenia Kardaris
Instructor in Clinical Otolaryngology (DDS) (primary appointment)

Robert S Karsh, MD
Professor of Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1951
MD Washington Univ in St. Louis 1952

Roanne Kay Karzon, MS, PHD
Adjunct Assistant Professor of Audiology and Communication Science (primary appointment)
Adjunct Assistant Professor of Otolaryngology
MS University of Virginia 1976
PHD Washington Univ in St. Louis 1982
BA University of Connecticut 1974

Rojano Kashani, MS, PHD
Assistant Professor of Radiation Oncology (primary appointment)
MS University of Michigan 2006
PHD University of Michigan 2009
BS University of Michigan 2003

Victoria Kaskutas, MHS
Associate Professor of Occupational Therapy (primary appointment)
Associate Professor of Medicine
BS University of Illinois 1980
MHS Washington Univ in St. Louis

Thomas J Kasper
Instructor in Clinical Pediatrics (primary appointment)

Michael A Kass, MD, MS
Bernard Becker Professor of Ophthalmology and Visual Sciences (primary appointment)

Andrew M. Kates, MD
Associate Professor of Medicine (primary appointment)
BS Tufts University 1990
MD Tufts University 1994

Demetrios Katsikas, MD
Instructor in Clinical Surgery (Urological Surgery) (primary appointment)
BS University of Michigan 1985
MD Wayne State University 1989

Shashi Krishna Katukoori, MS
Instructor in Medicine (primary appointment)
BS Kakatiya Medical College 2004
MS Eastern Kentucky University 2010

Richard T. Katz
Professor of Clinical Neurology (primary appointment)

David A Katzman, MD
Instructor in Clinical Medicine (primary appointment)
Andrew L. Kau, MD, PHD  
**Assistant Professor of Medicine** (primary appointment)  
MD Saint Louis University 1991  
BA Brown University 1986  
BS Emory University 1998  
MD Washington Univ in St. Louis 2006  
PHD Washington St University 2006  

Charles Kaufman, PHD, MD  
**Assistant Professor of Medicine (Pending Executive Faculty Approval)** (primary appointment)  
Assistant Professor of Developmental Biology  
PHD University of Chicago 2003  
MD University of Chicago 2005  
BA Washington Univ in St. Louis 1997  

Jenny E Kaufman  
**Instructor in Clinical Pediatrics** (primary appointment)  
BS University of Michigan 1999  

Robert L Kaufman, MD  
**Assistant Professor of Clinical Medicine** (primary appointment)  
BA Washington Univ in St. Louis 1959  
MD Washington Univ in St. Louis 1963  

Tejbeer Kaur, PHD, BAS, PHARMD  
**Instructor in Otolaryngology** (primary appointment)  
PHD Southern Illinois University 2012  
BAS Delhi University 2005  
PHARMD Delhi University 2007  

Pavan Kumar Kavali, MD  
**Instructor in Radiology** (primary appointment)  
BS Georgia Tech 2003  
MD Morehouse College 2010  

James Alexander Kavanaugh, MS  
**Instructor in Radiation Oncology** (primary appointment)  
BS University of Saint Thomas 2008  
MS Louisiana St University 2011  

Jack Kayes, MD  
**Professor Emeritus of Clinical Ophthalmology and Visual Sciences** (primary appointment)  

Elizabeth Jane Keath, PHD  
**Assistant Professor of Medicine** (primary appointment)  
BA Yale University 1953  

Robert S Kebler, MD  
**Instructor in Clinical Pediatrics** (primary appointment)  
MD Saint Louis University 1984  
BS Muhlenberg College 1980  

Dalius Kedainis, MD  
**Instructor in Clinical Medicine** (primary appointment)  
MD Kaunas University of Medicine 1998  

Elizabeth A Keegan Garrett, MD, M PH  
**Instructor in Clinical Obstetrics and Gynecology** (primary appointment)  
MD Oregon Health Science Univers 2005  
M PH Harvard University 2003  
BA Mount Holyoke College 1998  

Jay Donovan Keener, MD  
**Associate Professor of Orthopaedic Surgery** (primary appointment)  
BS West Virginia University 1991  
MD West Virginia University 1998
Jacob Brian Keeperman, MD
Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Emergency Medicine in Medicine
MD Loyola University Chicago 2006
Eirini Kefalogianni
Instructor in Medicine (primary appointment)
Vladimir Jivkov Kefalov, PHD
Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Neuroscience
PHD Boston University 1999
Jesse Wade Keller
Instructor in Medicine (primary appointment)
BS University of Tulsa 2005
Martin S Keller, MD
Associate Professor of Surgery (Pediatric Surgery) (primary appointment)
Associate Professor of Pediatrics
BS University of Pennsylvania 1985
MD University of Vermont 1990
Sarah Lynn Keller, MD
Assistant Professor of Obstetrics and Gynecology (primary appointment)
BA University of Notre Dame 1985
MD Southern Illinois University 1989
Robert V Kellow
Assistant Professor of Clinical Pediatrics (primary appointment)
Brian Adams Kelly, MD
Assistant Professor of Orthopaedic Surgery (Pending Executive Faculty Approval) (primary appointment)
MD Columbia University 2009
BA Williams College 2002
Brian J Kelly, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
MD School Not Listed 1972
BS School Not Listed 1964
Daniel P Kelly, MD
Adjunct Professor of Medicine (primary appointment)
BS University of Illinois 1978
MD University of Illinois 1982
James E. Kelly
Assistant Professor of Radiology (primary appointment)
BA University of Notre Dame 1999
Jeannie Chen Kelly, MD
Assistant Professor of Obstetrics and Gynecology (primary appointment)
MD Columbia University 2009
John J Kelly, MD
Associate Professor of Medicine (primary appointment)
BS Rockhurst College 1959
MD Saint Louis University 1963
Michael Patrick Kelly, MD
Assistant Professor of Orthopaedic Surgery (primary appointment)
Assistant Professor of Neurological Surgery
BS Boston College 1999
MD University of Massachusetts 2005
James Scott Kemp
Professor of Pediatrics (primary appointment)
Michele E Kemp, MD
Associate Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1981
BA Washington Univ in St. Louis 1977
Charlotte J Kennedy, PHD, MD
Assistant Professor of Clinical Medicine (primary appointment)
PHD Washington Univ in St. Louis 1992
MD Washington Univ in St. Louis 1992
BA Agnes Scott College 1984
Robert M Kennedy
Professor of Pediatrics (primary appointment)
Rainer Kentner, MD
Assistant Professor of Anesthesiology (primary appointment)
BS Georgia Tech 1975
MD University of Tuebingen 1987

Joseph L Kenzora, MD
Associate Professor of Medicine (primary appointment)
BS Southeast Missouri St Univers 1986
MD University of New Mexico 1975

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Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)

Paul William Kerby, MBBS
Assistant Professor of Anesthesiology (primary appointment)
BS King's College London 2001
MBBS King's College London 2004

Martin Hurley Kerrigan
Assistant Professor of Medicine (primary appointment)
BS Saint Josephs University 2001

Daniel Kerschensteiner, PHD
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)

Nicholas Kessides, MD
Instructor in Anesthesiology (primary appointment)
PHD Georg August University 2004

Salah G. Keyrouz
Associate Professor of Neurology (primary appointment)
MD University of Maryland 2010

Syed Ahmed Khader
Instructor in Clinical Neurology (primary appointment)
BS School Not Listed 1989

Rao Fawwad Khan
Associate Professor of Radiation Oncology (primary appointment)
BS School Not Listed 1989

Geetika Khanna, MS, MBBS
Associate Professor of Radiology (primary appointment)
MS University of Iowa 2006
MBBS All-India Inst of Medical Sci 1997

Sangeeta Khanna
Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)

Evan David Kharasch, PHD
Russell and Mary Shelden Professor of Anesthesiology (primary appointment)

Shahrdad Khodamoradi, MD
Assistant Professor of Anesthesiology (primary appointment)
MD Washington Univ in St. Louis 1990

Saaid Khojasteh
Assistant Professor of Clinical Psychiatry (primary appointment)
MD School Not Listed 1981

Lynnette C Khoo-Summers, MS, DPT
Associate Professor of Physical Therapy (primary appointment)

Lynnette C Khoo-Summers, MS, DPT
Associate Professor of Physical Therapy (primary appointment)

Thomas B Kibby, MD
Instructor in Emergency Medicine in Medicine (primary appointment)

MS Washington Univ in St. Louis 1998
DPT Washington Univ in St. Louis 2008
BA Colorado St University 1990
MD Eastern Virginia Med School 1979
Daniel Jason Kichura, MDInstructor in Medicine (primary appointment)
MD Israel Institute of Technology 2012
George Kichura, MDInstructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1993
William F Kiefer Jr, ODAdjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Illinois College of Optometry 1975
BA Princeton University 1967
BS Illinois College of Optometry 1973
Mary Kiehl, AASAssistant Professor of Clinical Medicine (primary appointment)
BA University of California 1985
AS Long Beach City College 1976
Kenneth Richard Kilian, MDInstructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1984
Kent Leon Killian, MDInstructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1990
BA Saint Louis University 1986
Charles Kilo, MDPProfessor of Medicine (primary appointment)
Professor of Pathology and Immunology
MD Washington Univ in St. Louis 1959
Charles John Kilo, MDInstructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1991
BA University of Kansas 1987
Albert H Kim, MA, PHD, MDAssistant Professor of Neurological Surgery (primary appointment)
Assistant Professor of Neurology
Assistant Professor of Developmental Biology
BA Harvard University 1994
MA Washington Univ in St. Louis 1999
PHD New York U. School of Medicine 2002
MD New York U. School of Medicine 2003
Albert J Kim, MDInstructor in Emergency Medicine in Medicine (primary appointment)
BS University of Chicago 2005
MD Northwestern University 2009
Alfred KimAssistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
Andrew M Kim, MS, DDENTAssistant Professor of Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)
Instructor in Clinical Otolaryngology
MS Ohio State University 1987
BA California State University 1978
DDENT Washington Univ in St. Louis 1984
Brian Kim, MDAssistant Professor of Medicine (Dermatology) (primary appointment)
Assistant Professor of Anesthesiology
Assistant Professor of Pathology and Immunology
MD University of Washington 2007
BS Haverford College 2001
Joong Hee Kim, PHD, MSInstructor in Neurology (primary appointment)
Instructor in Radiology
PHD Washington Univ in St. Louis 2006
BS Kangwon National University 1996
PHD1 Washington Univ in St. Louis 2006
MS Kangwon National University 2000
Seung Kwon Kim Assistant Professor of Radiology (primary appointment)
Assistant Professor of Surgery (General Surgery)

Sungsu Kim Instructor in Genetics (primary appointment)
BS Korea University 2000
Helen Young Kim-James Instructor in Clinical Medicine (Dermatology) (primary appointment)

Rosa Anne Kincaid Instructor in Clinical Medicine (primary appointment)
BA City College 1970

Allison A King, MD Associate Professor of Occupational Therapy (primary appointment)
Associate Professor of Pediatrics
Associate Professor of Pediatrics
Associate Professor of Education (Courtesy)
Associate Professor of Surgery (General Surgery)
Associate Professor of Medicine

Donald Kevin King, MD Assistant Professor of Clinical Medicine (primary appointment)
BA Fairfield University 1966
MD Johns Hopkns University Medic 1970

Erin L King, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Washington Univ in St. Louis 2003
BA Stanford University 1997

Kevin Patrick King, MD Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 2006

Tessa Marie King, MD Assistant Professor of Anesthesiology (primary appointment)
MD University of Kansas 1997
MD1 University of Kansas 1997
BA School Not Listed 1993

Tinna P King Instructor in Clinical Medicine (primary appointment)
BA University of Missouri 1988

Phillip Lee Kintner, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Southern Illinois University 1986

John P. Kirby, MD, MS Associate Professor of Surgery (General Surgery) (primary appointment)
BS University of Illinois 1988
MD University of Illinois 1993
MS University of Illinois 1999

Erik Paul Kirk, MS, PHD Adjunct Assistant Professor of Medicine (primary appointment)
MS University of Kansas 2001
PHD University of Kansas 2004

Nigar Kirmani, MD Professor of Medicine (primary appointment)
MD King Edward Medical College 1973

Sonya Kirmani, MD Instructor in Pediatrics (primary appointment)
BS Northwestern University 2006
MD University of Iowa 2010
Neha Navsaria Kirtane, PHD, MA
Assistant Professor of Psychiatry (primary appointment)
PHD Temple University 2008
MA Columbia University 2003
BA Bryn Mawr College 1999

Sameer M. Kirtane, MD
Instructor in Clinical Medicine (primary appointment)
MD Jefferson Medical College 2008

John M Kissane
Retiree - Professor of Pathology and Immunology (primary appointment)

Maleewan Kitcharoensakkul
Instructor in Pediatrics (primary appointment)

Asko I Kivikoski, D SC, MD
Assoc Prof Emeritus Of Ob & Gyn (primary appointment)
BA School Not Listed 1954
UNKNOWN School Not Listed 1954
D SC School Not Listed 1967
MD School Not Listed 1958

Laurie Klabi, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD University of Missouri 1991
BA University of Missouri 1987

Joseph W. Klaesner, PHD, MS
Professor of Physical Therapy (primary appointment)
Professor of Radiology
BS1 Marquette University 1987
BS Marquette University 1987
PHD Vanderbilt University 1995
MS Vanderbilt University 1993

Michael K Klebert, BN, PHD, MSN
Instructor in Medicine (primary appointment)
BA Southern Illinois University 1979
BN Southern Illinois University 1981
PHD University of MO St Louis 2008
MSN University of Texas Austin 1987

Eynav Yafit Klechevsky, PHD
Assistant Professor of Pathology and Immunology (primary appointment)
PHD Baylor University 2007

Grant Michael Kleiber
Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
BS University of Notre Dame 2004

Robert E Kleiger
Professor of Medicine (primary appointment)

Jacob Klein, MD
Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD School Not Listed 1968
BS Muhlenberg College 1964

Robyn Sue Klein, PHD
Professor of Medicine (primary appointment)
Professor of Pathology and Immunology
Professor of Neuroscience
PHD Albert Einstein College of Med 1993

Samuel Klein, MD, MS
Danforth Professor of Medicine (primary appointment)
Professor of Cell Biology and Physiology
BA Brandeis University 1974
MD Temple University 1979
MS Mass Inst of Technology (MIT) 1984

Sandra E. Klein, BE, MD
Associate Professor of Orthopaedic Surgery (primary appointment)
BE University of Missouri 1994
Instructor in Clinical Surgery (Urologic Surgery) (primary appointment)
Mark Alan Kleindorfer, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)

OD Indiana University Bloomington 1979
BS Indiana University Bloomington 1977

June Leslie Kleinfeld, DDENT Instructor in Clinical Otolaryngology (DMD) (primary appointment)
DDENT Washington Univ in St. Louis 1985

George R Kletzker, MD Assistant Professor of Clinical Otolaryngology (primary appointment)
BA University of Missouri 1980
MD University of Missouri 1984

Mary E Klingensmith, MD Professor of Surgery (General Surgery) (primary appointment)
Mary Culver Distinguished Professor
Vice Chairman for Education, Department of Surgery
Sr Associate Dean for Education
Sr Associate Dean for Education
BA Wellesley College 1988
MD Duke University 1992

Vivian Marie Kloke, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD University of Missouri 1990
Linda Marie Klutho Instructor in Clinical Medicine (primary appointment)

Vitaly A Klyachko, PHD, MS Associate Professor of Cell Biology and Physiology (primary appointment)
Associate Professor of Biomedical Engineering
Associate Professor of Neuroscience
PHD Univ of Wisconsin Madison 2002
MS Moscow State University 1998
BS Moscow State University 1997

Paula J Knapp-Baker Instructor in Clinical Medicine (primary appointment)

Kathleen Marie Kniepmann, M PH, DED Assistant Professor of Occupational Therapy (primary appointment)

Assistant Professor of Neurology
M PH Harvard University 1981
BA Washington Univ in St. Louis 1974
BS Washington Univ in St. Louis 1974
DED Harvard University 1980

Richard D Knight Instructor in Clinical Pediatrics (primary appointment)

Shirley M Knight, MD Professor of Clinical Pediatrics (primary appointment)
BA Dillard University 1976
MD Washington Univ in St. Louis 1980

Teresa Lee Knight, MS, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MS Saint Louis University 1994
MD Saint Louis University 1998
BA University of CA Berkeley 1992

Justin Knittel Assistant Professor of Anesthesiology (primary appointment)

Eric Knoche, MD Assistant Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 2006
BS Davidson College 2001
Kathryn Knoop Instructor in Medicine (primary appointment)
Harry L Knopf Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Harvard University 1963
Valerie S. Knopik, MA, PHD Adjunct Assistant Professor of Psychiatry (primary appointment)
MA University of Colorado Boulder 1998
BA Wesleyan College 1994
PHD University of Colorado Boulder 2000
Norman P Knowlton Jr Prof Emeritus Of Clinical Medicine (primary appointment)
BS Harvard University 1942
Ronald Joseph Knox, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD School Not Listed 1956
Nels C Knutson, PHD, MS Instructor in Radiation Oncology (Pending Dean's Approval) (primary appointment)
PHD Univ of Massachusetts Lowell 2016
BS University of Montana Missoula 2009
MS Louisiana St University 2012
Ira Joe Kodner, MD Prof Emeritus of Surgery (General Surg) (primary appointment)
MD Washington Univ in St. Louis 1967
BA Washington Univ in St. Louis 1963
Carolyn Koenig, MD Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 2002
Joel S Koenig, MD Professor of Clinical Pediatrics (primary appointment)
MD Vanderbilt University 1982
Kenneth A Koerner, MD Associate Professor of Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1935
MD Washington Univ in St. Louis 1941
Ismail Kola, PHD Adjunct Professor of Medicine (primary appointment)
PHD School Not Listed 1985
UNKNOWN Rhodes College 1982
BS Rhodes College 1982
Marin H Kollef, MD Professor of Medicine (primary appointment)
BS US Military Academy 1979
MD University of Rochester 1983
Hermann M Koller, MD Instructor in Medicine (primary appointment)
MD Washington Univ in St. Louis 1978
BS Stanford University 1974
Sri Devi Kolli, MBBS Instructor in Clinical Medicine (primary appointment)
MBBS Guntur Medical College 1989
Nikoleta S. Kolovos, MD Associate Professor of Pediatrics (primary appointment)
MD University of Pittsburgh 1996
BS University of Pittsburgh 1991
Mary E. Koly, MD Instructor in Clinical Medicine (primary appointment)
BA University of MO Kansas City 1995
MD University of MO Kansas City 1995
Yosuke Komatsu Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Helga Komen Instructor in Anesthesiology (primary appointment)
Katherine L Komendowski, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
MD School Not Listed 1984
BS Marymount College 1980

Ramakrishna Kommagani, PHD
Assistant Professor of Obstetrics and Gynecology (Pending Executive Faculty Approval) (primary appointment)
PHD Wright State University 2009

Jamie L Kondis, MD
Instructor in Pediatrics (primary appointment)
BS Westminster College 2002
MD Indiana University South Bend 2006

Kevin L Konzen
Assistant Professor of Clinical Medicine (primary appointment)

Raphael Kopan, MS, PHD
Adjunct Professor of Developmental Biology (primary appointment)
MS Tel Aviv University 1984
PHD University of Chicago 1989

Robert G Kopitsky, MD
Assistant Professor of Clinical Medicine (primary appointment)
BS Emory University 1978
MD Duke University 1982

Kevin Marc Korenblat, MD
Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1996
Phillip E Korenblat
Professor of Clinical Medicine (primary appointment)

Michael S Korenfeld, MD
Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MD Washington Univ in St. Louis 1986
BS University of Arizona 1981

Stephen K Kornfeld, PHD, MD
Professor of Developmental Biology (primary appointment)
PHD Stanford University 1991
MD Stanford University 1991

Stuart A Kornfeld
David C and Betty Farrell Professor of Medicine (primary appointment)
Professor of Biochemistry and Molecular Biophysics
BA Dartmouth College 1958

Sara L Kornfield, PHD
Assistant Professor of Psychiatry (primary appointment)
PHD Drexel University 2010
BA Columbia University 2003

Alex H Kosloff, MD
Instructor in Clinical Medicine (primary appointment)
BS Washington Univ in St. Louis 1975
MD Saint Louis University 1980

Alok K. Kothari, MD
MD University of Illinois Chicago 2009
BS1 Washington Univ in St. Louis 2003
BS Washington Univ in St. Louis 2003

Lawrence M Kotner, MD
Assoc Prof Emeritus of Radiology (primary appointment)
BA Washington Univ in St. Louis 1965
MD Washington Univ in St. Louis 1968

Paul Thomas Kotzbauer
Associate Professor of Neurology (primary appointment)
Associate Professor of Developmental Biology

Attila Kovacs
Associate Professor of Medicine (primary appointment)
BS School Not Listed 1981

Maria Kovacs
Visiting Professor of Psychiatry (primary appointment)

Sandor J Kovacs, MD, MS, PHD
Professor of Medicine (primary appointment)

Adjunct Professor of Physics
Professor of Biomedical Engineering
Professor of Cell Biology and Physiology
MD University of Miami 1979
MS California Institute Technolo 1972
PHD California Institute Technolo 1977
BS Cornell University 1969
Edward H. Kowert Assoc Prof Emeritus of Clinical Psychiatry (primary appointment)

Beth Ann Kozel, MD, PHD Adjunct Assistant Professor of Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1996
MD Washington Univ in St. Louis 2004
PHD Washington Univ in St. Louis 2004
Alexander Kozlov, MS, PHD Instructor in Biochemistry and Molecular Biophysics (primary appointment)
MS Moscow State University 1983
PHD Moscow State University 1994
Benjamin D. Kozower, MD Professor of Surgery (Cardiothoracic Surgery) (Pending Executive Faculty Approval) (primary appointment)
BS University of Rochester 1993
MD University of Rochester 1997

Thomas Errol Kraemer, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BS Indiana University Bloomington 1970
OD Indiana University Bloomington 1972
BA Millikin University 1968
James M Krafck Instructor in Clinical Pediatrics (primary appointment)
Aldi T Kraja Associate Professor of Genetics (primary appointment)

David Paul Krajcovic, MD Instructor in Clinical Surgery (General Surgery) (primary appointment)
MD Washington Univ in St. Louis 1969
BA Washington Univ in St. Louis 1965
Robert S Kramer, MD Instructor in Clinical Orthopaedic Surgery (primary appointment)
BA Harvard University 1979
MD Washington Univ in St. Louis 1983

Joseph F Kras, DDENT, MD Associate Professor of Anesthesiology (primary appointment)
DDENT Loyola University Chicago 1982
MD Hahnemann University 1991
Claudia Krasno, MA, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MA Johns Hopkins University 1990
MD University of Maryland 1994
Mark S Krasno, MD Instructor in Clinical Medicine (primary appointment)
BA Amherst College 1987
MD Johns Hopkins University Medic 1991
Frederick Thier Kraus Adjunct Professor of Obstetrics and Gynecology (primary appointment)
BS College of William and Mary 1951
Lily Tadayyon Kregenow Instructor in Clinical Pediatrics (primary appointment)

Daniel Kreisel, MD, PHD Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Professor of Pathology and Immunology
MD Mount Sinai School of Medicine 1995
PHD University of Pennsylvania 2002
Friederike H. Kreisel, MD Associate Professor of Pathology and Immunology (primary appointment)
MD Goethe University 1995
Geraldine J. Kress, PHD Instructor in Neurology (primary appointment)
PHD Washington Univ in St. Louis 2009
Katherine L Kreusser, MD Professor of Clinical Pediatrics (primary appointment)
MD Indiana University Bloomington 1978
BS University of Pennsylvania 1973
Andrzej Modest Krezel, PHD, MS Associate Professor of Biochemistry and Molecular Biophysics (Pending Executive Faculty Approval) (primary appointment)
PHD Univ of Wisconsin Madison 1991
MS University of Warsaw 1986
Hannah Rachel Krigman, MD Associate Professor of Pathology and Immunology (primary appointment)
BA Amherst College 1983
MD University of North Carolina 1988
Kristen Louise Kroll, PHD Associate Professor of Developmental Biology (primary appointment)
PHD University of CA Berkeley 1994
BA Northwestern University 1988
Ronald J Krone, MD Professor of Medicine (primary appointment)
John E Simon Scholar in Medicine
MD University of Chicago 1966
BS University of Michigan 1962
Catherine P Krucylak, MD Assistant Professor of Anesthesiology (primary appointment)
BA Rutgers University 1982
MD U Medical-Dental Of New Jersey 1986
Elaine Susan Krul, PHD Adjunct Associate Professor of Medicine (primary appointment)
PHD McGill University 1982
Kilannin Cathleen Krysiak, PHD Instructor in Medicine (primary appointment)
PHD Washington Univ in St. Louis 2014
BS University of Illinois 2006
Thomas Kuciejczyk-Kernan, MD Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1986
BS University of Illinois 1982
Ralph F Kuhlman, MD Assistant Professor of Clinical Medicine (primary appointment)
MD University of Illinois 1964
Robert E Kuhlman, MD Asst Prof Emeritus Of Clinical Ortho Surg (primary appointment)
BA Washington Univ in St. Louis 1953
MD Washington Univ in St. Louis 1956
Frederick Matthew Kuhlmann, MD Instructor in Medicine (primary appointment)
MD Emory University 2002
BS Emory University 1998
Anthony Kulczycki Jr, MD Associate Professor of Medicine (primary appointment)
Associate Professor of Molecular Microbiology
MD Harvard University 1970
Ashok Kumar, MD Assistant Professor of Clinical Neurology (primary appointment)
MD Dow Medical College Karachi 1985
Terrance T. Kummer, PHD, MD 
Assistant Professor of Neurology (primary appointment)
PHD Washington Univ in St. Louis 2006
MD Washington Univ in St. Louis 2006
BS University of Minnesota 1999

Robin A. Kundra, PHD, MD 
Instructor in Clinical Medicine (primary appointment)
PHD Washington Univ in St. Louis 2000
MD Washington Univ in St. Louis 2000
BS University of Georgia 1992

Denise Kung, MD 
Assistant Professor of Clinical Pediatrics (primary appointment)
MD Yale University 1991
BA University of Missouri 1986

David I. Kuperman 
Instructor in Clinical Medicine (primary appointment)
BA Hendrix College 1997

Lindsay M Kuroki, MD 
Assistant Professor of Obstetrics and Gynecology (primary appointment)
MD Brown University 2009

Howard I. Kurz, MEE, MD 
Professor of Medicine (primary appointment)
MEE Princeton University 1980
MD New York Medical College 1984
BS Mass Inst of Technology (MIT) 1979
BS1 Mass Inst of Technology (MIT) 1979

Linda C Kurz, MA 
Res Assoc Prof Emeritus of Biochem & Mol Bio (primary appointment)
MA Washington Univ in St. Louis 1970
BA Washington Univ in St. Louis 1968

Vladimir Kushnir, MD 
Assistant Professor of Medicine (primary appointment)
MD Ohio State University 2006
BS University of Utah 2002

Sebla Bulent Kutluay, PHD 
Assistant Professor of Molecular Microbiology (primary appointment)
PHD Michigan State University 2009

Jennie H Kwon, DOST 
Instructor in Medicine (primary appointment)
BA Univ of IL -Urbana-Champaign 2005
DOST Chicago Coll of OsteopathicMed 2009
BS Univ of IL -Urbana-Champaign 2005

George B Kyei, MS, MD, PHD 
Assistant Professor of Medicine (primary appointment)
MS University of Ghana Medical Sc 2003
MD University of Ghana Medical Sc 1998
PHD University of New Mexico 2007

Michael Kyriakos, MD 
Professor of Pathology and Immunology (primary appointment)
MD Albert Einstein College of Med 1962

Paul B L'Ecuyer, MD 
MD University of MO Columbia 1989

Suzanne Nicole L'Ecuyer, MD 
Instructor in Psychiatry (primary appointment)
MD University of Louisville 2016

Adam J. LaBore, MD 
Associate Professor of Orthopaedic Surgery (primary appointment)
Associate Professor of Neurology
MD Loyola University Chicago 1998
BS Louisiana College 1994

Michael J Lachtrup 
Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
Jennifer S Ladage, MD
Instructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1991
BS Valparaiso University 1987

Christine Marie Ladd, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD University of Missouri 1990
BA Saint Louis University 1986

Jack H Ladenson, PhD
Oree M Carroll and Lillian B Ladenson Professor of Clinical Chemistry in Pathology and Immunology (primary appointment)
Professor of Clinical Chemistry in Medicine
PHD University of Maryland 1971
BS Pennsylvania State University 1964

Stacie Sharon Laff, MD
Instructor in Clinical Pediatrics (primary appointment)
BA Lawrence University 1989
MD School Not Listed 1993

Richard Laforest, PhD, MS
Associate Professor of Radiology (primary appointment)
PHD University of Laval 1994
MS University of Laval 1991

Albert Max Lai, PhD, M Phil
Associate Professor of Medicine (primary appointment)
PHD Columbia University 2007
M Phil Columbia University 2005

Hing Hung H Lai, MD
Associate Professor of Surgery (Urologic Surgery) (primary appointment)
Associate Professor of Anesthesiology
MD Cornell University 1999

Li-Ling Lai
Instructor in Clinical Pediatrics (primary appointment)
MBBS Bangalore University 1994

Roop Lal, MS
Instructor in Clinical Medicine (primary appointment)
MS Osmania Medical College 1971

Tony C Lam
Instructor in Clinical Obstetrics and Gynecology (primary appointment)

Robert Louis Lamberg, MD
Associate Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MD Washington University in St. Louis 1976
BS University of MO St Louis 1972

Irena Lan
Instructor in Medicine (primary appointment)

William M Landau, MD
Prof Emeritus of Neurology (primary appointment)
MD Washington Univ in St. Louis 1947

Robert Craig Lander, MD
Instructor in Clinical Orthopaedic Surgery (primary appointment)
MD University of Illinois 1972
BA University of Michigan 1968

Michael A. Lane, MD, MS
Assistant Professor of Medicine (primary appointment)
MD Drexel University 2004
MS John Hopkins University 2000
BA Colgate University 1995

Barbara A Lanfer, M Ed
Adjunct Instructor in Audiology and Communication Sciences (primary appointment)
BA Fontbonne University 1975
M Ed University of MO St Louis 1998
Catherine Eckels Lang, MS, PHD
Professor of Physical Therapy (primary appointment)
Professor of Neurology
Professor of Occupational Therapy
MS University of Vermont 1997
PHD Washington Univ in St. Louis 2001
BS University of Vermont 1993

Gabriel David Lang, MDAssistant Professor of Medicine (primary appointment)
MD University of Illinois Chicago 2009

Susan M Langhorst, ME, PHD
Director Office of Radiation Safety (primary appointment)
Assistant Professor of Radiology
ME University of MO Columbia 1979
BS MO S&T (formerly UofMO Rolla) 1976
PHD University of MO Columbia 1982

Vanessa Mae Lanier
Instructor in Physical Therapy (primary appointment)
Instructor in Orthopaedic Surgery
BS Washington Univ in St. Louis 2007

Gregory Mark Lanza, PHD, MS
Oliver M Langenberg Distinguished Professor of Science and Practice of Medicine (primary appointment)
Professor of Biomedical Engineering
BA Colby College 1975
PHD University of Georgia 1981
MS University of Georgia 1978

Suzanne Elizabeth Lapi, MS, PHD
Adjunct Associate Professor of Radiology (primary appointment)
BS Simon Fraser University 2001
MS Simon Fraser University 2003
PHD Simon Fraser University 2007

Paul Arthur Lapoint, ODA
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD School Not Listed 1963

Demetrios G Lappas, MDP
Prof Emeritus Of Anesthesiology (primary appointment)
MD Aristotle University 1961

Gina N LaRossa, MDA
Assistant Professor of Medicine (primary appointment)
MD Yale University 2007
BS Yale University 2001

Douglas P. Larsen, MDA
Associate Professor of Neurology (primary appointment)
Associate Professor of Pediatrics
BA Brigham Young University 1999
MD University of Utah 2003

David Ernfrid Larson, PHDA
Academic Rank held in Genetics (primary appointment)
Instructor in Genetics
BS Indiana State University 2003
PHD Washington Univ in St. Louis 2007

Shane Joseph LaRue, MDA
Assistant Professor of Medicine (primary appointment)
MD Medical College of Wisconsin 2005

John M Lasala, MDP
Professor of Medicine (primary appointment)
Professor of Surgery (Cardiothoracic Surgery)
BA Drew University 1975
MD University of Connecticut 1983
Andrei Laszlo, PHD, MS
Associate Professor of Radiation Oncology (primary appointment)
PHD University of California 1979
MS University of California 1972
BS University of Chicago 1970

Chakrapol Lattanand, MD
Assistant Professor of Anesthesiology (primary appointment)
MD Hahnemann University 2000

Steven A Lauter, MD
Associate Professor of Medicine (primary appointment)
MD Wayne State University 1971
BS Wayne State University 1967

Kory J. Lavine, PHD, MD
Assistant Professor of Development Biology
PHD Washington Univ in St. Louis 2008
BS University of Rochester 2001
MD Washington Univ in St. Louis 2008

Steven Jay Lavine
Professor of Medicine (primary appointment)
BA Temple University 1972

Russell K Lawrence, MD
Adjunct Instructor in Pediatrics (primary appointment)
MD Baylor College of Medicine 2002
BS University of Texas Austin 1998

Steven J Lawrence, MS
Associate Professor of Medicine (primary appointment)
MS University of London 2004
BS Rose Hulman Institute 1992

Heather A Lawson, PHD, MA
Assistant Professor of Genetics (primary appointment)
BA Univ of Wisconsin Milwaukee 2002
PHD Pennsylvania State University 2008
MA Pennsylvania State University 2004

Leland M Laycob, MD
Instructor in Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1964
MD University of Missouri 1968

Patricia Lazaroff, BN, MSN
Adjunct Instructor in Obstetrics and Gynecology (primary appointment)
BN School Not Listed 1972
MSN Saint Louis University 1974
Richard Lee Lazaroff
Professor of Clinical Pediatrics (primary appointment)

Daniel Joseph Leary Jr, MD
Assistant Professor of Clinical Radiology (primary appointment)
MD Washington Univ in St. Louis 1966
BS Saint Louis University 1962

Caroline Kim Lee, MD
Associate Professor of Pediatrics (primary appointment)
BA Wellesley College 1995
MD University of Virginia 1999

Caroline Martz Lee, PHD, MD
Instructor in Medicine (primary appointment)
BS Knox College 2003
PHD University of North Carolina 2009
MD University of North Carolina 2011

Chris Cheng-Fu Lee, PHD, MD
Associate Professor of Anesthesiology (primary appointment)
PHD Beijing Medical University 1991
MD Hubei Medical University 1985

Constance Wye Leng Lee, MD
Instructor in Surgery (Pediatric Surgery) (primary appointment)
MD University of Virginia 2006
Eileen May Lee, MD  Assistant Professor of Medicine (primary appointment)
BA University of Iowa 2002
MD University of Iowa 2006
Gary G Lee, DOST  Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA School Not Listed 1970
DOST School Not Listed 1976
Jin-Moo Lee, MD  Professor of Neurology (primary appointment)
Professor of Radiology
MD Cornell University 1993
Kim Lynette Lee  Instructor in Clinical Medicine (primary appointment)
BS Washington Univ in St. Louis 1979
Michelle Lee  Assistant Professor of Radiology (primary appointment)
Sena Lee, PHD  Assistant Professor of Medicine (Dermatology) (primary appointment)
PHD Rockefeller University 2002
Steven F Lee, MD  Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
MD University of Maryland 1987
BS University of Maryland 1983
Wang Sik Lee, PHD, MA  Assistant Professor of Medicine (primary appointment)
PHD Korea University Medical Coll 1990
MA Korea University Medical Coll 1982
BA Korea University Medical Coll 1978
Yi-Shan Lee, MD, PHD  Asst Professor of Pathology and Immunology (primary appointment)
MD National Taiwan University 2000
PHD Duke University 2008
Stephan S Lefrak, MD  Prof Emeritus of Medicine (primary appointment)
MD State University of New York 1965
BA Colgate University 1960
Robert B Lehman  Instructor in Clinical Medicine (primary appointment)
BA Texas Tech University 1977
Paula M Leiva, MD  Instructor in Radiology (primary appointment)
MD Univ Nacional de Cuyo 2000
Fanee J Lekkas  Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Walter Lemann III, MD  Associate Professor of Clinical Neurology (primary appointment)
MD Tulane University 1979
BS Yale University 1975
Deborah J. Lenschow, MD, PHD  Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology
MD University of Chicago 1998
PHD1 University of Chicago 1995
PHD University of Chicago 1995
MD1 University of Chicago 1998
Shannon N Lenze, PHD, MA  Assistant Professor of Psychiatry (primary appointment)
PHD University of Pittsburgh 2007
MA University of Pittsburgh 2003
David Seamus Leonard, MBCHB, MHA  Assistant Professor of Otolaryngology (primary appointment)
Kathryn B Leonard, MD Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
MD Saint Louis University 2010

F. Timothy Leonberger, PHD, MS Instructor in Clinical Medical Psychology in Psychiatry (On Staff at Malcolm Bliss Mental Health Center) (primary appointment)
BA University of Illinois 1977
PHD Univ of Southern Mississippi 1986
MS Louisiana St University 1983

Christina Lessov-Schlaggar, PHD Assistant Professor of Psychiatry (primary appointment)
PHD Oregon Health Science Univers 2000

Nigel C Lester, MD Instructor in Psychiatry (primary appointment)
MD University of Bristol 1994

Alison M Leston, MD, PHD Assistant Professor of Clinical Neurology (primary appointment)
MD Washington Univ in St. Louis 2001
BS University of Illinois 1990
PHD University of Chicago 2000

Daisy W Leung, PHD Assistant Professor of Pathology and Immunology (primary appointment)
Assistant Professor of Biochemistry and Molecular Biophysics
PHD University of Texas Southwest 2005
BS Amherst College 1997

Eric Claude Leuthardt, MD Professor of Neurological Surgery (primary appointment)
Professor of Neuroscience
Professor of Mechanical Engineering and Applied Science.
BS Saint Louis University 1995
MD University of Pennsylvania 1999

Marc Stephen Levin, MD Professor of Medicine (primary appointment)
MD Columbia University 1981

Laurence A Levine, DDENT, MD, MA Associate Professor of Clinical Otolaryngology (primary appointment)
DDENT New York University 1967
MD Albany Medical College 1971
MA Hofstra University 1963

Mark D Levine, MD Associate Professor of Emergency Medicine in Medicine (primary appointment)
MD New York University 1996
BA Washington Univ in St. Louis 1991

Edward S Levy, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Washington Univ in St. Louis 1991
BA Duke University 1987

Jerome F Levy Professor Emeritus of Surgery (General Surgery) (primary appointment)
Prof Emeritus of Surgery (General Surg) (primary appointment)

Kenneth C Levy Instructor in Clinical Pediatrics (primary appointment)
BA Emory University 1983

Morton A Levy Assoc Prof Emeritus Of Clinical Medicine (primary appointment)

Philip Thaler Levy, MD Adjunct Instructor in Pediatrics (primary appointment)
MD Tel-Aviv University 2003
BS Rutgers University 2001
Amanda Lark Lewis, PHD  Assistant Professor of Molecular Microbiology (primary appointment)
Assistant Professor of Obstetrics and Gynecology
BS Cal Polytec San Luis Obispo 2001
PHD University of San Diego 2006
Collins E Lewis, MD  Associate Professor Emeritus of Psychiatry (primary appointment)
Assoc Prof Emeritus Of Psychiatry (primary appointment)
BA Rutgers University 1967
MD Harvard University 1971
Lawrence M Lewis, AA, MD  Professor of Emergency Medicine in Medicine (primary appointment)
AA University of Florida 1972
MD University of Miami 1976
Scott W Lewis  Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BS 1 So Cal College of Optometry 1975
Warren Graybill Lewis, PHD  Instructor in Medicine (primary appointment)
BS State Univ of NY Buffalo 1998
PHD Scripps Research Institute 2005
Timothy J Ley  Lewis T and Rosalind B Apple Professor of Medicine (primary appointment)
Professor of Genetics
BA Drake University 1974
Ellen Li, PHD, MD
PHD Washington Univ in St. Louis 1980
BS Stanford University 1974
MD Washington Univ in St. Louis 1980
Hua Li, PHD  Assistant Professor of Radiation Oncology (primary appointment)
BS Huazhong University of Science 1994
PHD Huazhong University of Science 2001
Hui Li, MS  Associate Professor of Radiation Oncology (primary appointment)
MS Chinese Academy of Sciences 1995
Li Li, MD, PHD  Instructor in Clinical Medicine (primary appointment)
MD Shanghai Medical University 1988
PHD Loyola University Chicago 1998
Mingjie Li, MD, PHD  Assistant Professor of Neurology (primary appointment)
MD Heilong jiang Coll of Trad Med 1983
PHD Kochi Medical School 1989
Shunqiang Li, PHD  Assistant Professor of Medicine (primary appointment)
PHD Chinese Academy of Med Science 1999
Tingting Li, MD  Associate Professor of Medicine (primary appointment)
MD State Univ of NY Buffalo 1999
Weikai Li, PHD, MS  Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)
PHD Yale University 2004
MS University of Tenn Chattanooga 1998
BS East China Univ of Sci & Tech 1993
Wenjun Li  Assistant Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Min Lian, PHD  Assistant Professor of Medicine (primary appointment)
PHD Texas Tech University 2006
Stephen Yuan-Tung Liang Assistant Professor of Medicine (primary appointment)
Steve Ming-Che Liao, MD Assistant Professor of Pediatrics (primary appointment)
BS University of CA Los Angeles 1999
MD Saint Louis University 2003
Jeffery Lichtenhan, BAS Assistant Professor of Otolaryngology (primary appointment)
BAS University of Kansas 2000
Amy K Licis, MD Assistant Professor of Neurology (primary appointment)
MD Washington Univ in St. Louis 2004
BS Rice University 2000
James Walter Lieber Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BS Wayne State University 1976
David M Lieberman, MD Assoc Prof Emeritus Of Clinical Medicine (primary appointment)
MD Vanderbilt University 1949
Huiping C Lieser, PHD, MA Instructor in Occupational Therapy (primary appointment)
PHD Kansas State University 2001
MA Kansas State University 1994
Charles H Lieu, MD Instructor in Clinical Medicine (primary appointment)
MD State Univ of NY Buffalo 1993
Judith E Lieu, MD Associate Professor of Otolaryngology (primary appointment)
BS University of CA Davis 1988
MD Washington Univ in St. Louis 1992
Barry Light, MD Associate Professor of Clinical Pediatrics (primary appointment)
BA University of Missouri 1973
MD University of Missouri 1980
Anna Lijowska, MD Assistant Professor of Pediatrics (primary appointment)
MD Jagiellonian University 1988
Stephen Bradley Lillard, MD Instructor in Clinical Medicine (primary appointment)
MD Univ of Health Sciences KC 1970
Michael Lillmars, DDENT Instructor in Clinical Otolaryngology (DDS) (primary appointment)
DDENT Northwestern University 1984
BA Drury College 1979
Efrem S Lim, PHD Instructor in Molecular Microbiology (primary appointment)
PHD University of Washington 2012
BS University of Michigan 2008
Kian-Huat Lim, PHD, MD Assistant Professor of Medicine (primary appointment)
PHD Duke University 2006
MD National Taiwan University 1999
David D Limbrick Jr Professor of Neurological Surgery (primary appointment)
Professor of Pediatrics
BS College of William and Mary 1995
Congxing Lin Instructor in Medicine (primary appointment)
Hsiu-San Lin, PHD, MD Professor Emeritus of Radiation Oncology (primary appointment)
Prof Emeritus of Radiation Oncology (primary appointment)
PHD University of Chicago 1968
MD National Taiwan University 1960
Huawen Lin Instructor in Genetics (primary appointment)
BS School Not Listed 1998
John Chao-Chun Lin, MDAssistant Professor of Pediatrics (primary appointment)
MD University of Virginia 1998
BS University of Virginia 1994
Michael Fu-Yen LinAssistant Professor of Radiology (primary appointment)
BS Northwestern University 1995
Michael Yun Lin, MDAssociate Professor of Medicine (primary appointment)
MD University of Iowa 1994
BA Harvard University 1990
Yiing Lin, PHD, MDAssistant Professor of Surgery (General Surgery) (primary appointment)
PHD Washington Univ in St. Louis 2005
MD Washington Univ in St. Louis 2005
BS Duke University 1997
John T Lind, MSAssistant Professor of Ophthalmology and Visual Sciences (primary appointment)
BS Indiana University Indianopoli 1999
MS Purdue University 2000
Penelope Alathea LindAdjunct Instructor in Psychiatry (primary appointment)
Kathryn Jesseca Lindley, MDAssistant Professor of Medicine (primary appointment)
BS University of Illinois 2003
MD Emory University 2007
Brian Richard Lindman, MD, MAG Associate Professor of Medicine (primary appointment)
MD Vanderbilt University 2003
BS Duke University 1997
MA Reformed Theological Seminary 2001
Christopher J LingleProfessor of Anesthesiology (primary appointment)
Professor of Neuroscience
BS University of Oregon 1972
Daniel C Link, MDAAlan A and Edith L Wolff Distinguished Professor of Medicine (primary appointment)
Professor of Pathology and Immunology
MD Univ of Wisconsin Milwaukee 1985
Erin Lynn Linnenbringer, PHDInstructor in Surgery (Public Health Sciences) (primary appointment)
BS1 Washington Univ in St. Louis 2000
MS1 Northwestern University 2003
PHD University of Michigan 2014
Robert D LinsInstructor in Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1965
Michael Brayer Lippmann, MDProfessor of Medicine (primary appointment)
MD State University of New York 1977
BA State University of New York 1973
Mauricio Lisker-Melman, MDPProfessor of Medicine (primary appointment)
MD National Autonomous U of Mex 1980
Jay L Liss, MDAssociate Professor of Clinical Psychiatry (primary appointment)
MD Washington Univ in St. Louis 1966
BA Washington Univ in St. Louis 1963
Mary Kathryn LiszewskiAssistant Professor of Medicine (primary appointment)
Howard S Lite, MDInstructor in Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1977
MD University of Missouri 1983
Patricia Elizabeth Litkowski, MDInstructor in Medicine (primary appointment)
MD Washington Univ in St. Louis 2013
Adam Daniel Littich, MDInstructor in Medicine (primary appointment)
MD Saint Louis University 2009
Blake Allen Little, MDInstructor in Clinical Pediatrics (primary appointment)
MD University of MO Kansas City 1986
John Russell Little JrProf Emeritus of Medicine (primary appointment)
BA Cornell University 1952
Marina LitvinAssistant Professor of Medicine (primary appointment)
BA Washington Univ in St. Louis 2003
Chang Liu, PHD, MDAssistant Professor of Pathology and Immunology (primary appointment)
PHD Oregon Health Science Univers 2010
MD Peking Union Medical College 2004
Jianmei Liu, MSInstructor in Clinical Medicine (primary appointment)
MS Shanghai Medical University 1987
Qianjin Liu, MD, PHDAssistant Professor of Anesthesiology (primary appointment)
MD Nanjing Medical University 1983
PHD Saint Louis University 1997
Qin Liu, PHDAssistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Ophthalmology and Visual Sciences
PHD Chinese Academy of Sciences 2004
BS Wuhan University 1998
Ta-Chiang Liu, MD, PHDAssistant Professor of Pathology and Immunology (primary appointment)
MD National Yang-Ming University 1997
PHD Imperial College 2003
Xinping Liu, MS, PHDInstructor in Medicine (primary appointment)
MS Southeast Missouri St Univers 1999
BS School Not Listed 1986
PHD Washington Univ in St. Louis 2005
Yangjian LiuInstructor in Developmental Biology (primary appointment)
Ying Liu, MD, PHDAssistant Professor of Surgery (Public Health Sciences) (primary appointment)
MD Southeast U Medical School 1995
PHD Texas Tech University 2006
Yongjian Liu, PHD, MSAssistant Professor of Radiology (primary appointment)
PHD University of Missouri Columbi 2007
MS Zhejiang Medical University 2000
BS Henan Normal University 1997
Rebecca Lobb, PHSAssistant Professor of Surgery (Public Health Sciences) (primary appointment)
PHS Harvard University 2009
Adam Edward Locke, PHDAssistant Professor of Medicine (primary appointment)
PHD Emory University 2010
BA Lawrence University 2003
Albert C Lockhart, MHS, MDPresident of Anesthesiology (primary appointment)
BA Rice University 1989
MHS Duke University 2001
MD University of Texas Dallas 1993
Ellen M LockhartProfessor of Anesthesiology (primary appointment)
Amy Loden, MD
Instructor in Medicine (primary appointment)
MD University of MO Columbia 2010

Jennifer K Lodge, PHD
Professor of Molecular Microbiology (primary appointment)

Vice Chairman for Research
Vice Chancellor for Research
Associate Dean for Research
Associate Dean for Research

Irfan J Lodhi, PHD, MS
Assistant Professor of Medicine (primary appointment)
PHD University of Michigan 2007
BS University of Michigan 1993
MS Wayne State University 1996

Jennifer K Lodge, PHD
Professor of Molecular Microbiology (primary appointment)

Vice Chairman for Research
Vice Chancellor for Research
Associate Dean for Research
Associate Dean for Research

Irfan J Lodhi, PHD, MS
Assistant Professor of Medicine (primary appointment)
PHD University of Michigan 2007
BS University of Michigan 1993
MS Wayne State University 1996

Lola J Loeb, MA, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MA California State Dominguez 1992
MD KANSAS U SCHOOL OF MEDICINE 2000
BS Loyola Marymount University 1988

Arthur D Loewy, PHD
Professor of Anatomy and Neuroscience (primary appointment)
BA Lawrence University 1964
PHD Univ of Wisconsin Madison 1969

Beverly A Logan-Morrison
Instructor in Clinical Medicine (primary appointment)
BA Webster University 1976

Timothy M Lohman
Brennecke Professor of Biophysics in Biochemistry and Molecular Biophysics
(primary appointment)
BA Cornell University 1973

Andrea Loiselle, MD, M PH
Assistant Professor of Medicine (primary appointment)
BS University of California 1995
MD Drexel University 2005
M PH California State University 1999

Jane Loitman, MS, MD
Assistant Professor of Clinical Neurology (primary appointment)
Instructor in Clinical Medicine
MS Georgetown University 1988
MD University of Minnesota 1992
BA Tufts University 1982

Alan M Londe, MD
Instructor in Clinical Surgery (General Surgery) (primary appointment)
MD Washington Univ in St. Louis 1961

Stanley L London, MD
Associate Professor Emeritus of Clinical Surgery (General Surgery) (primary appointment)

Assoc Prof Emeritus of Clin Surg (Gen Surg) (primary appointment)

Fanxin Long, PHD
Professor of Orthopaedic Surgery (primary appointment)
Professor of Developmental Biology
Professor of Medicine
PHD Tufts University 1997

Jeremiah Robert Long, MD
Assistant Professor of Radiology (primary appointment)
BS University of Notre Dame 1999
MD Georgetown University 2004
Gregory D Longmore, MD, MS 
Professor of Medicine (primary appointment) 
Professor of Cell Biology and Physiology 
MD McGill University 1983 
BS University of Western Ontario 1977 
MS University of Toronto 1979 

Maurice J Lonsway Jr, MD 
Prof Emeritus Of Clinical Pediatrics (primary appointment) 
MD Washington Univ in St. Louis 1950 
BA Washington Univ in St. Louis 1946 

James F Loomis Jr, MD, MBA 
Instructor in Clinical Medicine (primary appointment) 
MD University of Arkansas 1985 
BA Hendrix College 1981 
MBA Washington Univ in St. Louis 1997 

Dwight C Look, MD 
Professor of Medicine (primary appointment) 
MD University of MO Kansas City 1985 
BA University of MO Kansas City 1985 

Glenn Lopate, MD 
Professor of Neurology (primary appointment) 
BS Colorado St University 1983 
MD Ohio State University 1987 

Ramon Alberto Lorca 
Instructor in Obstetrics and Gynecology (Pending Dean's Approval) (primary appointment) 
BS Universidad Catolica Del Norte 2001 

Jerry L Lowder, MD 
Associate Professor of Obstetrics and Gynecology (primary appointment) 
MD East Carolina University 1999 

Robert Douglas Lowe, DDENT 
Instructor in Clinical Otolaryngology (DMD) (primary appointment) 
DDENT Washington Univ in St. Louis 1982 
BA Washington Univ in St. Louis 1977 

Jeffrey A Lowell, MD 
Prof Emeritus of Surgery (primary appointment) 
BA Oberlin College 1981 
MD Yale University 1985 

Esther Jiaxin Lu, PHD, MS 
Assistant Professor of Surgery (Public Health Sciences) (primary appointment) 
Assistant Professor of Biostatistics 
PHD Medical College of Wisconsin 2007 
MS National Univ of Singapore 2002 
BS Nankai University 1997 

Olga Y. Lubman, PHD 
Instructor in Pathology and Immunology (primary appointment) 
BA Goucher College 1998 
PHD Washington Univ in St. Louis 2002 
BS Goucher College 1998 

Anthony J Lubniewski, MD 
Professor of Ophthalmology and Visual Sciences (primary appointment) 
BS University of Florida 1980 
MD University of Florida 1985 

Herbert Lubowitz, MD 
Associate Professor of Clinical Medicine (primary appointment) 
MD Washington Univ in St. Louis 1958 
BA Clark University 1954 

Joan L Luby, MD 
Professor of Psychiatry (Child Psychiatry) (primary appointment) 
BA Brown University 1981 
MD Wayne State University 1985
Brendan Patrick Lucey, MD
Assistant Professor of Neurology (primary appointment)
BA University of Vermont 1999
MD John Hopkins University 2003

Philip A Ludbrook, MBBS
Professor Emeritus of Medicine (primary appointment)
Prof Emeritus of Medicine (primary appointment)
Professor Emeritus of Psychiatry
MBBS University of Adelaide 1963
BS School Not Listed 1957

Kenneth M Ludmerer, MA
Professor of Medicine (primary appointment)
Prof Emeritus of Medicine (primary appointment)
Professor Emeritus of Psychiatry
MBBS University of Adelaide 1963
BS School Not Listed 1957

Mark A Ludwig, MD
Instructor in Clinical Surgery (General Surgery) (primary appointment)
MD University of Chicago 1976
BA Emory University 1972

Lauren Michelle Ludwig Lee, MD
Instructor in Clinical Medicine (primary appointment)
MD University of MO Kansas City 2008

Gregg T Lueder, MD
Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Pediatrics
MD University of Iowa 1985
BS Iowa State University 1981

Susan L Luedke, MD
Instructor in Clinical Medicine (primary appointment)
MD University of Rochester 1972

Scott J Luhmann, MD
Professor of Orthopaedic Surgery (primary appointment)
MD University of Minnesota 1991
BA Gustavus Adolphus College 1986

Peter David Lukasiewicz, PHD
Janet and Bernard Becker Professor of Ophthalmology (primary appointment)
Professor of Neuroscience
PHD University of Michigan 1984
BS Brown University 1977

Clifford James Luke, PHD
Associate Professor of Pediatrics (Pending Executive Faculty Approval)
( primary appointment)
PHD University of Surrey 1999
BS University of Liverpool 1994

Jingqin Luo, PHD, MS
Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
Assistant Professor of Biostatistics

Assistant Professor of Medicine
PHD Duke University 2006
MS Renmin University of China 2001
MS1 Duke University 2003
BS Renmin University of China 1998

Patrick Joseph Lustman, PHD
Professor of Psychiatry (primary appointment)
Professor of Psychological & Brain Sciences
BA University of Illinois 1972
PHD Michigan State University 1980

Barbara A Lutey, MD, MLS
Assistant Professor of Medicine (primary appointment)
BA Indiana University Bloomington 1982
Christopher Raymond Lynch, Instructor in Clinical Medicine (primary appointment)

John P Lynch, MD, Professor of Medicine (primary appointment)

BA Saint Louis University 1983
MD Georgetown University 1989

Michael T. Lynskey, PHD, MS, Adjunct Professor of Psychiatry (primary appointment)

PHD School Not Listed 1997
BS School Not Listed 1987
MS University of Canterbury 1989

Alan P Lyss, MD, Associate Professor of Clinical Medicine (primary appointment)

MD Washington Univ in St. Louis 1976
BA Washington Univ in St. Louis 1972

Carl A Lyss, Assistant Professor of Clinical Medicine (primary appointment)

Cynthia Xiuguang Ma, PHD, MD, Associate Professor of Medicine (primary appointment)

PHD University of Cincinnati 1997
MD Beijing Medical University 1990

Hongming Ma, MS, PHD, Instructor in Medicine (primary appointment)

BA Qufu Normal University 1993
MS Fudan University 1996
PHD Ocean University of China, Qin 2004

Liang Ma, PHD, Associate Professor of Medicine (Dermatology) (primary appointment)

Associate Professor of Developmental Biology

PHD University of CA Los Angeles 1995
BA University of CA Berkeley 1989

Ningning Mal, Instructor in Medicine (primary appointment)

Richard W Maack, MD, Instructor in Clinical Otolaryngology (primary appointment)

BS Muhlenberg College 1981

Robert R Mac Donald III, MD, Instructor in Clinical Otolaryngology (primary appointment)

MD Washington Univ in St. Louis 1993
BA Duke University 1989

Shannon L. Macauley-Rambach, PHD, Assistant Professor of Neurology (primary appointment)

PHD Washington Univ in St. Louis 2009
BS Middlebury College 1999

Luigi Maccotta, MD, PHD, Assistant Professor of Neurology (primary appointment)

BS St Peters College 1994
MD Washington Univ in St. Louis 2005
PHD Washington Univ in St. Louis 2005

Donna Alexandra MacDuff, PHD, Instructor in Pathology and Immunology (primary appointment)

PHD University of Minnesota 2008

Matthew R. MacEwan, PHD, Assistant Professor of Neurosurgery (Pending Executive Faculty Approval) (primary appointment)

PHD Washington Univ in St. Louis 2015
BS Case Western Reserve Univ 2004

Colin Mackenzie, Instructor in Clinical Psychiatry (primary appointment)

Lisa Marie Mackey, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
Susan E Mackinnon, MD
Sydney M., Jr. and Robert H. Shoenberg Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
Professor of Otolaryngology
Professor of Occupational Therapy
BA Queens College 1971
MD Queen's University 1975

George Andrew Macones, MD, MS
Mitchell and Elaine Yanow Professor of Obstetrics and Gynecology (primary appointment)
Head of the Department of Obstetrics and Gynecology
MD Jefferson Medical College 1988
BS University of Pennsylvania 1984
MS University of Pennsylvania 2006

Julie Kathleen MacPhee, MD
Instructor in Clinical Medicine (primary appointment)
MD Albert Einstein College of Med 2008
BS Trinity College 2003

John C. Madden
Instructor in Clinical Pediatrics (primary appointment)

Pamela A Madden, PHD, MS
Professor of Psychiatry (primary appointment)

Tessa E Madden, MD, M PH
Associate Professor of Obstetrics and Gynecology (primary appointment)

Blair B Madison, PHD
Assistant Professor of Medicine (primary appointment)

Jeffrey A Magee, PHD, MD
Assistant Professor of Pediatrics (primary appointment)
Assistant Professor of Genetics

William Edwin Magee, MD
Associate Professor of Clinical Medicine (primary appointment)
MD Duke University 1950

Leonard B Maggi Jr, PHD
Assistant Professor of Medicine (primary appointment)

Jambunathan Mahadevan
Instructor in Clinical Medicine (primary appointment)

Christopher A Maher, PHD
Assistant Professor of Medicine (primary appointment)
Assistant Director of The Genome Institute

Nicole Maher, PHD
Instructor in Medicine (primary appointment)

Mohamed Mahjoub
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
Robert John Mahoney, MD
Associate Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1997
BA Princeton University 1993

Baijayanta Maiti
Instructor in Neurology (Pending Dean's Approval) (primary appointment)

Elaine Michelle Majerus, MD
Associate Professor of Medicine (primary appointment)
Associate Professor of Cell Biology and Physiology
BA Washington Univ in St. Louis 1986
MD Saint Louis University 1998
BS Washington Univ in St. Louis 1986

John E Majors, PHD
Prof Emeritus of Biochem & Molecular Biophysics (primary appointment)
PHD Harvard University 1977
BS University of Washington 1970

Majesh Makan, MD
Associate Professor of Medicine (primary appointment)
MD Univ of Panama School of Med 1984

Kamlesh R Makwana, DDENT
Instructor in Clinical Otolaryngology (DDS) (primary appointment)
BA Univ of Wisconsin Madison 1992
DDENT Marquette University 1996

Ranjan P Malhotra, MD
Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
MD University of Missouri 1995

Mohsin Ilyas Malik, MBBS
Instructor in Clinical Medicine (primary appointment)
MBBS Army Medical College 1999

Virgil Lee Malmberg, MD, MS
Instructor in Clinical Psychiatry (primary appointment)
MD University of Missouri 1978
MS University of Illinois 1970
BS University of Illinois 1968

Andrew F. Malone
Assistant Professor of Medicine (primary appointment)
BA Trinity College Dublin 2000
MBCHB1 Royal College of Surgeons 2005

Jay Randolph Malone, MD
Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
BS University of Oklahoma 2005
MD University of Oklahoma 2009

Horacio M Maluf
Associate Professor of Pathology and Immunology (primary appointment)

Daniel T. Mamah
Assistant Professor of Psychiatry (primary appointment)

Maria Maminta-Streiiff
Instructor in Clinical Obstetrics and Gynecology (primary appointment)

Mark John Manary, MD
Helene B. Roberson Professor of Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1982
BS Mass Inst of Technology (MIT) 1977

Mary Elizabeth Mani
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA Washington Univ in St. Louis 1980

Naganathan B Mani, MBBS, MS
Assistant Professor of Radiology (primary appointment)
MBBS Tamilnadu Medical University 1995
MS PGIMER 1999

Hersh Maniar, MD
Associate Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Associate Professor of Medicine
MD University of Illinois 1998
BS University of Michigan 1994
Shivaprasad Gowda Manjappa, MBBS Instructor in Clinical Medicine (primary appointment)  
MBBS Medical College of India 2004

Caroline Mann, MS, MD Associate Professor of Medicine (Dermatology) (primary appointment)  
BS Indiana University Bloomington 1986  
MS Sarah Lawrence College 1988  
MD Indiana University Bloomington 1993

Douglas L. Mann, MD Tobias and Hortense Lewin Professor of Medicine (primary appointment)  
Professor of Cell Biology and Physiology  
MD Temple University 1979  
BA Lafayette College 1973

Marshall S Manne, DDS, MS Instructor in Clinical Otolaryngology (DDS) (primary appointment)  
DDS Washington University in St. Louis 1960  
BA Washington University in St. Louis 1956  
MS Indiana University Bloomington 1964

Peter Bruce Manning, MD Professor of Surgery (Cardiothoracic Surgery) (primary appointment)  
BS Bucknell University 1978  
MD University of Michigan 1982

Scott R. Manson, PhD Instructor in Surgery (Urologic Surgery) (primary appointment)  
BS University of Illinois 1999  
PhD Washington University in St. Louis 2007

George Mansour, MD Instructor in Medicine (primary appointment)  
MD Tishreen University College of Medicine 2010

John F Mantovani, MD Associate Professor of Clinical Neurology (primary appointment)  
Assistant Professor of Clinical Pediatrics  
BA University of Evansville 1971  
MD University of Missouri 1974

Tanying Mao, MD Instructor in Anesthesiology (primary appointment)  
MD Baylor College of Medicine 2010

Xianrong Mao, MS Instructor in Genetics (primary appointment)  
MS Chinese Academy of Sciences 1996  
Soe S Mar Associate Professor of Neurology (primary appointment)  
Associate Professor of Pediatrics

Daniel Scott Marcus, PhD Associate Professor of Radiology (primary appointment)  
BS Washington University in St. Louis 1995  
PhD Washington University in St. Louis 2001  
BA Washington University in St. Louis 1995

Elaine Rene Mardis, PhD Adjunct Professor of Genetics (primary appointment)  
BS University of Oklahoma 1984  
PhD University of Oklahoma 1989

Julie Ann Margenthaler, MD Professor of Surgery (General Surgery) (primary appointment)  
MD Southern Illinois University 1997  
BA Boston University 1993

Robert P Margolis, MD Assistant Professor of Clinical Neurology (primary appointment)  
MD Saint Louis University 1975  
BA Kent State University 1971

Sarah K Margolis, MD Associate Professor of Clinical Medicine (primary appointment)  
MD State University of New York 1989  
BA Barnard College 1984
Todd P Margolis, PHD, MD Alan A and Edith L Wolff Distinguished Professor (primary appointment)
Head of the Department of Ophthalmology and Visual Sciences
PHD University of CA San Francisco 1983
BS Stanford University 1977
MD University of CA San Francisco 1984
Joanne Markham, MS Associate Professor of Radiology (primary appointment)
BA Centre College 1963
MS Washington Univ in St. Louis 1973
Stephanie Markovina, MD Assistant Professor of Radiation Oncology (primary appointment)
MD University of Wisconsin-Madiso 2010
Natasha M.V. Marrus, PHD, MD Assistant Professor of Psychiatry (primary appointment)
BA University of Southern Calif 1999
PHD Washington Univ in St. Louis 2007
MD Washington Univ in St. Louis 2007
BS University of Southern Calif 1999
Jonas Marschall, MD Adjunct Assistant Professor of Medicine (primary appointment)
MD University of Basel 1996
Bess Adkins Marshall, MD Professor of Pediatrics (primary appointment)
Joanne Markham, MS Associate Professor of Radiology (primary appointment)
BS Vanderbilt University 1982
MD Vanderbilt University 1986
Garland R Marshall Professor of Biochemistry and Molecular Biophysics (primary appointment)
Professor of Biomedical Engineering
BS California Institute Technolo 1962
Jay Phillips Marshall II, MD Assistant Professor of Clinical Medicine (primary appointment)
MD University of Missouri 1972
BA De Paul University 1968
Ann G Martin Associate Professor of Medicine (Dermatology) (primary appointment)
BS University of Notre Dame 1977
Carolyn Marie Martin, MD Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
BA Lindenwood College 1970
MD Washington Univ in St. Louis 1976
Jeffrey Wackher Martin, MD Associate Professor in Orthopaedic Surgery (Pending Executive Faculty Approval) (primary appointment)
MD Case Western Reserve Univ 1981
John Barlow Martin, MD Assoc Prof Emeritus Of Clinical Ob & Gyn (primary appointment)
BA Amherst College 1951
MD Washington Univ in St. Louis 1955
Megan Spokes Martin, MD Instructor in Pediatrics (primary appointment)
BA University of Notre Dame 2007
MD University of Kansas 2012
Nathan Russell Martin, MD Assistant Professor of Medicine (primary appointment)
MD University of Texas Southwest 2005
BA University of Pennsylvania 2001
Nicholas Gordon Martin Adjunct Instructor in Psychiatry (primary appointment)
Philip Latham Martin, MD Associate Professor of Clinical Otolaryngology (primary appointment)
MD Saint Louis University 1968
**Thomas F Martin, MD** Associate Professor of Clinical Medicine (primary appointment)
MD Saint Louis University 1965
BS Saint Louis University 1961
**Wade H Martin III, MD** Associate Professor of Medicine (primary appointment)
BA University of Kansas 1973
MD University of Kansas 1977
**Jerald Arthur Maslanko, MD** Instructor in Clinical Medicine (primary appointment)
MD Emory University 1975
**Mary Vest Mason, MD, MBA** Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1994
MBA Washington Univ in St. Louis 1999
BS University of Illinois 1990
**Muhammad Faraz Masood, MD** Assistant Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
MD Dow Medical College Karachi 2001
**Joan Alice Mass, MD** Assistant Professor of Clinical Medicine (primary appointment)
MD Temple University 1977
BA Washington Univ in St. Louis 1971
**Leslie Stewart Massad, MD** Professor of Obstetrics and Gynecology (primary appointment)
BS Williams College 1980
MD Duke University 1984
**Matthew J Matava, MD** Professor of Orthopaedic Surgery (primary appointment)
Professor of Physical Therapy
BA University of MO Kansas City 1986
MD University of MO Kansas City 1987
Alicia B Matayoshi Instructor in Clinical Otolaryngology (DDS) (primary appointment)
**Stanley Mathew, MBBS** Instructor in Clinical Medicine (primary appointment)
MBBS Kerala University 1991
**F. Scott Mathews, PHD** Prof Emeritus of Biochem & Molec Biophysics (primary appointment)
BS University of California 1955
PHD University of Minnesota 1959
**Jose Mathews, MD** Assistant Professor of Psychiatry (primary appointment)
MD Delhi University 1993
**Patrice Mathews, MD** Instructor in Clinical Pediatrics (primary appointment)
BA Trinity University 1984
MD University of Oklahoma 1988
**Amit Mathur, MBBS** Professor of Pediatrics (primary appointment)
MBBS Delhi University 1982
BS Delhi University 1976
**Scot J. Matkovich, PHD** Assistant Professor of Medicine (primary appointment)
BA University of Melbourne 1995
BS University of Melbourne 1996
PHD University of Melbourne 2000
**Anthony J-P Mattaline, DOST** Assistant Professor of Clinical Medicine (primary appointment)
BA St Edwards University 1979
BS Northeast Missouri St Univrsty 1981
DOST School Not Listed 1985
Caline Mattar, MD
Instructor in Medicine (primary appointment)
MD American University of Beirut 2010
BS American University of Beirut 2006

Claire Matthews, MA, PHD
Adjunct Assistant Professor of Otolaryngology (Speech Pathology)
(primary appointment)
MA University of Kansas 1978
BA University of Kansas 1969
PHD University of Kansas 1980

Gregory Warren Mattingly, MD
Assistant Professor of Clinical Psychiatry (primary appointment)
BS University of Missouri 1985
MD Washington Univ in St. Louis 1989

Henry E Mattis, MD
Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1975

Marvin M Maurer Jr, MD
Associate Professor of Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1968
MD Washington Univ in St. Louis 1972

Thin Thin Maw, MS, MBBS
Assistant Professor of Medicine (primary appointment)
MS Long Island University Brookl 2008
MBBS Institute of Medicine 2004

Ariane E May, MD
Associate Professor of Clinical Pediatrics (primary appointment)
BA Tufts University 1983
MD School Not Listed 1993

Kara H Mayes
Instructor in Clinical Medicine (primary appointment)

Ben R Mayes Jr, MD
Assistant Professor of Clinical Radiology (primary appointment)
MD Washington Univ in St. Louis 1966

Thomas Rolf Mazur, PHD
Instructor in Radiation Oncology (Pending Dean's Approval) (primary appointment)
PHD University of Texas Austin 2014

John E. Mazuski, PHD, MD
Professor of Surgery (General Surgery) (primary appointment)
PHD University of Minnesota 1993
MD University of CA Los Angeles 1981

Pietro Mazzoni, PHD, MD
Associate Professor of Neurology (primary appointment)
PHD Mass Inst of Technology (MIT) 1994
BS University of CA San Diego 1988
MD Harvard University 1995

Gabriel Mbalaviele, PHD, MA
Associate Professor of Medicine (primary appointment)
PHD University of Paris 1992
MA School Not Listed 1987

James P Mc Carter, MD, PHD
Adjunct Professor of Genetics (primary appointment)
MD Washington Univ in St. Louis 1998
BA Princeton University 1989
PHD Washington Univ in St. Louis 1998

Audrey McAlinden, PHD
Associate Professor of Orthopaedic Surgery (primary appointment)
Associate Professor of Cell Biology and Physiology
PHD University of London 1998

Rebecca P McAllister, MD
Professor of Obstetrics and Gynecology (primary appointment)
Associate Dean for Graduate Medical Education
MD University of Kentucky 1979
BS University of Kentucky 1977
William H McAlister Professor of Radiology (primary appointment)
Professor of Radiology in Pediatrics
James Patterson McAllister, PHD Professor of Neurological Surgery (primary appointment)
PHD Purdue University 1976
BA Earlham College 1970
John D McAllister, MD Professor of Anesthesiology (primary appointment)
Professor of Pediatrics
MD University of Manitoba 1980
BS University of Manitoba 1982
Steven Joseph McAnany, MD Assistant Professor of Orthopaedic Surgery (Pending Executive Faculty Approval) (primary appointment)
MD Mount Sinai School of Medicine 2010
Christopher M McAndrew, MD Assistant Professor of Orthopaedic Surgery (primary appointment)
MD University of Tennessee 2004
Jina L McAtee Assistant Professor of Clinical Pediatrics (primary appointment)
Mark P. McAvoy, MEE, PHD Assistant Professor of Radiology (primary appointment)
MEE Southern Illinois University 1993
PHD Southern Illinois University 1998
BS University of Illinois 1991
Megan McBride Instructor in Clinical Pediatrics (primary appointment)
Sarah Howe McBride, PHD, MS Adjunct Instructor in Orthopaedic Surgery (primary appointment)
BS Clemson University 2004
PHD Case Western Reserve Univ 2011
MS Case Western Reserve Univ 2008
Jennifer Ann McCabe Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS Saint Louis University 2001
Marcia June McCabe, PHD, MA Associate Professor of Psychiatry (primary appointment)
PHD University of Missouri 1991
BA Washburn University 1985
MA University of Missouri 1987
Kimberli McCallum, MD Assistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)
BS Brown University 1981
MD Yale University 1986
Timothy Joseph McCann, MD Instructor in Clinical Medicine (primary appointment)
BS Saint Louis University 1980
MD American Univ of the Caribbean 1984
Scott A McClain, DDENT Instructor in Clinical Otolaryngology (DDS) (primary appointment)
BS Graceland College 1987
DDENT University of Missouri 1991
Donte D McClary, MD Instructor in Clinical Medicine (primary appointment)
MD Meharry Med College 1998
BS Xavier University 1993
Jonathan E McConathy, PHD, MD Adjunct Assistant Professor of Radiology (primary appointment)
PHD Emory University 2003
BS University of North Carolina 1995
MD Emory University 2004
Jeremy James McCormick, MD  
Assistant Professor of Orthopaedic Surgery (primary appointment)  
MD Loyola University Chicago 2003  
BS Dartmouth College 1999

Molly Ann McCormick  
Assistant Professor of Anesthesiology (primary appointment)  
MD University of Chicago 1985  
BA Coe College 1981

Scott McCormick III, MD  
Assistant Professor of Clinical Psychiatry (primary appointment)  
MD University of Chicago 1985  
BS Dartmouth College 1999

Carollyn Kay McCourt, MD  
Assistant Professor of Obstetrics and Gynecology (primary appointment)  
MD Creighton University 2001  
BS Creighton University 1997

Douglas E McCoy, MD  
Instructor in Clinical Psychiatry (primary appointment)  
BS Eastern Illinois University 1986  
MD Southern Illinois University 1990

Leslie Rose McCrasy-Etuk, MD  
Instructor in Clinical Medicine (primary appointment)  
MD New York Medical College 2001

Vivia Van Dyne McCutcheon, MS, PhD  
Assistant Professor of Psychiatry (primary appointment)  
BA Ohio State University 1985  
MS Washington Univ in St. Louis 2001  
PHD Washington Univ in St. Louis 2005

Eric Martin McDade, DOST  
Assistant Professor of Neurology (primary appointment)  
BA Canisius College 1998  
DOST Chicago Coll of OsteopathicMed 2004

Daniel S McDonald, MD  
Instructor in Clinical Obstetrics and Gynecology (primary appointment)  
BS Yale University 1984  
MD University of Missouri 1989

Douglas J. McDonald, MD  
Professor of Orthopaedic Surgery (primary appointment)  
BS St Johns University 1978  
MD University of Minnesota 1982

Jay R. McDonald, MD  
Assistant Professor of Medicine (primary appointment)  
MD Oregon Health Science Univers 1998  
BA Duke University 1991  
BS Portland St University 1994

Debra Ann McDonnell, MS, DPT, AS  
Associate Professor of Emergency Medicine in Medicine (primary appointment)  
Associate Professor of Orthopaedic Surgery  
Associate Professor of Physical Therapy  
BS Washington Univ in St. Louis 1990  
MS Washington Univ in St. Louis 1990  
DPT Washington Univ in St. Louis 2005  
AS Oakton Community College 2000

Mary Kate McDonnell, DPT, MHS  
Associate Professor of Physical Therapy (primary appointment)  
Associate Professor of Orthopaedic Surgery  
Associate Director of Residencies and Fellowships in Physical Therapy  
BS Saint Louis University 1981  
DPT Washington Univ in St. Louis 2003  
MHS Washington Univ in St. Louis 1985

Cheryl Riddle McDonough, MD  
Instructor in Medicine (primary appointment)
Colleen McEvoy, MD  Assistant Professor of Medicine (primary appointment)
BS Vanderbilt University 1997
MD University of Tennessee 2001

Steven D McGaughey  Instructor in Pediatrics (primary appointment)
BS Fairfield University 2004
MD University of MO Columbia 2008

Carli Laura McGee  Instructor in Pediatrics (primary appointment)
BS Fairfiel University 2004
MD University of MO Columbia 2008

Patricia Navarro McGe  Assistant Professor of Physical Therapy (primary appointment)

Assistant Professor of Orthopaedic Surgery
Bryan Edward McGill, MD  Instructor in Neurology (primary appointment)
BS Denison University 1999
MD Baylor University 2008

Janet B McGill, MA, MD  Professor of Medicine (primary appointment)
BS University of Michigan 1972
MA Northern Michigan University 1980
MD Michigan State University 1979

Murray D McGrady, MD  Instructor in Clinical Otolaryngology (primary appointment)
BS University of Illinois 1982
MD University of Illinois 1986

Mark E. McGranahan, MD  Instructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1997

Patricia A McGuire, MD  Instructor in Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)
BS University of Missouri 1985

Leslie Denise McIntosh, PhD, MA  Assistant Professor of Pathology and Immunology (primary appointment)
PHD Saint Louis University 2008
BA Texas A&M University 1993
MA Saint Louis University 2006

Jonathan L McJunkin, MD  Assistant Professor of Otolaryngology (primary appointment)
BS Northwestern University 2001
MD Jefferson Medical College 2005

Oliver McKee, MD  Instructor in Clinical Medicine (Dermatology) (primary appointment)
MD School Not Listed 1981
BA McGill University 1975

Clark R McKenzie, MD  Instructor in Clinical Medicine (primary appointment)
BS Southeast Missouri St Univers 1975
MD University of Missouri 1989

Heather McKenzie  Assistant Professor of Anesthesiology (primary appointment)

John W McKinney, MD  Instructor in Clinical Otolaryngology (primary appointment)
BA School Not Listed
BS Southeast Missouri St Univers 1975
MD University of Missouri 1979

Joseph K McKinney, MD  Assoc Prof Emeritus Of Clinical Psychiatry (primary appointment)
MD Washington Univ in St. Louis 1958
BA Westminster College 1954

Thomas Casey McKinney, MD  Professor of Clinical Pediatrics (primary appointment)
Robert Carolin McKinstry III
Professor of Radiology (primary appointment)

Professor of Pediatrics
Robert M McMahon
Instructor in Clinical Medicine (primary appointment)

William A McMahon, MD
Assistant Professor of Pediatrics (primary appointment)

MD Saint Louis University 1986
BA Carroll College 1980

Marie Elizabeth McNeely, PhD
Assistant Professor of Physical Therapy (primary appointment)

Assistant Professor of Neurology
BS Ohio Wesleyan University 2008

MD Washington Univ in St. Louis 2012

Colleen Patricia McNicholas, DOST
Assistant Professor of Obstetrics and Gynecology (primary appointment)

DOST Kirksville College of Osteopat 2007

BS Benedictine University 2003

Christopher Clayton McPherson
Assistant Professor of Clinical Pediatrics (primary appointment)

Amy McQueen
Assistant Professor of Medicine (primary appointment)

BA University of CA San Diego 1996

Robert Paul Mecham, PhD
Alumni Endowed Professor of Cell Biology and Physiology (primary appointment)

Professor of Medicine
Professor of Biomedical Engineering
Professor of Pediatrics

PHD Boston University 1977

BS University of Utah 1973

Denise Andrea Meckler, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)

MD Ohio State University 1992

Gerald Medoff, MD
Professor Emeritus of Medicine (primary appointment)

Prof Emeritus of Medicine (primary appointment)

MD Washington Univ in St. Louis 1962

BA School Not Listed 1958

Nalini K Mehta
Instructor in Clinical Pediatrics (primary appointment)

Neha Mehta-Shah, MD
Assistant Professor of Medicine (primary appointment)

MD Northwestern University Med 2009

Konrad Meissner, MBBS
Adjunct Instructor in Anesthesiology (primary appointment)

MBBS University of Leipzig 1998

Spencer J Melby
Assistant Professor of Surgery (Cardiothoracic Surgery) (primary appointment)

BS Brigham Young University 1997

Vincent Michael Mellnick, MD
Assistant Professor of Radiology (primary appointment)

BS University of Notre Dame 2002

MD University of Texas Houston 2006

Anibal G Melo, MD
Instructor in Clinical Medicine (primary appointment)

MD Washington Univ in St. Louis 1991

Gary Jay Meltz, MD
Instructor in Clinical Medicine (primary appointment)

BA University of Missouri 1972

MD University of Miami 1977
Karyn Naomi Meltz Steinberg, PHD Instructor in Medicine (primary appointment)
PHD Emory University 2009
Robert S Mendelsohn Associate Professor of Clinical Medicine (primary appointment)
David F Mendelson, MD Asst Prof Emeritus Of Clinical Neurology (primary appointment)
MD Indiana University Bloomington 1948
Maithilee D Menezes, MD Assistant Professor of Otolaryngology (primary appointment)
BS Grinnell College 1997
MD Grinnell College 2002
Christine Onsy Menias, MD Adjunct Professor of Radiology (primary appointment)
BS1 Marquette University 1990
MD George Washington University 1995
Steven James Mennerick, PHD Professor of Psychiatry (primary appointment)
Professor of Neuroscience
PHD Washington Univ in St. Louis 1995
BA Earlham College 1988
Paul A Mennes, MD Professor of Clinical Medicine (primary appointment)
BS Univ of Wisconsin Madison 1966
MD Washington Univ in St. Louis 1970
P Aravindaksha Menon Instructor in Clinical Pediatrics (primary appointment)
David Norman Menton, PHD Assoc Prof Emeritus Of Anatomy (primary appointment)
PHD Brown University 1966
Ronald L Mera, MD Instructor in Clinical Medicine (primary appointment)
MD School Not Listed 1976
BS School Not Listed 1970
Robert W Mercer, PHD Professor of Cell Biology and Physiology (primary appointment)
BA San Jose State University 1974
PHD Syracuse University 1980
Sarah J. Mermelstein, MD Instructor in Pediatrics (primary appointment)
MD Drexel University 2007
BA Indiana University Bloomington 2002
Theodore Merrims, MD Instr Emeritus In Clinical Ob & Gyn (primary appointment)
MD Washington Univ in St. Louis 1954
BS Washington Univ in St. Louis 1949
Diane F Merritt, MD Professor of Obstetrics and Gynecology (primary appointment)
MD New York University 1975
BS Miami University 1971
Sara Hargarten Mesick, MD Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)
MD Washington Univ in St. Louis 2012
Elizabeth Sarah Messer, MD Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
BS Washington Univ in St. Louis 2009
MD University of Illinois Chicago 2013
John P Metzler Associate Professor of Orthopaedic Surgery (primary appointment)
Associate Professor of Neurology
BS Texas A&M University 1991
Adam Vogeler Meyer, MD Assistant Professor of Medicine (primary appointment)
MD Baylor College of Medicine 2009
Claire Elizabeth Meyer, MD  
Assistant Professor of Medicine (primary appointment)  
BS Roanoke College 2004  
MD Washington Univ in St. Louis 2009  

Gretchen Ann Meyer, PHD, MS  
Assistant Professor of Physical Therapy (primary appointment)  
Assistant Professor of Neurology  
Assistant Professor of Orthopaedic Surgery  
PHD University of CA San Diego 2011  
BS Washington Univ in St. Louis 2004  
MS Washington Univ in St. Louis 2004  

Jay L Meyer, MD  
Associate Professor of Clinical Psychiatry (primary appointment)  
BA Washington Univ in St. Louis 1956  
MD Saint Louis University 1960  

Mary Shaughnessy Meyer, MD  
Assistant Professor of Clinical Pediatrics (primary appointment)  
MD Saint Louis University 2003  
BA Saint Louis University 1999  

Bryan F Meyers, MD  
Patrick and Joy Williamson Endowed Professor of Surgery (Cardiothoracic Surgery) (primary appointment)  
MD University of Chicago 1986  

Jerry R Meyers, MD  
Assistant Professor of Clinical Surgery (General Surgery) (primary appointment)  
MD Washington Univ in St. Louis 1966  
BA University of Texas Austin 1962  

Rabaya Mian, MBBS  
Instructor in Clinical Medicine (primary appointment)  
MBBS King Edward Medical College 1999  

Craig Anthony Micchelli, PHD  
Associate Professor of Developmental Biology (primary appointment)  
PHD Univ of Wisconsin Madison 1999  
BS Univ of Wisconsin Madison 1993  

Scott Micek, MD  
Adjunct Instructor in Medicine (primary appointment)  
MD University of Iowa 1999  

Gina Michael  
Instructor in Clinical Medicine (primary appointment)  
BS University of Missouri 1978  

Jeff Michael Michalski, MD, MBA  
Carlos Perez Distinguished Professor of Radiation Oncology (primary appointment)  
Vice Chairman of Radiation Oncology  
BS Univ of Wisconsin Madison 1982  
MD Univ of Wisconsin Madison 1986  
MBA Washington Univ in St. Louis 2001  

Andrew Philip Michelson, MD  
Instructor in Medicine (primary appointment)  
MD Case Western Reserve Univ 2013  
BS Case Western Reserve Univ 2007  

Peter Howard Michelson, MD, MS  
Associate Professor of Pediatrics (primary appointment)  
MD Jefferson Medical College 1983  
MS University of Pittsburgh 2007  
BS Bowdoin College 1978  

William Samuel Micka, MD  
Instructor in Clinical Medicine (primary appointment)  
BA Saint Louis University 1999  
MD Saint Louis University 2003
John Neal Middelkamp, MD Prof Emeritus of Pediatrics (primary appointment)
BS University of Missouri 1946
MD Washington Univ in St. Louis 1948

Jerry N Middleton, MD Instructor Emeritus in Clinical Obstetrics and Gynecology (primary appointment)
Instr Emeritus in Clinical Ob & Gyn (primary appointment)
MD Washington Univ in St. Louis 1963
BA Westminster College 1959

Mary Ann Middleton, MD Assistant Professor of Radiology (primary appointment)
MD Medical College of Wisconsin 1982
BS Univ of Wisconsin Whitewater 1974

William D Middleton, MD Professor of Radiology (primary appointment)
MD Duke University 1981
BS Duke University 1977

Jenny Lynn Miele, MD Instructor in Clinical Pediatrics (primary appointment)
BS Valparaiso University 2001
MD University of Illinois at Chic 2005

Francis M Miezin, MS Associate Professor of Neurology (primary appointment)
Associate in Psychology
Associate Professor of Radiology
MS Univ of Wisconsin Madison 1972
BS Univ of Wisconsin Madison 1969

Mary Kay Migneco, OD Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
BS University of Missouri 1986
OD University of MO St Louis 1991
BS1 University of Missouri 1986

James R Mikolajczak, MD Assistant Professor of Clinical Psychiatry (primary appointment)
MD Saint Louis University 1972
BS Saint Louis University 1968

Jeffrey D Milbrandt, PHD, MD James S McDonnell Professor of Genetics (primary appointment)
Professor of Medicine
Professor of Neurology
Professor of Pathology and Immunology
Head of the Department of Genetics
PHD University of Virginia 1983
MD Washington Univ in St. Louis 1978
BS Univ of Nebraska at Kearney 1974

Barry David Milder, MD Associate Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MD Washington Univ in St. Louis 1973

Benjamin Milder, MD Prof Emeritus Of Clinical Ophthalmol & VIs Sci (primary appointment)
MD Washington Univ in St. Louis 1939

Anna Noel Miller, MD Associate Professor of Orthopaedic Surgery (Pending Executive Faculty Approval) (primary appointment)
BA Rice University 2001
MD Baylor University 2005

Brent William Miller, MD Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1990
BS Stanford University 1986
Charles William Miller, Assistant Professor of Clinical Medicine (Dermatology) (primary appointment)

Christopher A Miller, PHD, Instructor in Medicine (primary appointment)
PHD Baylor University 2011
BS Truman State University 2005
BS1 Truman State University 2005
Donna C Miller, MD, Instructor in Clinical Pediatrics (primary appointment)
MD University of Miami 1982

Gary Arthur Miller, MD, Associate Professor of Orthopaedic Surgery (primary appointment)
MD Jefferson Medical College 1977
BA University of Chicago 1973

Heidi B Miller, MD, Instructor in Clinical Medicine (primary appointment)
BS Yale University 1994
MD Harvard University 2000

J. Philip Miller, Professor of Biostatistics (primary appointment)
Professor of Medicine
Tenure Held At-Large in the Medical School
BA Washington Univ in St. Louis 1965

James D. Miller, PHD, MA, Instructor in Audiology and Communication Sciences (primary appointment)

Instructor in Otolaryngology
PHD Indiana University Bloomington 1957
MA Indiana University Bloomington 1953
BS Univ of Wisconsin Madison 1951

James E Miller, MD, Prof Emeritus Of Clinical Ophthal & VIs Sci (primary appointment)
MD University of Alabama 1949
BS Tulane University 1946

Lara Elizabeth Miller, DOST, Instructor in Clinical Medicine (primary appointment)
DOST Midwestern University 2000
BS Carleton College 1996

Mark James Miller, PHD, Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology
BS University of California 1991
PHD University of California 1996

Mark L. Miller, BE, Assistant Professor of Orthopaedic Surgery (primary appointment)
BE Stanford University 2004

Shondra Michelle Miller, PHD, Assistant Professor of Genetics (primary appointment)
PHD University of Texas Southwest 2008
BA University of Arkansas 2003

Suzanne Lee Miller, MD, Instructor in Clinical Pediatrics (primary appointment)
BS University of Illinois 1974
MD University of Illinois 1978

Timothy M Miller, Clayson Professor of Neurology (primary appointment)

Jule P. Miller Jr, Instructor in Clinical Psychiatry (primary appointment)

Jennifer Alaine Miller-Katsafanas, DPT, BBA, Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Obstetrics and Gynecology
BA University of MO St Louis 1996
DPT Washington Univ in St. Louis 2012
BBA University of MO St Louis 1996
Michelle M Miller-Thomas Assistant Professor of Radiology (primary appointment)
Jeffrey R Millman, PHD Assistant Professor of Medicine (primary appointment)

Assistant Professor of Biomedical Engineering
PHD Mass Inst of Technology (MIT) 2011
BS North Carolina State Universit 2005
Jason C Mills, MD, AB, PHD Professor of Medicine (primary appointment)

Professor of Developmental Biology

Professor of Pathology and Immunology
MD University of Pennsylvania 1997
BA Washington Univ in St. Louis 1989
AB Washington Univ in St. Louis 1989
PHD University of Pennsylvania 1997
MD1 University of Pennsylvania 1997
Lauren Elizabeth Milton, PHD Instructor in Occupational Therapy (Pending Dean's Approval) (primary appointment)
BS1 Saint Louis University 2001
PHD Washington Univ in St. Louis 2008
Susan Minchin, PHD, MD Instructor in Clinical Psychiatry (primary appointment)
PHD University of Iowa 1991
MD University of Iowa 1991
BS Oregon St University 1981
Graeme Mindel, MS, MBBCH Instructor in Clinical Medicine (primary appointment)
MS University of the Witwatersra 1992
MBBCH University of the Witwatersra 1992
Jeffrey H Miner, PHD Professor of Medicine (primary appointment)

Professor of Cell Biology and Physiology
PHD California Institute Technolo 1991
Jonathan J Miner, MD Instructor in Medicine (primary appointment)
MD University of Oklahoma 2010

Marian A Minor, PHD, M PH Associate Professor of Occupational Therapy (primary appointment)
PHD University of Missouri 1989
BS University of Kansas 1965
M PH University of Missouri 1979
Khurram Rehman Mirza, MBBS Instructor in Medicine (primary appointment)
MBBS King Edward Medical College 2002

Elizabeth Tracy Mishler, MA, AUD Instructor in Audiology and Communication Sciences (primary appointment)

Instructor in Otolaryngology
MA Northwestern University 1981
BS Northwestern University 1980
AUD A.T. Still U of Health Science 2007

Tehmton S Mistry, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD University of Bombay 1968
Kevin Joseph Mitchell Instructor in Clinical Surgery (General Surgery) (primary appointment)
BS Howard University 1981

Timothy John Mitchell, PHD, MS, PHD Instructor in Radiation Oncology (primary appointment)

PHD Washington Univ in St. Louis 2011
MS Washington Univ in St. Louis 2007
BS John Carroll University 2005
PHD University of MO St Louis 2014

Yoshiko Mito, MS, PHD Assistant Professor of Pathology and Immunology (primary appointment)

MS University of Tokyo 2002
BS University of Tokyo 2000
PHD University of Washington 2007

Robi D. Mitra, PHD Associate Professor of Genetics (primary appointment)

Alvin Goldfarb Distinguished Professor of Computational Biology

PHD Mass Inst of Technology (MIT) 2000

Makedonka Mitreva, PHD, MS Associate Professor of Medicine (primary appointment)

Associate Professor of Genetics

PHD Wageningen University 2001
MS University of Skopje - Macedon 1994

Bettina Mittendorfer, PHD, MS Professor of Medicine (primary appointment)

PHD University of Texas Austin 1999
MS University of Vienna 1999

Duane L Mitzel, MD Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)

BS University of California 2000
MD Washington Univ in St. Louis 1977

Eugene James Mobley Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)

Robert L Mobley, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)

OD Illinois College of Optometry 1958

Stephen M Moerlein, MA, PHARMD Associate Professor of Radiology (primary appointment)

Associate Professor of Biochemistry and Molecular Biophysics

MA Washington Univ in St. Louis 1979
BS University of Illinois 1976
PHARMD University of Florida 2008

Durga Prasanna Mohapatra, PHD Associate Professor of Anesthesiology (primary appointment)

PHD University of Erlangen 2011

C. Scott Molden, MD Instructor in Clinical Medicine (primary appointment)

BA De Paul University 1968
MD Case Western Reserve Univ 1972

Jeffrey F Moley, MD Professor of Surgery (General Surgery) (primary appointment)

MD Columbia University 1980
BA Harvard University 1976

Kelle Harbert Moley James Crane Professor of Obstetrics and Gynecology (primary appointment)

Associate Professor of Cell Biology and Physiology

Vice Chairman for Basic Research, Department of Obstetrics and Gynecology

BA Wellesley College 1984

Hector D Molina-Vicenty, MD Associate Professor of Medicine (primary appointment)

Associate Professor of Pathology and Immunology
Christopher Molitor, Instructor in Clinical Pediatrics (primary appointment)

David W. Molter, MD, Professor of Otolaryngology (primary appointment)

Cynthia L Monaco, MD, PhD, Instructor in Medicine (primary appointment)

Joseph B Monahan, Adjunct Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)

Steven M Mondschein

Kelly Renee Monk, PhD, Associate Professor of Developmental Biology (primary appointment)

Ilya E. Monosov, MS, PhD, Assistant Professor of Neuroscience (primary appointment)

Jennifer Marie Monroy, MD, Assistant Professor of Medicine (primary appointment)

Barbara S Monsees, MD, Professor of Radiology (primary appointment)

David M Montani, Instructor in Clinical Psychiatry (primary appointment)

Austin F Montgomery, MD, Instructor in Clinical Medicine (primary appointment)

Grant William Montgomery, Adjunct Instructor in Psychiatry (primary appointment)

Mary Ann Montgomery, MBA, MD, Associate Professor of Clinical Psychiatry (primary appointment)

Gail Lynn Moolsintong, Instructor in Clinical Pediatrics (primary appointment)

Marc R Moon, MD, John M Shoenberg Professor of Surgery (Cardiothoracic Surgery) (primary appointment)

Amy M. Moore, MD, Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
Blake William Moore, PHD
Prof Emeritus Of Biochemistry In Psychiatry (primary appointment)
BS University of Akron 1948
PHD Northwestern University 1952

Darlene A. Moore, MD
Instructor in Clinical Pediatrics (primary appointment)
BS Eastern Illinois University 1974
MD University of Illinois 1978

Nathan Moore, MD
Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 2013
BS Texas College 2007

Robert Paul Moore, MD
Assistant Professor of Anesthesiology (primary appointment)
MD Washington Univ in St. Louis 2004

Stephen M Moore, MEE
Assistant Professor of Radiology (primary appointment)
BS1 Washington Univ in St. Louis 1981
BS Washington Univ in St. Louis 1981
MEE Washington Univ in St. Louis 1984

Timothy D Moore
Instructor in Clinical Medicine (primary appointment)

Alvaro Mora, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Universidad de Antioquia

Christopher J Moran, MD
Professor of Neurological Surgery
MD Saint Louis University 1974
BS University of Notre Dame 1970

Stewart Edward Moreland, DDENT
Instructor in Clinical Otolaryngology (DMD) (primary appointment)
BA University of Missouri 1978
DDENT Washington Univ in St. Louis 1983

Joshua L. Morgan, PHD
Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
Assistant Professor of Neuroscience
BA Florida Southern College 2001
PHD Washington Univ in St. Louis 2007

Kerri A Morgan, PHD, MS
Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Neurology
PHD Washington Univ in St. Louis 2015
MS Washington Univ in St. Louis 1998
BA Texas Christian University 1996

Mary R Morgan, MD
Instructor in Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1990
BA Miami University 1984

Daniel Morgensztern, MD
Associate Professor of Medicine (primary appointment)
MD FTE Souza Marques 1995

Sharon Celeste Morley, MD, PHD
Assistant Professor of Pediatrics (primary appointment)
Assistant Professor of Pathology and Immunology
MD Harvard University 2002
PHD Harvard University 2002

Jeffrey Stuart Mormoll
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS Indiana University Bloomington 1986
Jose Moron-Concepcion, PHD Associate Professor of Anesthesiology (primary appointment)
Associate Professor of Neuroscience
PHD University of Barcelona 1998

Daniel R. Morra Instructor in Clinical Pediatrics (primary appointment)

Donald G Morris, MS, MD Instructor in Clinical Medicine (primary appointment)
BA Benedictine College 1987
MS Saint Louis University 1989
MD University of Missouri 1993

John Carl Morris, MD Harvey A and Dorismae Hacker Friedman Distinguished Professor of Neurology (primary appointment)
Professor of Physical Therapy
Professor of Pathology and Immunology
Professor of Occupational Therapy
MD University of Rochester 1974
BA Ohio Wesleyan University 1970

Samantha A Morris, PHD Assistant Professor of Developmental Biology (primary appointment)
Assistant Professor of Genetics
BS1 University of London 2002
PHD Cambridge University 2007

Stephanie Morris, MD Instructor in Neurology (primary appointment)
MD University of Phoenix 2011
BS University of Arizona 2007

Aubrey R Morrison, MBBS Professor of Medicine (primary appointment)
Professor of Developmental Biology
MBBS University of London 1970

Jeremiah J Morrissey, PHD Professor of Anesthesiology (primary appointment)
PHD Saint Louis University 1974
BA Macmurray College 1969

Michael Justin Morrissey, PHD Instructor in Clinical Neurology (primary appointment)
PHD Saint Louis University 2005

Nima Mosammaparast, MD, PHD Assistant Professor of Pathology and Immunology (primary appointment)
MD University of Virginia 2006
PHD University of Virginia 2005
BS University of Rochester 1998

Lisa Mae Moscoso, MD, PHD Associate Professor of Pediatrics (primary appointment)
Associate Dean for Student Affairs
MD Washington Univ in St. Louis 1998
PHD Washington Univ in St. Louis 1998
BS Univ of Wisconsin Madison 1989

Julian C Mosley, MD Instructor in Clinical Surgery (General Surgery) (primary appointment)
BS Saint Louis University 2000
MD Washington Univ in St. Louis 1972

Krista L Moulder, PHD Associate Professor of Neurology (primary appointment)
PHD Washington Univ in St. Louis 2001

Hawnwan P Moy, MD Instructor in Emergency Medicine in Medicine (primary appointment)
MD Loyola University Chicago 2008

Randi H Mozenter, MA Instructor in Clinical Medical Psychology in Psychiatry (primary appointment)
Richard Gerard Mrad, Instructor in Clinical Medicine (primary appointment)

Mike Max Mueckler, PHD, Professor of Cell Biology and Physiology (primary appointment)

Janet Gwen Mueller, MD, Assistant Professor of Clinical Pediatrics (primary appointment)

Kristen L Mueller, MD, Instructor in Emergency Medicine in Medicine (primary appointment)

Faquir Muhammud, Instructor in Clinical Pediatrics (primary appointment)

Joshua Mutambuki Muia, PHD, Instructor in Medicine (primary appointment)

Daniel Kast Mullady, MD, Associate Professor of Medicine (primary appointment)

Daniel F Mullen, MS, DDENT, Assistant Professor of Radiation Oncology (primary appointment)

Michael E Mullins, MD, Associate Professor of Emergency Medicine in Medicine (primary appointment)

Steven Robert Mumm, PHD, MS, Associate Professor of Medicine (primary appointment)

Nabil A Munfakh, MD, Professor of Surgery (Cardiothoracic Surgery) (primary appointment)

Robert F Munsch, Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)

Mark C. Murawski, MD

Monalisa Mullick, Assistant Professor of Medicine (primary appointment)

Manohara Munimuddappa, Instructor in Clinical Pediatrics (primary appointment)

Robert F Munsch, Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
Nathaniel H Murdock, MD
Associate Professor of Clinical Obstetrics and Gynecology (primary appointment)

MD Meharry Med College 1963
BS Howard University 1958

George E Murphy
Prof Emeritus Of Psychiatry (primary appointment)

Kenneth M Murphy, MD, PHD
Professor of Pathology and Immunology (primary appointment)

Howard Hughes Medical Institute Investigator in Pathology and Immunology

Eugene Opie First Centennial Professor of Pathology and Immunology

Theresa L Murphy, PHD
Associate Professor of Pathology and Immunology (primary appointment)

Kevin J Murphy, MD
Professor of Clinical Pediatrics (primary appointment)

Erik S Musiek, MD, PHD, PMCG
Assistant Professor of Neurology (primary appointment)

Amy Musiek, MD
Associate Professor of Medicine (Dermatology) (primary appointment)

David G Mutch, MD, Ira C and Judith Gall Professor of Obstetrics and Gynecology (primary appointment)

Matthew G Mutch, MD
Professor of Surgery (General Surgery) (primary appointment)

Umadevi Muthyala
Instructor in Clinical Medicine (primary appointment)

Sasa Mutic, MS
Professor of Radiation Oncology (primary appointment)
Terence M. Myckatyn, MD
Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
BS Univ of Northern British Colu 2003
MD Univ of Northern British Colu 1997

John A Myers, MD
Instructor in Clinical Pediatrics (primary appointment)
MD Southern Illinois Universtiy S 1997
BA Washington Univ in St. Louis 1993

Raymond I Myers, OD
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Indiana University Bloomington 1970
BS University of Notre Dame 1966

Robert J Myerson, MD, PHD
Professor Emeritus of Radiation Oncology (primary appointment)
Prof Emeritus of Radiation Oncology (primary appointment)
BA Princeton University 1969
MD University of Miami 1980
PHD University of California 1974

Indira U Mysorekar, MS, PHD
Associate Professor of Obstetrics and Gynecology (primary appointment)
Associate Professor of Pathology and Immunology
MS University of Lund 1995
BS University of Lund 1994
PHD Washington Univ in St. Louis 2002

Randall Earl Nacke
Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)

Rakesh Nagarajan, PHD, MD
Adjunct Associate Professor of Pathology and Immunology (primary appointment)
PHD Washington Univ in St. Louis 2002
BA1 University of Virginia 1994
MD Washington Univ in St. Louis 2002
BA University of Virginia 1994

Elna M Nagasako, PHD, MD
Assistant Professor of Medicine (primary appointment)
BS Pomona College 1991
PHD University of Rochester 2001
MD Washington Univ in St. Louis 2007

Peter Nagele
Associate Professor of Anesthesiology (primary appointment)

Associate Professor of Genetics
Venkata S. Nagireddi
Instructor in Clinical Pediatrics (primary appointment)

Robert T Naismith II, MD
Associate Professor of Neurology (primary appointment)
MD Case Western Reserve Univ 1998

Tasnim A Najaf, MD
Assistant Professor of Pediatrics (primary appointment)
MD Dow Medical College Karachi 1991

Ayeshia Najib
Instructor in Clinical Pediatrics (primary appointment)

Rashmi R Nakra
Associate Professor of Clinical Psychiatry (primary appointment)
UNKNOWN Lady Hardings 1970

Ilke Nalbantoglu, MD
Assistant Professor of Pathology and Immunology (primary appointment)
MD Ege University 2000

Jyotirmaya Nanda
Instructor in Clinical Medicine (primary appointment)
Shannon Nanna
Nicola Napoli Adjunct Research Assistant Professor of Medicine (primary appointment)
Vamsi R. Narra Professor of Radiology (primary appointment)
Alison C Nash Professor of Clinical Pediatrics (primary appointment)
Michael J. Naughton, MD Associate Professor of Medicine (primary appointment)
BS Howard University 1977
MD State Univ of NY Buffalo 1993
BA Williams College 1989
Rosanne S Naunheim, MD Associate Professor of Emergency Medicine in Medicine (primary appointment)
MD University of Chicago 1978
BA Carleton College 1970
Robert F Nease Jr Adjunct Associate Professor of Medicine (primary appointment)
Philip Needleman, PHD Adjunct Professor of Molecular Biology and Pharmacology (primary appointment)
PHD University of Maryland 1964
Burton M Needles, MD Instructor in Clinical Medicine (primary appointment)
BS City College 1970
MD Loyola University Chicago 1974
John Gail Neely, MD Professor of Otolaryngology (primary appointment)
Professor of Occupational Therapy
BS University of Central Oklahom 1962
MD University of Oklahoma 1965
Lynn G Nelms Instructor in Clinical Pediatrics (primary appointment)
Christopher A Nelson, PHD Instructor in Pathology and Immunology (primary appointment)
PHD Washington Univ in St. Louis 1995
BS Univ of Wisconsin Madison 1985
Clarice Michelle Nelson, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD University of Kansas Medical 2011
Donald Michael Nelson, MD, PHD Virginia Lang Professor of Obstetrics and Gynecology (primary appointment)
MD Washington Univ in St. Louis 1977
BA Cornell College 1971
PHD Washington Univ in St. Louis 1977
Elliot C Nelson, MD Professor of Psychiatry (primary appointment)
MD University of Illinois 1986
BA Johns Hopkins University 1982
J. Roger Nelson, MD Asst Prof Emeritus Of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1953
BA Washington Univ in St. Louis 1949
Jeffrey Jerome Nepple Assistant Professor of Orthopaedic Surgery (primary appointment)
BS Truman State University 2003
Jeanne M Nerbonne, PHD Professor of Medicine (primary appointment)
Alumni Endowed Professor of Molecular Biology and Pharmacology in Developmental Biology
BS Framingham State College 1974
PHD Georgetown University 1978
April Erwin Nesin Instructor in Clinical Pediatrics (primary appointment)
Neal Neuman Instructor in Clinical Surgery (Urologic Surgery) (primary appointment)
Rosalind J Neuman, PHD, MAProf Emeritus of Psychiatry (primary appointment)
PHD Washington Univ in St. Louis 1981
BA Washington Univ in St. Louis 1960
MA Washington Univ in St. Louis 1974
Tara Marie Neumayr, MDAssistant Professor of Pediatrics (primary appointment)
BA Duke University 1999
MD Univ South Dakota Vermillion 2003
Elizabeth P. Newberry, PHDAssistant Professor of Medicine (primary appointment)
PHD Washington Univ in St. Louis 1995
BA Knox College 1988
Rodney D Newberry, MDProfessor of Medicine (primary appointment)
BA Washington Univ in St. Louis 1987
MD Washington Univ in St. Louis 1991
Jason Guy Newland, MS, MDAssociate Professor of Pediatrics (Pending Executive Faculty Approval) (primary appointment)
MS University of Cincinnati 2011
MD University of Oklahoma 2000
Matthew Newman, MDAssistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Vanderbilt University 1956
MD Columbia University 1959
Amy C Ney, MDInstructor in Clinical Medicine (Dermatology) (primary appointment)
MD University of Virginia 2001
BS Mary Washington College 1997
Khai Ngo, MDInstructor in Clinical Pediatrics (primary appointment)
MD School Not Listed 1974
Khanh Nguyen, MDInstructor in Medicine (primary appointment)
MD University of Illinois Chicago 2013
BS Loyola University Chicago 2008
Nguyet Minh Nguyen, MDAssistant Professor of Medicine (primary appointment)
MD Wayne State University 1993
BS1 University of Michigan 1989
BS University of Michigan 1989
Ellen Margaret NicastroInstructor in Clinical Pediatrics (primary appointment)
Jennifer Lynn Nicholas, MA, MD, MHAAssistant Professor of Radiology (Pending Executive Faculty Approval) (primary appointment)
BA Miami University 1991
MA University of Colorado Boulder 1994
MD Duke University 2004
MHA University of North Carolina 2003
Johanna Grant Nicholas, MA, PHDAssociate Professor of Otolaryngology (primary appointment)
Associate Professor of Audiology and Communication Sciences
MA University of Northern Colora 1982
PHD Washington Univ in St. Louis 1990
BA University of Northern Colora 1978
Colin G Nichols, PHDProfessor of Cell Biology and Physiology (primary appointment)
Carl F Cori Professor
BS University of Leeds 1982
PHD University of Leeds 1985
Paul F Nichols III Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
**Ginger E. Nicol, MD** Assistant Professor of Psychiatry (Child Psychiatry) (primary appointment)
BA University of Iowa 1998
MD University of Iowa 2002
Ramzi T Nicolas Adjunct Associate Professor of Pediatrics (primary appointment)
**Joan M Niehoff, MD** Associate Professor of Anesthesiology (primary appointment)
MD University of MO Columbia 1982
BA University of MO Kansas City 1982
**Carl Helge Nielsen, MD** Professor of Anesthesiology (primary appointment)
MD University of Copenhagen 1979
**Susan Searles Nielsen, MA, PHD** Assistant Professor of Neurology (primary appointment)
MA University of Washington 2000
PHD University of Washington 2004
John Hart Niemeyer Instructor in Clinical Radiology (primary appointment)
**Thomas E Niesen, MD** Instructor in Clinical Surgery (General Surgery) (primary appointment)
BS Tulane University 1975
MD Tulane University 1979
**Daniel C Nieva, MD** Assistant Professor of Anesthesiology (primary appointment)
MD University of Iowa 2003
**Richard James Nissen, DDENT, MS** Assistant Professor of Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)
DDENT University of Iowa 1983
MS Washington Univ in St. Louis 1985
BS Iowa State University 1979
**Anne Fagan Niven, PHD** Professor of Neurology (primary appointment)
BA Wellesley College 1984
PHD University of CA San Diego 1992
**Bruce L Nock, PHD, MS** Associate Professor of Neurobiology in Psychiatry (primary appointment)
Associate Professor of Neuroscience
PHD Rutgers University 1981
BA Elizabethtown College 1969
MS Bucknell University 1975
**Joan P Noelker, MD** Instructor in Emergency Medicine in Medicine (primary appointment)
MD Royal College of Surgeons 2010
BA University of Virginia 2004
**Michael Justin Noetzel, MD** Professor of Neurology (primary appointment)
Professor of Pediatrics
Vice Chair of Pediatric and Developmental Neurology
BA Yale University 1973
MD University of Virginia 1977
**Kevin K. Noguchi, MA, PHD** Assistant Professor of Psychiatry (primary appointment)
MA University of CA Los Angeles 1998
PHD University of CA Los Angeles 2003
BS University of CA Santa Barbara 1996
Amit Noheria Assistant Professor of Medicine (primary appointment)
**Lemuel Benedict R Non, MD** Instructor in Medicine (primary appointment)
Michael L Nonet, PhD
Associate Professor of Neuroscience (primary appointment)
BS University of CA Davis 1984
PHD Mass Inst of Technology (MIT) 1989

Scott Monroe Nordlicht, MD
Professor of Medicine (primary appointment)
BA Columbia University 1969
MD State University of New York 1973

Tracy Wynette Norfleet, MD
Instructor in Clinical Medicine (primary appointment)
MD Louisiana St Univ Hlth Sci 2002

Charles C Norland, MD
Prof Emeritus Of Clinical Medicine (primary appointment)
BS Washington St University 1955
UNKNOWN University of Chicago 1966
MD Washington Univ in St. Louis 1959

David Craig Norman, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
MD School Not Listed 1992
BS University of Illinois 1988

Scott Norris, MD
Assistant Professor of Neurology (primary appointment)
BA Washington Univ in St. Louis 2000
MD University of MO Columbia 2008

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Professor of Physical Therapy (primary appointment)
Associate Director for Education Technology in Physical Therapy

Professor of Neurology
MHS Washington Univ in St. Louis 1985

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Associate Professor of Clinical Pediatrics (primary appointment)
BS Loyola University 1985
MD Louisiana St University 1989

Deborah Veis Novack, PhD, MD
Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology
BA Princeton University 1987
PHD Washington Univ in St. Louis 1995
MD Washington Univ in St. Louis 1995

Thomas John Nowotny, MD
Assistant Professor of Clinical Psychiatry (primary appointment)
MD Washington Univ in St. Louis 1985
BS Washington Univ in St. Louis 1980

Douglae Susumu Nozaki
Instructor in Clinical Pediatrics (primary appointment)

Anthony Ian Nunz
Instructor in Clinical Surgery (Cardio Surgery) (primary appointment)

Christian J Nunez, MD
Instructor in Pediatrics (primary appointment)
BA Washington Univ in St. Louis 2005
MD University of Illinois 2013

Marlynn Nunez
Instructor in Clinical Obstetrics and Gynecology (primary appointment)

Sabrina Nunez, PhD
Assistant Professor of Medicine (primary appointment)
PHD Stony Brook School of Medicine 2007

Ryan M. Nunley, MD
Associate Professor of Orthopaedic Surgery (primary appointment)
MD University of North Carolina 2002
BA Vanderbilt University 1998

Gilbert H Nussbaum, MA
Assoc Prof Emeritus Of Radiation Oncology (primary appointment)
UNKNOWN Harvard University 1962
MA Harvard University 1962
BS City College 1960
Samuel R Nussbaum, MD Professor of Clinical Medicine (primary appointment)
MD School Not Listed 1973
Brian Nussenbaum, MD Christy J. and Richard S. Hawes III Professor of Otolaryngology (primary appointment)
Vice Chair for Clinical Affairs, Department of Otolaryngology
MD New York University 1994
BA State Univ of NY Binghampton 1990
Oroma Beatrice Afiong Nwanodi Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Muhammad Akram Nyazee Instructor in Clinical Medicine (primary appointment)
UNKNOWN Nishtar Medical College Multa 1974
UNKNOWN Govt College Sarhodha 1968
Sydney Marie Nykiel-Bailey Assistant Professor of Anesthesiology (primary appointment)
BS Saint Louis University 2001
Laura James Nywening, MD Instructor in Obstetrics and Gynecology (primary appointment)
BS University of Florida 2007
MD University of Florida 2011
Kevin Sullivan O'Bryan, MD Instructor in Pediatrics (primary appointment)
MD University of Michigan 2010
Brendan Joseph O'Connor, MD Assistant Professor of Psychiatry (primary appointment)
MD Creighton University 2010
BS Creighton University 2006
Shawn David O'Connor, MD Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
MD Medical College Georgia 2010
BS University of Georgia 2006
G Patrick O'Donnell, MD Instructor in Clinical Medicine (primary appointment)
BA University of Kansas 1972
MD School Not Listed 1977
Regis James O'Keefe, MD, PHD Fred C Reynolds Professor of Orthopaedic Surgery (primary appointment)
Head of the Department of Orthopaedic Surgery
MD Harvard University 1985
BA Yale University 1981
PHD University of Rochester 2000
Karen Laurel O'Malley, MS, PHD Professor of Neuroscience (primary appointment)
MS Portland St University 1973
BA Sonoma State University 1971
PHD University of Texas Austin 1980
Julie O'Neal, PHD Instructor in Medicine (primary appointment)
BS University of MO Columbia 1999
PHD Washington Univ in St. Louis 2009
Patricia L O'Neal Prof Emeritus Of Clinical Psychiatry (primary appointment)
Jerome H O'Neil Jr, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MD Saint Louis University 1981
BA University of Missouri 1977
Patrick Ross O'Neill
Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)

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Instructor in Surgery (General Surgery) (primary appointment)
BS University of Michigan 2003
MS Wayne State University 2005
MD Wayne State University 2009

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Instr Emeritus In Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1941
MD Washington Univ in St. Louis 1944

Andrew John Odden, MD
Assistant Professor of Medicine (primary appointment)
BS Gustavus Adolphus College 2003
MD University of Minnesota 2007

Randall Odem, MD
Professor of Obstetrics and Gynecology (primary appointment)
MD University of Iowa 1981

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Instructor in Medicine (primary appointment)
MD Wake Forest University 2010

Justin O Ogbevden, MBBS
Instructor in Clinical Pediatrics (primary appointment)
MBBS University of Lagos 1982

Margaret A Ogden, MD
Associate Professor of Otolaryngology (primary appointment)
BA Amherst College 1997
MD Washington Univ in St. Louis 2002

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PHD Harvard University 1983
MA Harvard University 1978
BS Brown University 1976
PHD1 Harvard University 1983

Stephen T. Oh, PHD, MD
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
PHD Northwestern University 2002
MD Northwestern University 2004
BS Harvard University 1996

Kevin Kenneth Ohlemiller, PHD
Associate Professor of Otolaryngology (primary appointment)
Associate Professor of Audiology and Communication Sciences
BS Indiana University Bloomington 1983
PHD Northwestern University 1990
Chukwuma Mbonu Okoroji
Instructor in Clinical Obstetrics and Gynecology (primary appointment)

Edward Okun, MD
Prof Emeritus Of Clinical Ophthalmol & Vls Sci (primary appointment)
BS Dartmouth College 1952
MD University of Vermont 1956

Adewole L. Okunade, PHD
Assistant Professor of Medicine (primary appointment)
BS University of Ibadan 1975
PHD University of Ibadan 1981

Folasade Oladapo, MD
Assistant Professor of Anesthesiology (primary appointment)
MD U Medical-Dental Of New Jersey 2008

George A Oliver, MD
Assistant Professor Emeritus of Clinical Surgery (General Surgery) (primary appointment)
Asst Prof Emeritus of Clin Surg (Gen Surg) (primary appointment)
Asst Prof Emeritus of Clin Surgery (Gen Surg) (primary appointment)
BA Washington Univ in St. Louis 1948
MD Washington Univ in St. Louis 1952
George Charles Oliver, MD Professor Emeritus of Clinical Medicine (primary appointment)
Prof Emeritus of Clinical Medicine (primary appointment)
BA Harvard University 1953
MD Harvard University 1957
Paul D Olivo, PHD, MD Adjunct Assistant Professor of Molecular Microbiology (primary appointment)
PHD University of Florida 1982
BA George Washington University 1972
MD University of Florida 1981
Margaret Olsen, PHD, MPH Professor of Medicine (primary appointment)
Professor of Surgery (Public Health Sciences)
PHD University of Pennsylvania 1986
MPH Saint Louis University 2001
BS Southern Illinois University 1976
Eugene Merle Oltz, PHD Professor of Pathology and Immunology (primary appointment)
PHD Columbia University 1987
BS Cornell University 1982
Gary H Orelli, MD Assistant Professor of Clinical Radiology (primary appointment)
MD University of Tennessee 1967
Kenan Rifat Omurtag, MD Assistant Professor of Obstetrics and Gynecology (primary appointment)
MD University of MO Kansas City 2006
BA University of MO Kansas City 2006
Robert F Onder Jr, MD Assistant Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1987
BA Washington Univ in St. Louis 1983
Michael D Onken, PHD Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)
PHD Washington Univ in St. Louis 2000
BA Washington Univ in St. Louis 1990
Kalu Onuma Instructor in Clinical Psychiatry (primary appointment)
Peter J. Oppelt, MD Assistant Professor of Medicine (primary appointment)
MD University of MO Columbia 2008
S. Michael Orgel, MD Instructor in Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1960
MD Saint Louis University 1965
Matthew J Orland, MD Associate Professor of Clinical Medicine (primary appointment)
MD University of Miami 1979
BS Yale University 1975
Margaret McCarthy Ormonde Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS University of Missouri 1983
David M Ornitz, PHD, MD Alumni Endowed Professor of Developmental Biology (primary appointment)
Andrea Cohron Orr, Instructor in Clinical Pediatrics (primary appointment)

Valerie Orrico, Instructor in Clinical Pediatrics (primary appointment)

Rachel C. Orscheln, M.D., Assistant Professor of Pediatrics (primary appointment)

David William Ortbal, M.D., Assistant Professor of Clinical Medicine (primary appointment)

Cynthia M. Ortinau, M.D., Assistant Professor of Pediatrics (Pending Executive Faculty Approval) (primary appointment)

Irma I. Ortiz-Arroyo, Assistant Professor of Clinical Pediatrics (primary appointment)

Daniel Scott Ory, M.D., Professor of Medicine (primary appointment)

Professor of Cell Biology and Physiology

Alan A. and Edith L. Wolff, Professor of Cardiology

Amir Mordechai Oryan, Visiting Assistant Professor of Pediatrics (primary appointment)

Tiffany Medlin Osborn, M.P.H., M.D., Associate Professor of Surgery (General Surgery) (primary appointment)

Associate Professor of Emergency Medicine in Medicine

Joshua William Osbun, M.D., Assistant Professor of Neurosurgery (Pending Executive Faculty Approval) (primary appointment)

Richard E. Ostlund Jr., M.D., Professor of Medicine (primary appointment)

Alison H. Oswald, Instructor in Clinical Pediatrics (primary appointment)

F. Thomas Ott, M.D., Asst Prof Emeritus Of Clin Opthl & Vls Sci (primary appointment)

Theodore Ott, Instructor in Clinical Medicine (primary appointment)

Jiafu Ou, M.D., Assistant Professor of Medicine (primary appointment)

Edgar Turner Overton, M.D., Adjunct Assistant Professor of Medicine (primary appointment)

Robert F. Owen, M.D., Instr Emeritus In Clinical Medicine (primary appointment)
MD Yale University 1952
BA Princeton University 1948
William D Owens, MD Professor Emeritus of Anesthesiology (primary appointment)
MD Davenport University 1965
BA Westminster College 1961
Akinkunle Owoso, MD Assistant Professor of Psychiatry (primary appointment)
MD University of Oklahoma 2007
BS1 University of Oklahoma 2003
Vani Pachalla, MD Instructor in Clinical Medicine (primary appointment)
MD School Not Listed 1990
Russell Kent Pachynski, MD Assistant Professor of Medicine (primary appointment)
BS Stanford University 1994
MD Univ of Wisconsin Madison 2003
Robert C Packman, MD Professor of Clinical Medicine (primary appointment)
BS University of Missouri 1954
BA Washington Univ in St. Louis 1953
MD Washington Univ in St. Louis 1956
Pamela B Padda, MD Instructor in Clinical Pediatrics (primary appointment)
BA University of Michigan 1986
MD University of Illinois 1990
Camillo Padoa-Schioppa, PhD Associate Professor of Neuroscience (primary appointment)
Associate Professor of Economics (Courtesy)
PHD Mass Inst of Technology (MIT) 2002
Jeffrey Robert Padousis, MD Instructor in Clinical Ophthalmology and Visual Science (primary appointment)
MD Saint Louis University 2000
Stephen C Pak, PhD Associate Professor of Pediatrics (Pending Executive Faculty Approval) (primary appointment)
BS University of Sydney 1990
PHD University of New South Wales 1996
Ben Julian Palanca Assistant Professor of Anesthesiology (primary appointment)
BS University of Washington 1997
Ross Ian Palis, MD Instructor in Clinical Medicine (primary appointment)
BS Duke University 1998
MD Vanderbilt University 2002
Allen S Palmer, DOST Instructor in Clinical Obstetrics and Gynecology (primary appointment)
DOST School Not Listed 1972
BS Ohio Northern University 1963
Chris M Palmer, MD Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Emergency Medicine in Medicine
BS Virginia Tech 2004
MD SUNY - Empire State College 2008
Hua Pan, MS Assistant Professor of Medicine (primary appointment)
BS Huashong University of Science 1997
MS Huashong University of Science 2002
Vasileios Panagopoulos Instructor in Clinical Psychiatry (primary appointment)
Peter D Panagos Assistant Professor of Emergency Medicine in Medicine (primary appointment)
Associate Professor of Neurology
Jennifer Ann Panasci
**Instructor in Clinical Pediatrics** (primary appointment)

Anupam S Pande, MBBS, MS
**Instructor in Medicine** (primary appointment)

MBBS Byramjee Jeejeebhoy Medical Co 2009

MS University of Texas Houston 2011

Joseph Pangelinan, PHD
**Assistant Professor in Medicine** (primary appointment)

PHD University of MO St Louis 2015

Randal C Paniello, MS
**Professor of Otolaryngology** (primary appointment)

BS University of Illinois 1979

MS University of Illinoi 1980

BS University of Illinois 1979

Bijal A. Parikh, PHD, MD
**Instructor in Pathology and Immunology** (primary appointment)

PHD Rutgers University 2004

MD U Medical-Dental Of New Jersey 2006

Parag J. Parikh, MD
**Associate Professor of Radiation Oncology** (primary appointment)

MD Washington Univ in St. Louis 2001

BS Case Western Reserve Univ 1997

Sharad P Parikh
**Instructor in Clinical Surgery (General Surgery)** (primary appointment)

UNKNOWN University of Pune 1967

Andrew Yong-Woo Park
**Instructor in Medicine** (primary appointment)

Chunji Park, PHD, ME
**Assistant Professor of Radiation Oncology** (primary appointment)

PHD University of CA Berkeley 2013

ME The Catholic Univ of Korea 2009

Haeseong Park, MD, MS
**Assistant Professor of Medicine** (Pending Executive Faculty Approval)

MD Seoul National University 2006

BS Seoul National University 2001

MS Johns Hopkns University Medic 2007

Stephanie Sun-Young Park
**Instructor in Clinical Medicine** (primary appointment)

Tae Sung Park, MD
**Shi Hui Huang Professor of Neurological Surgery** (primary appointment)

Professor of Neuroscience

Professor of Pediatrics

Yikyung Park, PHD
**Associate Professor of Surgery** (Public Health Sciences) (primary appointment)

MS1 EWHA Womans University 1996

PHD Harvard University 2005

BS EWHA Womans University 1994

Charles L Parks
**Instructor in Clinical Surgery (General Surgery)** (primary appointment)

BS University of South Dakota 1967

David A Parks, MD, MBA
**Associate Professor of Clinical Medicine** (primary appointment)

MD Saint Louis University 1994

BS University of MO Rolla 1979

MBA Southern Illinois University 1985

Deborah L Parks, MD
**Professor of Medicine** (primary appointment)

BA Washington Univ in St. Louis 1978

MD University of Louisville 1982
Laura Anne Parks, MD
Associate Professor of Obstetrics and Gynecology (primary appointment)
BA University of Kansas 1998
BS University of Kansas 1998
MD University of Kansas 2004

Diana C. Parra Perez, MS, PHD
Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Surgery (Prevention and Control)
MS Saint Louis University 2008
PHD Washington Univ in St. Louis 2013
BA Universidad del Rosario 2001

Jeffrey Andrew Parres, MD
Instructor in Clinical Surgery (Urologic Surgery) (primary appointment)
MD University of Missouri 1987

Shadi Parsaei, DOST
Instructor in Medicine (primary appointment)
BS University of Louisville 2002
DOST Chicago Coll of OsteopathicMed 2007

Matthew S Parsons, MD
Assistant Professor of Radiology (primary appointment)
MD University of Cincinnati 2000
BA Miami University 1995

Robert T Paschall, MD
Prof Emeritus of Pediatrics (primary appointment)
MD University of Tennessee 1974
BS University of Tennessee 1967

Michael K Pasque, MD
Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Professor of Radiology
Professor of Biomedical Engineering
MD University of Oklahoma 1978

Pablo Pastor, MD
Visiting Instructor in Psychiatry (primary appointment)
MD University of Barcelona 2001

Dilip H. Patel
Instructor in Clinical Medicine (primary appointment)

Kamlesh Babulal Patel, MD
Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
MD University of Arizona 2005
BS University of MO Kansas City 2000

Meera Raman Patel, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD University of MO Kansas City 1996

Pravin Kumar Manjibhai Patel
Instructor in Medicine (primary appointment)

Rajiv Nanu Patel, MD
Instructor in Clinical Medicine (primary appointment)
MD Saba University School of Med 2001

Rupa R Patel
Assistant Professor of Medicine (primary appointment)
BA University of Michigan 2000

Urvi Patel, MD
Assistant Professor of Medicine (Dermatology) (primary appointment)
BA Kent St University 2007
MD University of Tenn Memphis 2011

Vaiibhav Patell
Instructor in Medicine (primary appointment)

Anjali K Pathak, MD
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)
MD1 West Virginia University 1997
BA West Virginia University 1993
BS West Virginia University 1993
MD West Virginia University 1997
Sheel Jitendra Pathak, Instructor in Clinical Neurology (primary appointment)
Amanullah Pathan, MS, Instructor in Clinical Medicine (primary appointment)
UNKNOWN1, School Not Listed 1969
MS, School Not Listed 1969
Debabrata Patra, PHD, MS, Assistant Professor of Orthopaedic Surgery (primary appointment)
BS, University of Bombay 1985
PHD, University of Pittsburgh 1993
MS, University of Bombay 2005
Bruce Patterson, PHD, Professor of Medicine (primary appointment)
PHD, University of Illinois 1980
BS, Southern Illinois University 1974
G. Alexander Patterson, Joseph C Bancroft Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Robert Harris Paul, PHD, MS, Adjunct Assistant Professor of Neurology (primary appointment)
PHD, Oklahoma St University 1998
BS, California State Long Beach 1993
MS, Oklahoma St University 1995
Katrina Paumier, PHD, PHD, Assistant Professor of Neurology (Pending Executive Faculty Approval) (primary appointment)
PHD, University of Cincinnati 2015
PHD, University of Cincinnati 2014
Slavica Pavlovic Djuranovic, DIP, PHD, Instructor in Cell Biology and Physiology (primary appointment)
DIP, University of Belgrade 2001
BS, University of Belgrade 1999
PHD, University of Tubingen 2006
Philip Richard Orrin Payne, MA, Professor of Medicine (primary appointment)
Robert J Terry Professor
Professor of Computer Science and Engineering
MA, Columbia University 2000
BA, University of CA San Diego 1999
Jacqueline Elise Payton, PHD, MD, Assistant Professor of Pathology and Immunology (primary appointment)
PHD, University of Illinois 2002
MD, University of Illinois 2004
BS, Bradley University 1996
Margaret Grace Peak, MA, PHD, Adjunct Assistant Professor of Otolaryngology (Audiology) (primary appointment)
BS, Maryville University 1959
MA, Saint Louis University 1961
PHD, Columbia University 1975
Alan L Pearlman, MD, Professor Emeritus Of Neurology (primary appointment)
MD, Washington Univ in St. Louis 1961
BA, University of Iowa 1958
Anthony Craig Pearlstone, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA, Washington Univ in St. Louis 1981
MD, Washington Univ in St. Louis 1985
Chelsea Elizabeth Pearson, MD  Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 2013

Susan E Pearson, MS, PHD, BFA, DOST  Instructor in Clinical Medicine (primary appointment)
MS Central Michigan University 1984
PHD University of Southwestern Lo 1986
BFA Southern Methodist University 1977
DOST School Not Listed 1992

Toni Shih Pearson, B MUS, MD  Associate Professor of Neurology (primary appointment)
B MUS University of Adelaide 2000
MD University of Adelaide 1998

William A Peck, MD  Professor of Medicine (primary appointment)

Alan A and Edith L Wolff Distinguished Professor
Director, Center for Health Policy
 Affiliated Professor of Engineering
MD University of Rochester 1960

Katrina Sophia Pedersen, MS, MD  Assistant Professor of Medicine (primary appointment)
MS University of Iowa 2005
BA Grinnell College 2003
MD Southern Illinois University 2009

Jonathan Erik Peelle, BAS, PHD, MS PSYC  Assistant Professor of Otolaryngology (primary appointment)
Assistant Professor of Psychological & Brain Sciences
BAS Houghton College 1999
PHD Brandeis University 2005
MS PSYC Brandeis University 2002

David M Peeples, MD  Instructor in Clinical Neurology (primary appointment)
BA Vanderbilt University 1982
MD University of Chicago 1986

Patricia A. Penkoske  Instructor in Anesthesiology (primary appointment)
BS Lindenwood University 1969

Michael W Penney, MD  Associate Professor of Radiology (primary appointment)
MD University of AR Little Rock 1996
BS University of Arkansas 1992

Karen J Pentella, MD  Assistant Professor of Clinical Neurology (primary appointment)
MD Ohio State University 1979
BS Ohio State University 1975

Jay S Pepose, PHD, MA, MD  Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Brandeis University 1975
PHD University of California 1980
MA Brandeis University 1975
MD University of CA Los Angeles 1982

Marybeth Pereira  Associate Professor of Clinical Medicine (primary appointment)
BA Swarthmore College 1973

Carlos A Perez  Prof Emeritus of Radiation Oncology (primary appointment)

Julio E Perez, MD  Professor of Medicine (primary appointment)
BS University of Puerto Rico 1970
MD University of Puerto Rico 1973
Enrique Pedro Perinetti, PHD, MD
Instructor in Clinical Surgery (Urologic Surgery) (primary appointment)
PHD School Not Listed 1975
MD School Not Listed 1969

Stephanie Mabry Perkins, MD
Associate Professor of Radiation Oncology (primary appointment)
BS Union University 2001
MD University of Tenn Memphis 2005

David H Perlmutter, MD
Executive Vice Chancellor for Medical Affairs (primary appointment)
Dean of the School of Medicine
Professor of Pediatrics
BS1 University of Rochester 1974
MD Saint Louis University 1978

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Professor of Neurology (primary appointment)
Professor of Radiology
Professor of Occupational Therapy
Professor of Neuroscience
Professor of Physical Therapy
MD University of MO Columbia 1979
BA Princeton University 1975

John Craig Perlmutter, MD
Associate Professor of Clinical Ophthalmology and Visual Sciences
MD Cornell University 1971
BA Queens College 1967

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Associate Professor of Occupational Therapy (primary appointment)
Associate Professor of Ophthalmology and Visual Sciences
OTD Washington Univ in St. Louis 2012
MA Washington Univ in St. Louis 1989
BSOT University of MO Columbia 1981

Laurence F Perlstein, MD
Instructor in Clinical Medicine (primary appointment)
MD University of Louisville 1974
BS Tulane University 1967

Michael James Pernoud, DDENT
Instructor in Clinical Otolaryngology (primary appointment)
DDENT University of Missouri 1975
BA Saint Louis University 1971

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Assistant Professor of Pathology and Immunology (primary appointment)
MD University of Illinois Chicago 2004
BS Yale University 1992
PHD University of Illinois 2001

Alan Pestronk, MD
Professor of Neurology (primary appointment)
Professor of Pathology and Immunology
MD Johns Hopkns University Medic 1970
BA Princeton University 1966

Steven E Petersen, PHD
James S McDonnell Professor of Cognitive Neuroscience in Neurology
(primary appointment)
Professor of Neuroscience
Professor of Radiology
Professor of Psychology
Professor of Biomedical Engineering
Associate Professor of Neurological Surgery (Neuropsychology)
PHD California Institute Technolo 1982
BA University of Montana Missoula 1974
Linda R Peterson, MDAssociate Professor of Medicine (primary appointment)
Associate Professor of Radiology
BS Georgetown University 1986
MD Washington Univ in St. Louis 1990
Lindsay L Peterson, MDAssistant Professor of Medicine (primary appointment)
BS Tulane University 2000
MD Tulane University 2006
Stephen E PetersonInstructor in Clinical Psychiatry (Child) (primary appointment)
Timothy Richard PetersonAssistant Professor of Medicine (primary appointment)
BS University of Michigan 1999
Orlando Petrucci, MD, PHD, MSAssistant Professor of Surgery (Cardiothoracic Surgery) (Pending Executive Faculty Approval) (primary appointment)
MD University of Campinas 1991
PHD University of Campinas 2004
MS University of Campinas 2001
Allegra PettiInstructor in Medicine (primary appointment)
BS Lawrence University 2003
John David Pfeifer, MD, PHDProfessor of Pathology and Immunology (primary appointment)
Professor of Obstetrics and Gynecology
Vice Chairman for Clinical Affairs of Pathology and Immunology
MD University of California 1988
PHD University of California 1987
BA University of California 1981
Christine T PhamAssociate Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
BS University of Florida 1981
Benjamin Allen PhilipInstructor in Occupational Therapy (primary appointment)
Instructor in Neurology
Jennifer A Philips, MD, PHD, PHDAssistant Professor of Medicine (primary appointment)
Assistant Professor of Molecular Microbiology
MD University of CA San Francisco 2000
PHD University of CA San Francisco 1998
PHD University of CA San Francisco 2015
BA Columbia University 1991
Daniel PhillipsAssistant Professor of Clinical Neurology (primary appointment)
William J Phillips, MDAssistant Professor of Clinical Medicine (primary appointment)
BA Ohio State University 1959
MD Washington Univ in St. Louis 1963
Jane Phillips Conroy, PHD, MAProfessor of Anatomy (primary appointment)
Professor of Anthropology
PHD New York University 1978
BA Brandeis University 1969
MA New York University 1973
Gordon W Philpott, Prof Emeritus Of Surgery (Gen Surg) (primary appointment)
Prof Emeritus Of Surgery (general Surg) (primary appointment)
BS Yale University 1957

Timothy Charles Philpott, MD, Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD Washington Univ in St. Louis 1994

Supote Phipatanakul, MD, Assistant Professor of Clinical Otolaryngology (primary appointment)
MD Chulalongkorn University 1965

Chia Ling Phuah, Assistant Professor of Neurology (primary appointment)
MS1 Cambridge University 2007

Laura Piccio, MD, Associate Professor of Neurology (primary appointment)
MD University of Milan 1997

Jay Francis Piccirillo, Professor of Otolaryngology (primary appointment)
Vice Chairman for Research, Dept of Otolaryngology
Professor of Medicine
Professor of Occupational Therapy
Professor of Biostatistics
BA University of Vermont 1979

Daniel D Picus, MD, Professor of Radiology (primary appointment)
Professor of Surgery (General Surgery)
Vice Chair for Diagnostic Radiology in Radiology
MD University of Chicago 1981
BS1 University of Illinois 1977
BS University of Illinois 1977

Joel Picus, MD, Professor of Medicine (primary appointment)
MD Harvard University 1984
BS University of Illinois 1979
BA University of Illinois 1979

Stephen J Pieper, MD, Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1988

James Vernon Piephoff, MD, Instructor in Clinical Radiation Oncology (primary appointment)
MD University of South Carolina 1989
BS Citadel 1985

Brian Pierce, MD, Instructor in Medicine (primary appointment)
MD Wayne State University 2013

John A Pierce, MD, Prof Emeritus Of Medicine (primary appointment)
MD University of Arkansas 1948

Linda J Pike, PhD, Alumni Endowed Professor of Biochemistry and Molecular Biophysics (primary appointment)
PHD Duke University 1980
BS University of Delaware 1975

Aaron Juan Pile, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD School Not Listed 1983
BA Norfolk State University 1980

Zachary Scott Pincus, Assistant Professor of Genetics (primary appointment)
Assistant Professor of Developmental Biology

Jorge Pineda, MD, Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
Robert G Pineda, PHS, MHS
Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Pediatrics
PHS University of Florida 2006
MHS University of Florida 1994
Jose A Pineda Soto, MD
Associate Professor of Pediatrics (primary appointment)
Associate Professor of Neurology
BS Francisco Marroquin University 1988
MD Francisco Marroquin University 1993
Christopher James Pingel, MD
Instructor in Pediatrics (primary appointment)
BS Washington Univ in St. Louis 2003
MD Saint Louis University 2007
Bryan Douglas Piotrowski, MD
Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 2004
Terrence L Piper, MD
Assistant Professor of Clinical Orthopaedic Surgery (primary appointment)
BA Saint Louis University 1971
MD Saint Louis University 1975
Patrik Pipkorn, MD
Instructor in Otolaryngology (Pending Dean's Approval) (primary appointment)
MD University of Gothenburg 2007
David William Piston, PHD, MS
Professor of Cell Biology and Physiology (primary appointment)
Head of the Department of Cell Biology and Physiology
PHD University of Illinois 1989
BS Grinnell College 1984
MS University of Illinois 1985
Jessica E Pittman, MD, M PH
Assistant Professor of Pediatrics (primary appointment)
BS Oberlin College 1998
MD Washington Univ in St. Louis 2004
M PH University North Carolina 2009
Helen Piwnica-Worms, PHD
Adjunct Professor of Cell Biology and Physiology (primary appointment)
BA St Olaf College 1979
PHD Duke University 1984
Mitchell R Platin, MD
Assistant Professor of Anesthesiology (primary appointment)
MD Kent St University 1987
Daniel S Plax, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1993
BA Brown University 1988
Kathryn L. Plax, MD
Ferring Family Chair Professor of Pediatrics (primary appointment)
BA Brown University 1989
MD University of Rochester 1996
Steven I Plax, MD
Prof Emeritus Of Clinical Pediatrics (primary appointment)
BA1 Washington Univ in St. Louis 1957
MD University of Missouri 1961
BA Washington Univ in St. Louis 1957
Beatrice Plougastel Douglas, PHD
Instructor in Medicine (primary appointment)
PHD University of Pierre et Marie 1994
John Samuel Plowden, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
BS Washington & Lee 1979
MD Medical College Georgia 1984
Santiago Boye Plurad Jr, MD Assistant Professor of Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1982
MD School Not Listed 1987
Adrienne Rae Poe, PhD Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)
PHD Washington St University 2011
Doug Pogue, MD Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1996
Robert Francis Poirier Jr, MD Assistant Professor of Emergency Medicine in Medicine (primary appointment)
MD American U of Carribean SchMed 1999
Donovan Polack, MD Assistant Professor of Clinical Medicine (primary appointment)
MD Cornell University 1979
Gregory Polites, MD Associate Professor of Emergency Medicine in Medicine (primary appointment)
MD University of Illinois Chicago 1996
Mary Politi, M Phil Associate Professor of Surgery (General Surgery) (primary appointment)
M Phil George Washington University 2004
BS Barnard College 2001
Juanita C Polito-Colvin, MD Associate Professor of Clinical Pediatrics (primary appointment)
BA University of Dallas 1975
MD Southwest Texas State Univers 1979
Alex Politsmakher, MD Assistant Professor of Medicine (primary appointment)
BA Yeshiva University 1997
MD Ross Univ School of Medicine 2002
David Gerard Politte, MEE, D SC Assistant Professor of Radiology (primary appointment)
MEE Washington Univ in St. Louis 1983
BS Washington Univ in St. Louis 1981
D SC Washington Univ in St. Louis 1999
Kenneth S Polonsky, MBBCH Adjunct Professor of Medicine (primary appointment)
MBBCH University of the Witwatersra 1973
Katherine P Ponder, MD Professor of Medicine (primary appointment)
Professor of Biochemistry and Molecular Biophysics
BS Stanford University 1979
MD Washington Univ in St. Louis 1983
Makawadee Pongruangporn, MD Instructor in Clinical Medicine (primary appointment)
MD Chiang Mai University 2001
Maria Rosana Ponisio, MD Instructor in Radiology (primary appointment)
MD La Plata University 1990
Harish Ponnuru, MD Instructor in Clinical Medicine (primary appointment)
BA University of MO Kansas City 1995
MD University of Missouri 1995
Gerald Raymond Popelka Adjunct Professor of Otolaryngology (primary appointment)
Steven Paul Poplack, MD Associate Professor of Radiology (primary appointment)
BS Stanford University 1984
MD Boston University 1988
Lee S Portnoff Assistant Professor of Clinical Medicine (Dermatology) (primary appointment)
BS Purdue University 1972  
Daniel E Potts, MD  
Associate Professor of Clinical Medicine  
MD Washington Univ in St. Louis 1972  
BS Beaufort Technical College 1968  
Lisa Gayle Potts, PHD, MS  
Assistant Professor of Otolaryngology  
Assistant Professor of Audiology and Communication Sciences  
BS Southern Illinois University 1988  
PHD Washington Univ in St. Louis 2006  
MS Washington Univ in St. Louis 1991  
William G Powderly, MD  
J. William Campbell Professor of Medicine  
Director for the Institute of Public Health  
MD National University of Ireland 1979  
John A Powell  
Assistant Professor of Clinical Medicine (Dermatology)  
BS University of Notre Dame 1967  
Matthew A Powell, MD  
Associate Professor of Obstetrics and Gynecology  
MD Michigan State University 1995  
BS Washington St University 1990  
Stephanie K Powell, PHD, MS  
Instructor in Clinical Neurology  
PHD Univ of Wisconsin Milwaukee 2004  
MS Univ of Wisconsin Milwaukee 2000  
Jennifer Lynn Powers  
Assistant Professor of Medicine (Pending Executive Faculty Approval)  
William John Powers, MD  
Adjunct Professor of Neurology  
BA Dartmouth College 1971  
MD Cornell University 1975  
Diana A Prablek, MD  
Instructor in Clinical Medicine  
BA Texas Christian University 1984  
MD Southwestern University 1988  
Lawrence Prablek, MD  
Instructor in Clinical Medicine  
BS Southern Methodist University 1984  
MD University of Texas Southwest 1988  
Simeon Prager, MD  
Assistant Professor of Clinical Medicine  
MD University of California 1991  
Vajravel M Prasad  
Adjunct Instructor in Medicine  
Heidi Prather, DOST  
Professor of Orthopaedic Surgery  
Professor of Neurology  
DOST Univ of Health Sciences KC 1991  
BA Drury College 1987  
David J Prelutsky  
Associate Professor of Clinical Medicine  
BA Northwestern University 1975  
Arthur L Prensky, MD  
Prof Emeritus Of Neurology  
BA Cornell University 1951  
MD New York University 1955  
Rachel M. Presti, PHD, MD  
Assistant Professor of Medicine  
BA Scripps College 1990  
PHD Washington Univ in St. Louis 2001  
MD Washington Univ in St. Louis 2001  
Claudia Preuschoff  
Instructor in Clinical Pediatrics  
(primary appointment)
Elizabeth F Pribor, MD Associate Professor of Clinical Psychiatry (primary appointment)
BA Emory University 1981
MD Saint Louis University 1985

Joseph L Price, PHD Prof Emeritus of Anatomy & Neurobiology (primary appointment)
PHD Oxford University 1969
BA1 Oxford University 1966
BA University of the South 1963

Madelon T Price, PHD Resrch Prof Emeritus Of Neurobiology In Psych (primary appointment)
BA Washington Univ in St. Louis 1953
PHD Washington Univ in St. Louis 1973

Rumi Kato Price, PHD, MA, MPE Professor of Psychiatry (primary appointment)
PHD University of California 1988
MA University of California 1982
BA Ochanomizu Univ 1976
MPE Washington Univ in St. Louis 1990

Jasmina Profirovic, PHD Adjunct Assistant Professor of Cell Biology and Physiology (primary appointment)
PHD University of Illinois Chicago 2005
BS University of Belgrade 1997

Michael A Province, MA Professor of Genetics (primary appointment)
Professor of Biostatistics
BA University of Dallas 1973
MA Washington Univ in St. Louis 1979

John R. Pruett Jr, PHD Associate Professor of Psychiatry (Child Psychiatry) (primary appointment)
Associate Professor of Radiology
Associate Professor of Psychological & Brain Sciences (Courtesy)
PHD Washington Univ in St. Louis 2000
BA Princeton University 1990

Cassandra Michelle Pruitt, MD Associate Professor of Pediatrics (primary appointment)
MD Texas Tech University 1999
BA Emory University 1994

Aaron J Pugh Adjunct Instructor in Medicine (primary appointment)

Debra D Pulley, MD, MME Associate Professor of Anesthesiology (primary appointment)

BS Vanderbilt University 1978
MD Saint Louis University 1987
MME University of MO Columbia 1982

Laurie Jean Punch Assistant Professor of Surgery (General Surgery) (primary appointment)

James A Purdy, PHD, MA Emeritus Professor of Radiation Oncology (primary appointment)
Prof Emeritus of Radiation Oncology (primary appointment)
PHD University of Texas Austin 1971
BS Lamar University 1967
MA University of Texas Austin 1969

Varun Puri, MD, MS Associate Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
MD Washington Univ in St. Louis 2009
MS Creighton University 2007

Mabel Louise Purkerson, MD Prof Emeritus Of Medicine (primary appointment)
MD University of South Carolina 1956
Edward Puro, PHD, MD, MS  Assistant Professor of Clinical Medicine (primary appointment)
PHD University of Toronto 1970
BS University of Toronto 1962
MD Washington Univ in St. Louis 1975
MS University of Toronto 1966

Iskra Pusic, MD  Assistant Professor of Medicine (primary appointment)
MD University of Zagreb 1997

Carlos Angel Puyo, MD  Assistant Professor of Anesthesiology (primary appointment)
MD Juan N Corpas School of Medicine 1989

Usman Qayyum  Instructor in Clinical Medicine (primary appointment)

Mujtaba A Qazi  Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)

Robert Louis Quaas  Instructor in Clinical Pediatrics (primary appointment)
BA Cornell College 1970
BS University of South Dakota 1973

Nishath Quader, MD  Assistant Professor of Medicine (primary appointment)
BS University of Illinois Chicago 2002
MD Northwestern University 2007

Kimberly S Quayle, MD  Professor of Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1988

Patricia M Quinley, MD  Instructor in Clinical Medicine (primary appointment)
MD University of Illinois 1989
BS University of Illinois 1985

Jennifer Quinn  Instructor in Clinical Pediatrics (primary appointment)
BA University of Kentucky 1982

James D Quirk, MA  Assistant Professor of Radiology (primary appointment)
BS Massachusetts Institute of Technology (MIT) 1994
MA Washington Univ in St. Louis 1998

Abdul H Qureshi, MS  Instructor in Clinical Medicine (primary appointment)
MS School Not Listed 1992

John S Rabun, MD  Instructor in Clinical Psychiatry (primary appointment)
BA University of Tennessee
MD University of Tennessee

Brad Alan Racette, MD  Professor of Neurology (primary appointment)
Executive Vice Chair of Clinical Affairs, Department of Neurology
MD Northwestern University 1992

Susan B. Racette, PHD  Professor of Physical Therapy (primary appointment)

Professor of Medicine
PHD University of Chicago 1994
BS Bucknell University 1988

Janet Sue Rader, MD
MD University of Missouri 1983
BA Drake University 1978

Srinivasan Raghavan  Instructor in Clinical Medicine (primary appointment)

Edward Floyd Ragsdale, MD  Instructor in Clinical Radiology (primary appointment)
MD Washington Univ in St. Louis 1964
BA University of Arkansas 1960
Mohammad H Rahman
Instructor in Clinical Pediatrics (primary appointment)
UNKOWN School Not Listed 1960

Jodie Rai, MD
Associate Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD University of Illinois 1988
BA Harvard University 1983

Muhammad Farooq Rai, PHD
Assistant Professor of Orthopaedic Surgery (primary appointment)
PHD Freie University 2008

Marcus E Raichle, MD
Professor of Radiology (primary appointment)
Professor of Neuroscience
Professor of Neurology

Alan A and Edith L Wolff Distinguished Professor of Medicine
Professor of Psychological & Brain Sciences
Professor of Biomedical Engineering
BS University of Washington 1960
MD University of Washington 1964

Rithwick Rajagopal
Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)

Mark S Rallo, OD
Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD University of Missouri 1990
BS Saint Louis University 1986

Vidya Raman
Instructor in Clinical Pediatrics (primary appointment)

Raja Ramaswamy
Assistant Professor of Radiology (primary appointment)
Assistant Professor of Surgery (General Surgery)
BA Emory University 2004

Pathmawathy T Ramesvara, MS
Instructor in Clinical Pediatrics (primary appointment)
MS School Not Listed 1972

Britney Martin Ramgopal, MD
Instructor in Medicine (primary appointment)
BS Oklahoma St University 2008
MD Oklahoma St University 2012

Rajeev Ramgopal, MD
Instructor in Medicine (primary appointment)
MD University of Oklahoma 2012
BS University of Rochester 2005

Roxane M. Rampersad, MD
Associate Professor of Obstetrics and Gynecology (primary appointment)
MD Emory University 1998
BS Emory University 1994

Alex Taylor Ramsey
Instructor in Psychiatry (primary appointment)

Gwendalyn Jan Randolph, PHD
Unanue Distinguished Professor of Immunology (primary appointment)

Professor of Medicine
BS Temple University 1991
PHD State University of New York 1995

Prabha Ranganathan, MBBS
Associate Professor of Medicine (primary appointment)
MBBS Kilpauk Medical College 1990

Diane Rankin, MD
Assistant Professor of Clinical Psychiatry (primary appointment)
BA University of Colorado Boulder 1962
MD University of Colorado Boulder 1968

Dabeeru C Rao, PHD, MS
Professor of Biostatistics (primary appointment)
Professor of Biostatistics in Genetics
Director of the Division of Biostatistics
Tenure Held At-Large in the Medical School
Professor of Biostatistics in Psychiatry
Professor of Mathematics
BS Indian Statistical Institute 1967
PHD Indian Statistical Institute 1971
MS Indian Statistical Institute 1968
Lesley Kathryn Rao, MD Assistant Professor of Anesthesiology (primary appointment)
MD Saint Louis University 2006
Prabakar Kumar Rao, MD Professor of Ophthalmology and Visual Sciences (primary appointment)
MD University of Southern Calif 1995
BA University of CA San Diego 1991
Radhika Rao Instructor in Clinical Psychiatry (primary appointment)
Rakesh Rao, MD Assistant Professor of Pediatrics (primary appointment)
MD Maulana Azad Medical College 1996
Ricardo Rao, MD Instructor in Clinical Surgery (General Surgery) (primary appointment)
MD University of Missourri 1987
BA University of CA San Diego 1983
Srinivasan Dubagunta Rao Adjunct Instructor in Medicine (primary appointment)
U. Ramakrishna Rao, PHD Associate Professor of Medicine (primary appointment)
BS Mysore University 1975
PHD University of Bombay 1987
Constantine A Raptis, MD Assistant Professor of Radiology (primary appointment)
BS University of Chicago 1999
MD University of Pennsylvania 2004
Emanuel Rashet, MD Instructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1962
BS University of Illinois 1958
Antonella Luisa Rastelli, MD Associate Professor of Medicine (primary appointment)
Associate Professor of Surgery (General Surgery)
BA University of Verona 1984
MD University of Verona 1991
Rashmi R Rathor, MD Assistant Professor of Anesthesiology (primary appointment)
MD University of Illinois 2007
Gary A Ratkin, MD Associate Professor of Clinical Medicine (primary appointment)
Instructor in Clinical Radiation Oncology
MD Washington Univ in St. Louis 1967
BA Rice University 1963
Jebadurai Ratnaraj, MD Assistant Professor of Anesthesiology (primary appointment)
MD1 Northrhein Westfalen Medical 1985
MD Madurai Kamaraj University 1979
Lee Ratner, MA, PHD Professor of Medicine (primary appointment)
Professor of Molecular Microbiology
Alan A and Edith L Wolff Professor of Oncology
BA Harvard University 1973
MA Harvard University 1973
PHD Yale University 1979
Gregory Ratti, MD
Instructor in Medicine (primary appointment)
MD University of Cincinnati 2013
Valerie Ratts
Professor of Obstetrics and Gynecology (primary appointment)
Associate Dean for Admissions
Daniel Rauch, PHD
Assistant Professor of Medicine (primary appointment)
PHD University of Iowa 2001
BS Augustana College 1996
BS1 Augustana College 1996

V. Nathan Ravi, PHD, MS
Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Energy, Environmental and Chemical Engineering
PHD Virginia Tech 1980
MS University of Bombay 1975
BS University of Bombay 1972

Amy J. Ravin, MD
Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD University of Chicago 1996
Wilson Z Ray
Assistant Professor of Neurological Surgery (primary appointment)
Assistant Professor of Orthopaedic Surgery

Saadia Taufiq Raza, MD
Assistant Professor of Clinical Medicine (Dermatology) (primary appointment)
MD Emory University 1997
Syed A Raza
Assistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)

Babak Razani, PHD, MD
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
PHD Albert Einstein College of Med 2003
MD Albert Einstein College of Med 2003

Sheryl S Ream, MD
Instructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1986
BA Saint Louis University 1982

Timothy Patrick Rearden, MD, MS
Instructor in Clinical Medicine (primary appointment)
BS Southeast Missouri St Univers 1979
MD University of MO Columbia 1985
MS University of MO Columbia 1981

Neil F. Rebbe, PHS, MD
Instructor in Clinical Pediatrics (primary appointment)
BA University of MO St Louis 1978
PHS Washington Univ in St. Louis 1983
MD Saint Louis University 1996

Arhaanth D Reddy
Instructor in Clinical Medicine (primary appointment)

Chandrashekar Reddy
Instructor in Clinical Psychiatry (primary appointment)

Kavitha Reddy
Assistant Professor of Emergency Medicine in Medicine (primary appointment)

Jonathan R Reed, MD
Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
BA Fisk University 1956
MD Meharry Med College 1965

Nanette Rahee Reed, MD
Assistant Professor of Surgery (General Surgery) (Pending Executive Faculty Approval) (primary appointment)
MD Baylor College of Medicine 2004
BS University of Notre Dame 2000

Timothy Reed
Instructor in Clinical Pediatrics (primary appointment)
Katherine Marie Reeder, PHD, Adjunct Assistant Professor of Medicine (primary appointment)
PHD University of Iowa 2007

Dominic N Reeds, Associate Professor of Medicine (primary appointment)
BA University of Texas Austin 1992

Susan Robinson Reeds, Assistant Professor of Medicine (primary appointment)

Lester T Reese, MD, Professor of Clinical Medicine (Dermatology) (primary appointment)
BS Tulane University 1962
MD Tulane University 1966

Kara Anne Regan, MD, Assistant Professor of Medicine (primary appointment)
BS East Carolina University 2002
MD East Carolina University 2008

David E Reichert, PHD, Associate Professor of Radiology (primary appointment)
PHD University of Illinois 1994
BS Roanoke College 1986
Phillip D Reichert, Instructor in Clinical Pediatrics (primary appointment)

Angela M. Reiersen, MD, MS PSYC, Assistant Professor of Psychiatry (Child Psychiatry) (primary appointment)
MD University of Southern Calif 1999
BS University of CA Davis 1994
MS PSYC Washington Univ in St. Louis 2006

Margaret Reiker, MD, PHD, Instructor in Clinical Medicine (primary appointment)
UNKNOWN Saint Louis University 1986
MD Saint Louis University 1993
PHD Saint Louis University 1991

Michael Reilly, MS, PHD, Instructor in Radiation Oncology (Pending Dean's Approval) (primary appointment)
MS Univ of IL - Urbana-Champaign 2005
BS Univ of IL - Urbana-Champaign 2003
PHD Univ of IL - Urbana-Champaign 2009

Eduardo Reina, MD, Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)
MD University of Illinois Chicago 2011

Angela Mary Reining, Instructor in Clinical Obstetrics and Gynecology (primary appointment)

Daniel B. Reising, Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)

David Martin Reisler, M PH, MD, Assistant Professor of Clinical Neurology (primary appointment)
M PH Johns Hopkins University Medic 1971
MD Washington Univ in St. Louis 1961
BA Harvard University 1957

Craig K Reiss, MD, Professor of Clinical Medicine (primary appointment)
MD University of Missouri 1983
BA University of Missouri 1979

Jacqueline Levy Reiss, MD, Instructor in Clinical Medicine (primary appointment)
BA University of MO Kansas City 1989
MD University of Missouri 1990

Maria Sara Remedi, PHD, MS, Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
PHD University of Cordoba 1999
MS University of Cordoba 1989
Catherine R Remus, MD, MSNAssistant Professor of Clinical Pediatrics (primary appointment)

MD School Not Listed 1983
BA Luther College 1975
MSN Rush University 1978

Kenneth Eugene Remy, MDAssistant Professor of Pediatrics (primary appointment)

MD Jefferson Medical College 2004

Dave A Rengachary, MDInstructor in Clinical Neurology (primary appointment)

MD Northwestern University 2000

Marvin Rennard, MDProf Emeritus Of Clinical Ob & Gyn (primary appointment)

MD Washington Unin St. Louis 1952

Hilary Elizabeth Lee Reno, MD, MS, PHDAssistant Professor of Medicine (primary appointment)

MD University of Illions 2002
MS University of Illinois 1997
PHD University of Illinois 2000

Stacey L. Rentschler, MS, PHD, MDAssistant Professor of Medicine (primary appointment)

Assistant Professor of Developmental Biology

MS Mount Sinai School of Medicine 2000
PHD Mount Sinai School of Medicine 2002
MD Mount Sinai School of Medicine 2004

Nicholas R RenzInstructor in Emergency Medicine in Medicine (primary appointment)

BA University of MO Columbia 2004

Michael P Rettig, PHDAssistant Professor of Medicine (primary appointment)

BS Illinois State University 1993
PHD Purdue University 2000

Alejandro ReyesAdjunct Assistant Professor of Pathology and Immunology (primary appointment)

George H Rezabek, DOSTInstructor in Clinical Pediatrics (primary appointment)

DOST School Not Listed 1988

Edward K RheeAdjunct Assistant Professor of Pediatrics (primary appointment)

BA University of Pennsylvania 1986

Noor Riaz, MDInstructor in Pediatrics (primary appointment)

MD Washington Unin St. Louis 2008

William M Ricci, MDPear of Orthopaedic Surgery (primary appointment)

MD Duke University 1992
BS Duke University 1986

John P Rice, MATHDoctor of Mathematics in Psychiatry (primary appointment)

Professor of Biostatistics

Professor of Genetics

BA Cornell University 1969
MA Washington Unin St. Louis 1972
PHD Washington Unin St. Louis 1975

Micheal Todd Rice, MDAssistant Professor of Anesthesiology (primary appointment)

MD Univ of Texas San Antonio 2002

Treva Kay Rice, MAPeressor of Biostatistics (primary appointment)

Professor of Psychiatry

BS University of Texas Arlington 1981
MA University of Colorado Boulder 1984

Charles M Rice III, PHDAdjunct Professor of Molecular Microbiology (primary appointment)
PHD California Institute Technolo 1981
BS University of California 1974

Jason T. Rich, MD, Assistant Professor of Otolaryngology (primary appointment)
MD Ohio State University 2004
BS Brigham Young University 2000

Keith M Rich, MD, Professor of Neurological Surgery (primary appointment)
Professor of Neuroscience
Professor of Radiation Oncology
BA Taylor University 1974
MD Indiana University Bloomington 1977

Michael W Rich, MD, Professor of Medicine (primary appointment)
BA University of Illinois 1974
MD University of Illinois 1979

Lois F. Richard, PHD, Assistant Professor of Medicine (primary appointment)
BS Murray St University 1982
PHD Saint Louis University 1998

Cheryl Richards, MA, PHD, Assistant Professor of Psychiatry (primary appointment)
Assistant Professor of Medicine
BA University of Illinois 1981
BS Ohio University 1977
PHD University of Illinois 1987

Frank O Richards, Assistant Professor Emeritus of Clinical Surgery (General Surgery) (primary appointment)
Asst Prof Emeritus of Clin Surg (Gen Surg) (primary appointment)
BA Talladega College 1944

Thomas F Richardson, Professor of Psychiatry (primary appointment)
Justin M Richner, PHD, Instructor in Medicine (primary appointment)
BS Washington Univ in St. Louis 2006
PHD University of CA Berkeley 2011

Clare H Ridley, MD, Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
MD Washington Univ in St. Louis 2008
BA Columbia College of Phy & Surg 2002

William M Riedesel II, Associate Professor of Clinical Psychiatry (primary appointment)

Terrence E Riehl, MS, PHD, Assistant Professor of Medicine (primary appointment)
MS Rutgers University 1976
BS Rutgers University 1974
PHD Ohio University 1981

Amy Elizabeth Riek, Assistant Professor of Medicine (primary appointment)
Robert D Rifkin, MD, Professor of Medicine (primary appointment)
BS Mass Inst of Technology (MIT) 1968
MD New York University 1972

Shale M Rifkin, MD, Assistant Professor of Clinical Surgery (General Surgery) (primary appointment)
MD Washington Univ in St. Louis 1948

Caron E Rigden, BFA, MD, Assistant Professor of Medicine (primary appointment)
BFA Tulane University 1996
MD Tulane University 2000
Lee A Rigg, PHD, MD Associate Professor of Clinical Obstetrics and Gynecology (primary appointment)
BA Arizona State University 1961
PHD University of Colorado Boulder 1965
MD Washington Univ in St. Louis 1971
Joan K. Riley, PHD Assistant Professor of Obstetrics and Gynecology (primary appointment)
Assistant Professor of Pediatrics
Instructor in Medicine
PHD Washington Univ in St. Louis 1998
Julie L Ring, DDENT Instructor in Clinical Otolaryngology (DDS) (primary appointment)
DDENT University of MO Kansas City 1998
Tracy Marie Riordan, MD Instructor in Clinical Medicine (primary appointment)
BA Saint Louis University 1996
MD Saint Louis University 2000
Stephen L. Ristvedt, MA, PHD Associate Professor of Anesthesiology
Associate Professor of Psychiatry
BA University of Minnesota 1981
MA University of Pennsylvania 1983
PHD University of Pennsylvania 1989
Jon H Ritter Professor of Pathology and Immunology (primary appointment)
Terri L Riutcel, MD Associate Professor of Neurology (primary appointment)
BS University of MO Columbia 1991
MD Vanderbilt University 1995
Katherine Rivera-Spoljaric, MS, MD Associate Professor of Pediatrics (primary appointment)
BS University of Puerto Rico 1997
MS Washington Univ in St. Louis 2008
MD University of Puerto Rico 2001
William L. Rives, MS Assistant Professor of Pediatrics (primary appointment)
MS University of Missouri 1992
Robert V Rivlin, MS, DDENT Instructor in Clinical Otolaryngology (DMD) (primary appointment)
MS Fairleigh Dickinson University 1975
DDENT Washington Univ in St. Louis 1979
BA Rutgers University 1972
Syed T Rizvi Assistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)
Necita L Roa, MD Assoc Prof Emeritus of Anesthesiology (primary appointment)
MD University of the Philippines 1969
Michael Charles Roach Assistant Professor of Radiation Oncology (primary appointment)
BS Vanderbilt University 2007
Elisha D.O. Roberson, PHD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Genetics
BS Western Kentucky University 2004
PHD Johns Hopkins University 2009
Clifford Grant Robinson, MD Associate Professor of Radiation Oncology (primary appointment)
BS University of Pittsburgh 2000
MD Case Western Reserve Univ 2004
Janis B Robinson, MA Associate Professor of Clinical Pediatrics (primary appointment)
MA Yale University 1972
Kathryn Ann Robinson, MD Assistant Professor of Radiology (primary appointment)
MD State Univ of NY Stonybrook 2001

Paul Arthur Robiolio, M Phil, MD Assistant Professor of Clinical Medicine (primary appointment)
M Phil Cambridge University 1985
MD Washington Univ in St. Louis 1989
BS Haverford College 1983

Ann Marie Rockamann Instructor in Clinical Obstetrics and Gynecology (primary appointment)

Toby Andrew Rockefeller, MD Assistant Professor of Pediatrics (Pending Executive Faculty Approval) (primary appointment)
BS Oklahoma St University 2005
MD University of Oklahoma 2009

Catherine M Roe, MA Assistant Professor of Neurology (primary appointment)
MA Southern Illinois University 1990
BA Purdue University 1986

M. Reza Rofougaran, MD Instructor in Clinical Medicine (primary appointment)
MD Tehran University 1988

John Deno Rogakos Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)
BS University of Dayton 1990

Buck Edward Rogers, PhD, MA Professor of Radiation Oncology (primary appointment)
Professor of Radiology
BS Loyola University Chicago 1989
PHD Washington Univ in St. Louis 1995
MA Washington Univ in St. Louis 1991

Cynthia E Rogers, MD Assistant Professor of Psychiatry (primary appointment)
BA Harvard University 1998
MD Washington Univ in St. Louis 2005

H. Bryan Rogers, MD Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1965

Sandeep Rohatgi, MD Instructor in Clinical Pediatrics (primary appointment)
MD U Medical-Dental Of New Jersey 1993
BA Saint Louis University 1989

Michael Dennis Rohde Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BS Valparaiso University 1983

James R Rohrbaugh, MD Associate Professor of Clinical Neurology (primary appointment)
Associate Professor of Clinical Pediatrics
MD Ohio State University 1974
BA Yale University 1971

John W Rohrbaugh Prof Emeritus of Psychiatry (primary appointment)
BS Heidelberg College 1968

Chinda Vanasin Rojanasathit, MD Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD School Not Listed 1967

Evan Ward Roller, MD Assistant Professor of Anesthesiology (Pending Executive Faculty Approval) (primary appointment)
MD University of Cincinnati 2010

Felice A Rolnick, MD Instructor in Clinical Medicine (primary appointment)
MD School Not Listed 1987
BS Union College New York 1982

Rizwan Romee, MD Assistant Professor of Medicine (primary appointment)

MD Gov't Gandhi Memorial Sci Coll 2004

Arthur G. Romero Associate Professor of Medicine (primary appointment)

BS Johns Hopkins University 1979

Ernesto J Romo Instructor in Emergency Medicine in Medicine (Pending Dean's Approval)

(primary appointment)

Ayelet Rosen, MD Instructor in Pediatrics (primary appointment)

BS Rutgers University 2015

MD Albert Einstein College of Med 2015

Joan Lee Rosenbaum Professor of Pediatrics (primary appointment)

Louis J Rosenbaum, MD Associate Professor of Clinical Ophthalmology and Visual Sciences

(primary appointment)

MD Washington Univ in St. Louis 1963

Isabel L Rosenbloom Associate Professor of Clinical Pediatrics (primary appointment)

BA Goucher College 1979

Daniel B Rosenbluth, MD Professor of Medicine (primary appointment)

Professor of Pediatrics

Tracey C and William J Marshall Professor of Medicine

MD Mount Sinai School of Medicine 1989

BS Columbia University 1985

Anna Roshal Assistant Professor of Medicine (primary appointment)

BS University of Rochester 1993

Ilana Shaina Rosman, MD Assistant Professor of Medicine (Dermatology) (primary appointment)

Assistant Professor of Pathology and Immunology

MD Washington Univ in St. Louis 2008

Ian Ross Instructor in Medicine (primary appointment)

Kelly Ross, MD Assistant Professor of Pediatrics (primary appointment)

BS University of MO Kansas City 1991

MD University of MO Columbia 1996

William J Ross, MD Associate Professor of Clinical Pediatrics (primary appointment)

MD Washington Univ in St. Louis 1972

BA Miami University 1968

Willie Ray Ross, M PH, MD Associate Dean for Diversity (primary appointment)

Professor of Medicine

BS Yale University 1980

M PH Saint Louis University 2007

MD Washington Univ in St. Louis 1984

Bruce J Roth, MD Professor of Medicine (primary appointment)

MD Saint Louis University 1980

Robyn Roth Instructor in Cell Biology and Physiology (primary appointment)

BS MO State U (formerly SW MO St) 1979

Robert J Rothbaum, MD Centennial Professor of Pediatrics (primary appointment)

MD University of Chicago 1976

Marcos Rothstein, MD Professor of Medicine (primary appointment)

MD University of Zulia 1974

Mark A Rothstein, MD Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MA Williams College 1986
MD University of Utah 1991
Joseph L Roti Roti, PHD Prof Emeritus of Radiation Oncology (primary appointment)
BS Michigan Tech University 1965
PHD University of Rochester 1972
Ernest Tuttle Rouse III, MD Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1971
Jeremy Rower, MD Instructor in Clinical Medicine (primary appointment)
MD University of Cincinnati 1997
BS University of Cincinnati 1993
Elizabeth Yanik Rowlands, PHD, MD Assistant Professor of Orthopaedic Surgery (Pending Executive Faculty Approval) (primary appointment)
PHD University of North Carolina 2013
BS University of Maryland 2007
MD Johns Hopkins University 2009
Tapan Roy, MS Instructor in Clinical Radiation Oncology (primary appointment)
MS Baroda Medical College 1974
Henry D Royal, MD Professor of Radiology (primary appointment)
BS Providence College 1970
MD Saint Louis University 1974
Ella Rozin Instructor in Clinical Pediatrics (primary appointment)
Brian G Rubin, MD Professor of Surgery (General Surgery) (primary appointment)
Professor of Radiology
MD University of Vermont 1984
BA Colgate University 1979
David A Rubin, MD Professor of Radiology (primary appointment)
BA Brown University 1984
MD University of Pennsylvania 1988
Deborah C Rubin, MD Professor of Medicine (primary appointment)
Professor of Developmental Biology
MD Albert Einstein College of Med 1981
BS Mass Inst of Technology (MIT) 1977
Eugene Harold Rubin, MD Professor of Psychiatry (primary appointment)
Professor of Psychological & Brain Sciences (courtesy)
Vice Chairman for Education, Department of Psychiatry
BA University of Rochester 1971
MD Washington Univ in St. Louis 1978
Joshua Bennett Rubin, MD, PHD, MS Professor of Pediatrics (primary appointment)
Professor of Neuroscience
Professor of Neurology
MD Albert Einstein College of Med 1994
BS Yale University 1982
PHD Albert Einstein College of Med 1994
MS Albert Einstein College of Med 1992
Myra L. Rubio, MD Associate Professor of Medicine (primary appointment)
MD Indiana University Bloomington 1998
BA Washington Univ in St. Louis 1994
Christina M Ruby-Ziegler, MD Assistant Professor of Clinical Pediatrics (primary appointment)
Paetra Ruddy, MD
Assistant Professor of Medicine (Dermatology) (primary appointment)
BA Bard College 1997
MD University of Iowa 2011

John Conrad Rudersdorf
Instructor in Clinical Psychiatry (Child) (primary appointment)

Martin D Rudloff, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1981

David Rudnick, MD
Associate Professor of Pediatrics (primary appointment)
Associate Professor of Developmental Biology
BS University of Illinois 1987
MD Washington Univ in St. Louis 1994

Daniel G. Rudolph, MD
Instructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1992
BS Saint Louis University 1988
Karen Elizabeth Ruecker
Instructor in Clinical Pediatrics (primary appointment)

Albert F Ruehl, MS, MD
Assistant Professor of Clinical Otolaryngology (primary appointment)
BS Washington Univ in St. Louis 1961
MS Washington Univ in St. Louis 1964
MD Saint Louis University 1973

Michael B Rumelt, MD
Assistant Professor Emeritus of Clinical Ophthalmology and Visual Sciences (primary appointment)
Asst Prof Emer of Clinical Ophthal & Vis Sci (primary appointment)
BS Lamar University 1962
MD Washington Univ in St. Louis 1966

Emily Lindholm Rumora, MD
Instructor in Medicine (primary appointment)
MD Dartmouth College 2013

Brent E Ruoff, MD
Associate Professor of Emergency Medicine in Medicine (primary appointment)
BS Graceland College 1977
MD Saint Louis University 1981

Diane Mary Rup, MA, MD
Instructor in Clinical Pediatrics (primary appointment)
BA State University of New York 1976
MA State University of New York 1979
MD Case Western Reserve Univ 1986
Michael B Rusche
Adjunct Instructor in Medicine (primary appointment)

John Hall Russell
Professor of Developmental Biology (primary appointment)
Associate Dean for Graduate Education for the Division of Biology and Biomedical Sciences
BS Juniata College 1968

Sharman M Russell, MD
Assistant Professor in Obstetrics and Gynecology (primary appointment)
MD CHICAGO MEDICAL SCHOOL 2010

Tonya D Russell, MD
Associate Professor of Medicine (primary appointment)
MD University of Florida 1997

James Rutherford, MD
Assistant Professor Emeritus of Clinical Psychiatry (primary appointment)
Asst Prof Emeritus of Clinical Psychiatry (primary appointment)
BA Drake University 1975
MD University of Iowa 1980

Mark A Rutherford, PhD
Assistant Professor of Otolaryngology (primary appointment)
BS University of MO St Louis 1999
Bridget Scheve Rutledge, Instructor in Clinical Obstetrics and Gynecology (primary appointment)

Rimma Ruvinskaya, MD, Associate Professor of Neurology (primary appointment)

BA School Not Listed 1979
MD Leningrad Inst of Peds Med 1985
Joseph F Ruwitch Jr, Professor of Clinical Medicine (primary appointment)

Marianna B Ruzinova, MD, PhD, Assistant Professor of Pathology and Immunology (primary appointment)

MD Cornell University 2005
PHD Cornell University 2004

Jo-Ellyn M Ryall, MD, Associate Professor of Clinical Psychiatry (primary appointment)

MD Washington Univ in St. Louis 1975

Lisa A Ryan, Instructor in Clinical Pediatrics (primary appointment)

Kenneth J Rybicki, MS, MD, PhD, Instructor in Clinical Medicine (primary appointment)

MS Southern Illinois University 1980
MD University of Texas Austin 1987
BA Southern Illinois University 1978
PHD University of Texas Austin 1984

Chara Elaine Rydzak, MD, PhD, Assistant Professor of Radiology (primary appointment)

MD Harvard University 2010
PHD Harvard University 2010

Robin C Ryther, PhD, MD, Assistant Professor of Neurology (primary appointment)

PHD Vanderbilt University 2004
MD Vanderbilt University 2006
BS University of MO Columbia 1998

Nael E. A. Saad, MBBCH, Associate Professor of Radiology (primary appointment)

Associate Professor of Surgery (General Surgery)

MBBCH Ain Shams University 1998

Raya Saba, MD, Instructor in Medicine (primary appointment)

MD Damascus University 2011

Frank Scott Saccone, Associate Professor of Psychiatry (primary appointment)

BA Rensselaer Polytechnic Instit 1990

Nancy L. Saccone, PhD, MS, Associate Professor of Genetics (primary appointment)

Associate Professor of Biostatistics

PHD Brown University 1993
MS Brown University 1990

Jerome D Sachar, MD, Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)

BA Amherst College 2000
MD University of Missouri 1979
Molly Sachdev, Assistant Professor of Medicine (primary appointment)

Justin Sadhu, MD, Instructor in Medicine (primary appointment)

MD Washington Univ in St. Louis 2007

Adnan Sadiq, MD, Assistant Professor of Anesthesiology (primary appointment)

Assistant Professor of Surgery (Cardiothoracic Surgery)

MD Royal College of Surgeons 2001
BS State Univ of NY Buffalo 1996

J. Evan Sadler, MD, PHD, Professor of Medicine (primary appointment)
Professor of Biochemistry and Molecular Biophysics
MD Duke University 1979
PHD Duke University 1978
Mohammed Jaafar Saeed, M PH, MDInstructor in Medicine (primary appointment)
M PH University of Kentucky 2012
MD Baghdad University 2007
Mehrdad Saeed-Vafa, MDInstructor in Clinical Medicine (primary appointment)
MD School Not Listed 2000
Jose Bernardo Saenz, PHD, MDInstructor in Medicine (primary appointment)
BA Cornell University 2003
PHD Washington Univ in St. Louis 2009
MD Washington Univ in St. Louis 2011
Angela K Saettele, MDAssistant Professor of Anesthesiology (primary appointment)
BS Simpson College 2004
MD University of MO Columbia 2008
Shabir H SafdarProfessor of Clinical Medicine (primary appointment)
UNKNOWN1 School Not Listed 1961
Scott Geoffrey SagettInstructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
Sonny Satnam SaggarInstructor in Clinical Medicine (primary appointment)
Sudha Saha, MDInstructor in Clinical Obstetrics and Gynecology (primary appointment)
MD School Not Listed 1963
BA Balurghat College 1957
Shirley Ann Sahrmann, MAProfessor Emeritus of Physical Therapy (primary appointment)
Prof Emeritus of Physical Therapy (primary appointment)
BS Washington Univ in St. Louis 1958
MA Washington Univ in St. Louis 1971
Ahmed Sameh Said, PHD, MDInstructor in Pediatrics (primary appointment)
PHD Ain Shams University 2009
MD Ain Shams University 2000
Jacqueline Mitsouko Saito, MDAssistant Professor of Surgery (Pediatric Surgery) (primary appointment)
BS Harvard Radcliff 1989
MD Columbia University 1993
Kaori A. SakuraiInstructor in Clinical Medicine (primary appointment)
Monica Sala-RabanalInstructor in Cell Biology and Physiology (primary appointment)
Berette A Salazar, MDAssistant Professor of Clinical Psychiatry (primary appointment)
MD University of New Mexico 1982
BA Middlebury College 1973
Lawrence B Salkoff, PHDProfessor of Neuroscience (primary appointment)
Professor of Genetics
BA University of CA Los Angeles 1967
PHD University of CA Berkeley 1979
Arghavan Salles, MD, PHDAssistant Professor of Surgery (General Surgery) (Pending Executive Faculty Approval) (primary appointment)
MD Stanford University 2006
BA University of Southern Calif 2002
PHD Stanford University 2014
Mickey L Salmon  Instr Emeritus In Clinical Ophthal & VIs Sci (primary appointment)
BS Centenary College 1955

Alec N Salt, PHD, MS  Professor of Otolaryngology (primary appointment)
PHD University of Birmingham 1977
MS University of Birmingham 1974
BS University of East Anglia 1973

Christine Joan Salter, DC  Instructor in Clinical Medicine (primary appointment)
BS Reading University 1982
DC Logan College of Chiropractic 1991

Robert J Saltman, MD  Associate Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1980

John Mark Samet, MD  Instructor in Clinical Medicine (primary appointment)
BS Washington & Lee 1964
MD University of Missouri 1968

Dmitri Samovski, PHD  Instructor in Medicine (primary appointment)
PHD Hebrew University 2009

Charles Michael Samson, MD  Assistant Professor of Pediatrics (primary appointment)
MD University of Washington 2003
BS University of North Carolina 1998

Lawrence E Samuels  Instructor in Clinical Medicine (Dermatology) (primary appointment)
BA University of Texas Austin 1972

Souzan Sanati, MD  Assistant Professor of Pathology and Immunology (primary appointment)
MD Iran Univ of Medical Sciences 1993

Guadalupe Sanchez, MD  Instructor in Clinical Medicine (Dermatology) (primary appointment)
MD Harvard University 1978
BA Berry College 1974

Luis A Sanchez  Professor of Surgery (General Surgery) (primary appointment)
Gregorio A. Sicard  Distinguished Professor
Professor of Radiology

Linda J Sandell, PHD, MS  Mildred B Simon Research Professor of Orthopaedic Surgery (primary appointment)
Professor of Cell Biology and Physiology
PHD Northwestern University 1980
MS University of Denver 1971

Gretchen A Sander, MD  Instructor in Clinical Pediatrics (primary appointment)
BA Vanderbilt University 2000
MD Loyola University Chicago 2004

Heidi L Sandige, MD, MA  Instructor in Pediatrics (primary appointment)
BA Northwestern University 1991
MD Washington Univ in St. Louis 2005
MA Yale University 1993
MA1 Washington Univ in St. Louis 2003

Mark Steven Sands, PHD  Professor of Medicine (primary appointment)
Professor of Genetics
PHD State Univ of NY Stonybrook 1990
BS Rochester Institute of Techno 1980

Kristen Marie Sanfilippo, MD  Assistant Professor of Medicine (primary appointment)
MD University of MO Columbia 2007
Pravesh Sangwan, MD, MBBS 
Instructor in Pediatrics (primary appointment)
MD Gauhati Medical College 2009
MBBS Vijayanagara Inst of Med Sci 2015

Daniel Jose Santa Cruz 
Instructor in Clinical Medicine (Dermatology) (primary appointment)

Lakshmi Santanam, PHD, MS 
Associate Professor of Radiation Oncology (primary appointment)
PHD Wayne State University 2003
BS University of Madras 1991
MS University of Madras 1993

Celia Maria Santi Grau Perez, MD, PHD 
Associate Professor of Obstetrics and Gynecology (primary appointment)
MD Instituto de Montevideo 1992
BS Instituto de Montevideo 1979
PHD National Autonomous U of Mex 1998

Paul Santiago, MD 
Professor of Neurological Surgery (primary appointment)

Professor of Orthopaedic Surgery
BS Stanford University 1990
MD Yale University 1995

Richard Albert Santos, PHD, MD 
Assistant Professor of Medicine (primary appointment)
BS Michigan State University 1994
PHD University of Iowa 2002
MD University of Iowa 2002

Evelio E. Sardina, MD, MS, PHD 
Instructor in Clinical Medicine (primary appointment)
MD University of South Florida 1994
MS University of South Florida 1988
PHD University of South Florida 1990
BA Rutgers University 1985

Carolyn E. Sartor, PHD, MS 
Adjunct Assistant Professor of Psychiatry (primary appointment)
PHD Palo Alto College 2005
BS Oberlin College 1994
MS Catholic University America 1999

Norman Sartorius 
Adjunct Professor of Psychiatry (primary appointment)

Yo Sasaki, PHD, MS 
Assistant Professor of Genetics (primary appointment)
BS Tokyo U of Agric & Technology 1991
PHD Gunma University, Med School 1997
MS Tokyo U of Agric & Technology 1994

Diana M Sater-Roukoz 
Instructor in Clinical Pediatrics (primary appointment)

Chihiro Sato, PHD, MS 
Instructor in Neurology (primary appointment)

Donald C Sauer, MD 
Assistant Professor Emeritus of Clinical Surgery (General Surgery) (primary appointment)
Asst Prof Emeritus of Clin Surg (Gen Surg) (primary appointment)
MD Washington Univ in St. Louis 1960

Scott Saunders, PHD, MD 
Associate Professor of Pediatrics (primary appointment)
Associate Professor of Developmental Biology
PHD Stanford University 1990
MD Stanford University 1990
BS University of Minnesota 1983
Brian J. Saville, MD Instrucor in Pediatrics (Pending Dean's Approval) (primary appointment)
BS Washington Univ in St. Louis 1997
MD Washington Univ in St. Louis 2001
Blaine M Sayre, M PH, MD Professor of Clinical Pediatrics (primary appointment)
M PH University of CA Berkeley 1972
MD Washington Univ in St. Louis 1968
Gregory Stephen Sayuk Associate Professor of Medicine (primary appointment)
Associate Professor of Psychiatry
Lawrence R Schacht, MD Instructor in Clinical Medicine (primary appointment)
BA University Wyoming 1971
MD Oregon Health Science Univers 1975
Joseph Schachter, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MD Indiana University Bloomington 1979
BA Indiana University Bloomington 1974
Anneliese M Schaefer, PHD, BBA Associate Professor of Neurology (primary appointment)
PHD Washington Univ in St. Louis 2001
BBA Washington Univ in St. Louis 1985
Andras Schafer, MD, PHD Assistant Professor of Pathology and Immunology (primary appointment)
Assistant Professor of Medicine (Dermatology)
MD University of Pecs Medical Sch 1993
PHD Cornell University 2001
Jean E. Schafer Virginia Minnich Distinguished Professor of Medicine (primary appointment)
Professor of Developmental Biology
BA Harvard Radcliff 1982
Gerwin Schalk Adjunct Assistant Professor of Neurological Surgery (primary appointment)
Richard O. Schamp Instructor in Clinical Medicine (primary appointment)
Kenneth B Schechtman, MS, MA, PHD Associate Professor of Biostatistics (primary appointment)
Associate Professor of Medicine
Tenure Held At-Large in the Medical School
BS City University of New York 1967
MS Purdue University 1971
MA Washington Univ in St. Louis 1978
PHD Washington Univ in St. Louis 1978
Tim B Schedl, PHD Professor of Genetics (primary appointment)
PHD Univ of Wisconsin Madison 1984
BA Lawrence University 1977
Jennifer Lynn Scheer, MD Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1994
Robert F Scheible, MD Assistant Professor of Clinical Radiology (primary appointment)
BA Johns Hopkins University 1968
MD Washington Univ in St. Louis 1972
Jonathan C Schell, MD Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
BS Saint Louis University 2001
MD Saint Louis University 2005
Erica Lynn Scheller, DDENT Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
DDENT University of Michigan 2011
BS Michigan State University 2004
Stefano Schena Assistant Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Mark Schepel  MD Instructor in Clinical Medicine (primary appointment)
BA University of Missouri 1989
MD University of Missouri 1989
Alvin K Schergen, MD Instructor in Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1976
MD Saint Louis University 1980
Jeffrey Frank Scherrer, PHD Adjunct Associate Professor of Psychiatry (primary appointment)
PHD Saint Louis University 2004
Thomas Schiff, DDENT Professor Emeritus of Diagnostic Services (primary appointment)
DDENT University of Alabama 1961
Joel D. Schilling, PHD, MD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
PHD Washington Univ in St. Louis 2001
MD Washington Univ in St. Louis 2003
Suzanne E. Schindler, PHD, MD Assistant Professor of Neurology (primary appointment)
PHD Washington Univ in St. Louis 2008
MD Washington Univ in St. Louis 2008
BS Millsaps College 1999
Bradley L Schlaggar, PHD, MDA Ernest and Jane G Stein Professor of Neurology (primary appointment)
Professor of Radiology
Professor of Psychiatry
Professor of Pediatrics
Professor of Neuroscience
BS Brown University 1986
PHD Washington Univ in St. Louis 1994
MD Washington Univ in St. Louis 1994
Howard J Schlansky, MD Instructor in Clinical Pediatrics (primary appointment)
BA University of MO Kansas City 1976
MD University of MO Kansas City 1978
Milton J Schlesinger, MS, PHD Prof Emeritus Of Molecular Microbiology (primary appointment)
MS University of Rochester 1953
BS Yale University 1951
PHD University of Michigan 1959
Paul Henry Schlesinger, MD, PHD Associate Professor of Cell Biology and Physiology (primary appointment)
MD University of Chicago 1970
PHD University of Chicago 1973
BS University of Illinois 1966
Sondra Schlesinger, PHD Prof Emeritus Of Molecular Microbiology (primary appointment)
BS University of Michigan 1956
PHD University of Michigan 1960
Margaret Ann Schmandt, MD Associate Professor of Clinical Pediatrics (primary appointment)
BA University of Iowa 1982
Tania L Schmid, MD  Instructor in Clinical Medicine  (primary appointment)
MD University of Mississippi 1985
BA University of Mississippi 1981
Robert Edward Schmidt, PHD, MD  Professor of Pathology and Immunology  (primary appointment)
PHD Washington Univ in St. Louis 1976
BA Washington Univ in St. Louis 1969
MD Washington Univ in St. Louis 1976
Richard Urban Schmidt Jr  Instructor in Emergency Medicine in Medicine  (primary appointment)

David Schnadower, M PH, MD  Associate Professor of Pediatrics  (primary appointment)
M PH Columbia University 2005
MD National Autonomous U of Mex 1993
John Stone Schneider, MD, BBA, M PP  Assistant Professor of Otolaryngology  (primary appointment)
MD University of Chicago 2007
BBA University of Chicago 1997
M PP University of Chicago 2007
Robert Jay Schneider, MD  Assistant Professor of Clinical Medicine  (primary appointment)
MD Johns Hopkins University 1976
BA Johns Hopkins University 1973
Jacquelyn C Schnidman, MD  Instructor in Clinical Pediatrics  (primary appointment)
BA University of Missouri 1975
MD Saint Louis University 1979
Erin R. Schockett, MD  Instructor in Clinical Medicine  (primary appointment)
MD Brown University 2005
Perry Lee Schoenecker, MD  Professor of Orthopaedic Surgery  (primary appointment)
BS Univ of Wisconsin Madison 1964
MD Univ of Wisconsin Madison 1968
James R Schreiber  Prof Emeritus of Ob & Gyn  (primary appointment)
BA Rice University 1968
Robert D Schreiber, PHD  Alumni Endowed Professor of Pathology and Immunology  (primary appointment)
Professor of Molecular Microbiology
PHD State University of New York 1973
BA State University of New York 1968
Richard E Schrick, MD  Instructor in Clinical Otolaryngology  (primary appointment)
BS University of Missouri 1968
MD University of Missouri 1977
Charles R Schrock, MD  Associate Professor of Anesthesiology  (primary appointment)
MD University of MO Columbia 1991
Mark Andrew Schroeder, MD  Assistant Professor of Medicine  (primary appointment)
MD University of Cincinnati 2003
BS University of Toledo 1999
Douglas J Schuerer, MD  Professor of Surgery (General Surgery)  (primary appointment)
BS Allegheny College 1991
MD University of Pittsburgh 1995
Richard B Schuessler, MS, PHD  Professor of Surgery (Cardiothoracic Surgery)  (primary appointment)
Associate Professor of Biomedical Engineering
BS University of Missouri 1973
MS University of Missouri 1974
PHD Clemson University 1977
Laura Graves Schuettelpelz, PHD Assistant Professor of Pediatrics (primary appointment)
Assistant Professor of Developmental Biology
PHD Northwestern University 2000
Alexander E Schuetz, MD Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1996
BA Saint Louis University 1991
Maryls E Schuh, MD Instructor in Clinical Surgery (General Surgery) (primary appointment)
BS1 University of North Dakota 1977
BS University of North Dakota 1973
MD Washington Univ in St. Louis 1979
Jeffrey I Schulman, MD, MBA Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)
BA Yale University 1970
MD University of Kentucky 1974
MBA Washington Univ in St. Louis 1988
Earl R Schultz, MD Professor of Clinical Neurology (primary appointment)
Associate Professor of Clinical Psychiatry
MD Washington Univ in St. Louis 1955
BS University of Missouri 1953
BA Southeast Missouri St Univers 1952
Stephen Schuman Instructor in Clinical Medicine (primary appointment)
Frederick W Schwagger, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BS Illinois College of Optometry 1957
BS1 Washington Univ in St. Louis 2000
OD Illinois College of Optometry 1957
Alan L Schwartz, PHD, MD Alumni Endowed Professor of Pediatrics (primary appointment)
Professor of Developmental Biology
PHD Case Western Reserve Univ 1974
MD Case Western Reserve Univ 1976
Benjamin D Schwartz, PHD, MD Professor of Clinical Medicine (primary appointment)
Adjunct Professor of Medicine
BA Columbia College 1965
PHD School Not Listed 1971
MD School Not Listed 1972
David B Schwartz, PHD, MD Associate Professor of Medicine (primary appointment)
PHD Washington Univ in St. Louis 1986
BS University of Michigan 1980
MD Washington Univ in St. Louis 1987
Evan Stuart Schwarz, MD Assistant Professor of Emergency Medicine in Medicine (primary appointment)
MD University of Texas Austin 2005
BA University of Texas Austin 2001
Julie K Schwarz, MD, PHD Associate Professor of Radiation Oncology (primary appointment)
Associate Professor of Cell Biology and Physiology
MD Washington Univ in St. Louis 2004
PHD Washington Univ in St. Louis 2004
Sally J Schwarz Professor of Radiology (primary appointment)
George G. Schweitzer, MS Instructor in Medicine (primary appointment)
MS Southern Ill Univ Edwardsville 2007
BS Washington Univ in St. Louis 2004
Allen Sclaroff, DDENT Professor of Clinical Otolaryngology (Oral Surgery) (primary appointment)
BA University of Colorado Boulder 1968
DDENT Temple University 1972
Leslie A Scott Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Mitchell G Scott, MS Professor of Pathology and Immunology (primary appointment)
Clinical Research Assistant Professor of Medicine
MS University of Missouri 1977
Lynne M Seacord Associate Professor of Medicine (primary appointment)
Homayoun Sedighi, DDENT Assistant Professor of Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)
BA Indiana University Bloomington 1983
DDENT Washington Univ in St. Louis 1987
Colleen Erika Seematter Instructor in Clinical Pediatrics (primary appointment)
Christopher G Seep, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BA University of Missouri 1971
OD University of MO St Louis 1984
Adelita Segovia Langley Assistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)
Jennifer K Sehn, MD Assistant Professor of Pathology and Immunology (primary appointment)
MD Washington Univ in St. Louis 2011
BS Georgia Tech 2007
David Brian Seibel Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
Karen Seibert, MA Professor of Anesthesiology (primary appointment)
Professor of Pathology and Immunology
Professor of Genetics
BS Northwestern University 1981
MA University of Toledo 1983
David Seltzer Assistant Professor of Emergency Medicine in Medicine (primary appointment)
Jay R Seltzer, MD Assistant Professor of Clinical Medicine (primary appointment)
MD University of Missouri 1987
BA University of Missouri 1987
Clay F Semenkovich, MD Irene E and Michael M Karl Professor of Endocrinology and Metabolism in Medicine (primary appointment)
Professor of Cell Biology and Physiology
BA University of Virginia 1977
MD Washington Univ in St. Louis 1981
Janice Semenkovich, MD Associate Professor of Radiology (primary appointment)
MD Washington Univ in St. Louis 1981
Deepali Prabir Sen, MD, MBBS Assistant Professor of Medicine (primary appointment)
Robert M Senior, MD, MLA Prof Emeritus of Medicine (primary appointment)
MD George Washington University 1961
MLA Washington Univ in St. Louis 1997
BA Oberlin College 1957

Debra L Seoane, MD Instructor in Clinical Surgery (General Surgery) (primary appointment)
MD University of Miami 1986

Diane S Sepich, PHD Assistant Professor of Developmental Biology (primary appointment)
PHD University of Oregon 1994
BS University of San Diego 1981

Joseph Michael Seria Instructor in Clinical Medicine (primary appointment)
BS St Vincent College 1964

James Serot Assistant Professor of Anesthesiology (primary appointment)

Harvey Serota, MD Instructor in Clinical Medicine (primary appointment)
MD Johns Hopkins University 1982
BA Johns Hopkins University 1976

James F Sertl, MD Instructor in Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1962
MD Saint Louis University 1966

Donald G Sessions Prof Emeritus Of Otolaryngology (primary appointment)

Martha Papay Sewall, MD Instructor in Clinical Pediatrics (primary appointment)
MD University of Missouri 1985
BA University of Missouri 1983

Bryan Norbert Sewing, DOST Instructor in Psychiatry (Pending Dean's Approval) (primary appointment)
DOST Kirksville College of Osteopat 1998
BS Texas Christian University 1991

Anne R Seyer, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA Saint Louis University 2002
MD Saint Louis University 2006

Gary D Shackelford, MD Prof Emeritus Of Radiology (primary appointment)
MD Washington Univ in St. Louis 1968
BA Northwestern University 1964

Penelope G Shackelford, MD Prof Emeritus Of Pediatrics (primary appointment)
BS Univ of Wisconsin Madison 1964
MD Washington Univ in St. Louis 1968

Cherilynn Maria Reynolds Shadding Academic Rank held in Genetics (primary appointment)
Assistant Professor of Genetics

Gaurav Kirit Shah, MD Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MD University of Illinois 1993

Purvi Shah, MD Assistant Professor of Pediatrics (primary appointment)
MD Baylor University 2000
BA Rice University 1996

Rajiv K Shah, MD Assistant Professor of Anesthesiology (Pending Executive Faculty Approval) (primary appointment)
MD University of Rochester 2010
Snehal Paresh Shah, MD  Instructor in Pediatrics (primary appointment)
MD Ross Univ School of Medicine 2010
BA Boston College 2003

Shabana Shahanavaz, MD  Assistant Professor of Pediatrics (primary appointment)
MD Kasturba Medical College 2002

Sonia Malhotra Shahrawat, MD  Instructor in Anesthesiology (primary appointment)
MD Bharati Vidyapeeth Med College 2000
BS Tufts University 2001

Rachel E. Shakofsky, MD  Instructor in Pediatrics (primary appointment)
BS University of MO Columbia 2003
MD University of MO Columbia 2007

Courtney Shands III, MD  Instructor in Clinical Surgery (Urologic Surgery) (primary appointment)
MD Vanderbilt University 1982
BA Stanford University 1978

Karl Shanker, DDENT  Instructor in Clinical Otolaryngology (DDS) (primary appointment)
DDENT University of Missouri 1978
BA Washington Univ in St. Louis 1975

William D Shannon, PhD, MS  Prof Emeritus of Biostatistics in Medicine (primary appointment)
PHD University of Pittsburgh 1995
MS University of Massachusetts 1989
BS School Not Listed 1985

Jieya Shao, PhD  Assistant Professor of Medicine (primary appointment)
PHD Oklahoma St University 2002
BS Nankai University 1996

Larry J Shapiro, MD  Spencer T and Ann W Olin Distinguished University Professor (primary appointment)
Professor of Pediatrics
Executive Vice Chancellor and Dean Emeritus
BS Washington Univ in St. Louis 1968
MD Washington Univ in St. Louis 1971

Anshuman Sharma, MD  Professor of Anesthesiology (primary appointment)
MD Institute of Medical Science 1990
BA Government Medical College 1987

Aseem Sharma, MBBS  Associate Professor of Radiology (primary appointment)
MBBS All-India Inst of Medical Sci 1992

Girdhar G Sharma  Assistant Professor of Radiation Oncology (primary appointment)
PHD1 Banaras Hindu University 2000
MS1 Banaras Hindu University 1992
BS1 Banaras Hindu University 1990

Rajiv Kumar Sharma  Adjunct Instructor in Medicine (primary appointment)

Vijay Sharma, MS, PhD  Professor of Radiology (primary appointment)
MS Panjab University 1983
PHD Panjab University 1987

Gerald Stephen Shatz, MD  Assistant Professor of Clinical Medicine (primary appointment)
BA Northwestern University 1970
MD Washington Univ in St. Louis 1974

Andrey S Shaw, MD  Adjunct Professor of Pathology and Immunology (primary appointment)
BA Columbia University 1979
MD Columbia University 1984
Eleanor Maria Shaw Assistant Professor of Clinical Pediatrics (primary appointment)
BA University of Missouri 1978
Paul Joseph Shaw, MA, PHD Associate Professor of Neuroscience (primary appointment)
BA Niagara University 1985
MA San Jose State University 1990
PHD University of Chicago 1996
Nidal Shawahin, MD Instructor in Clinical Medicine (primary appointment)
MD University of Jordan 1988
Kathleen C Sheehan, PHD Assistant Professor of Pathology and Immunology (primary appointment)
BS University of Notre Dame 1980
PHD Saint Louis University 1986
Vidal T. Sheen, MD Instructor in Clinical Medicine (primary appointment)
MD University of Louisville 1995
BA Johns Hopkins University 1991
Paul W Sheffner Assistant Professor of Clinical Psychiatry (primary appointment)
David M. Sheinbein, MD Associate Professor of Medicine (Dermatology) (primary appointment)
MD Saint Louis University 1995
Christian T Sheline, PHD Adjunct Research Associate Professor of Neurology (primary appointment)
BA Dartmouth College 1983
PHD University of California 1989
Megan Elizabeth Shelton Instructor in Clinical Pediatrics (primary appointment)
Hua Shen, MS, PHD Instructor in Orthopaedic Surgery (primary appointment)
MS Chinese Academy of Med Science 1996
PHD University of Konstanz 2002
Jie Shen, MS, PHD Assistant Professor of Orthopaedic Surgery (primary appointment)
MS University of Rochester 2011
PHD University of Rochester 2012
BS Nanjing University 2005
Mounir M Shenouda Instructor in Clinical Medicine (primary appointment)
Shalini Shenoy, MD, MBBS Professor of Pediatrics (primary appointment)
MD Kasturba Medical College 1985
BS M.G.R. Medical University 1981
MBBS Kasturba Medical College 1981
Surendra Shenoy, MD Professor of Surgery (General Surgery) (primary appointment)
BS Kasturba Medical College 1980
MD Kasturba Medical College 1984
Andrew John Shepherd, PHD Instructor in Anesthesiology (primary appointment)
PHD University of Manchester 2006
Ross William Shepherd, MD, MBBS Adjunct Professor of Pediatrics (primary appointment)
MD University of Queensland 1979
MBBS University of Queensland 1970
James Banks Shepherd III, MD Associate Professor of Ophthalmology and Visual Sciences (primary appointment)
BA Amherst College 1992
MD Columbia University 1997
John Joseph Sheridan, MD Instructor in Clinical Orthopaedic Surgery (primary appointment)
MD Washington Univ in St. Louis 1969

Anup Shashindra Shetty, MD Instructor in Radiology (primary appointment)
BS Duke University 2003
MD University of Texas Southwest 2007

Priya Saigal Shetty, MD Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
MD University of Michigan 2007

Arsham Sheybani, MD Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
MD Washington Univ in St. Louis 2008

Steven M Shields, MD Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BS Washington Univ in St. Louis 1981
MD Washington Univ in St. Louis 1986

Alan Shiels, PHD Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Genetics
PHD University of London 1983
BS School Not Listed 1979

Adrian Shifren, MBBCH, MS Assistant Professor of Medicine (primary appointment)
MBBCH University of the Witwatersra 1996
MS Washington Univ in St. Louis 2011
BS University of the Witwatersra 1993

Joshua S Shimony, MD, PHD Associate Professor of Radiology (primary appointment)
MD University of Illinois 1995
BS Technion - Israel Inst. of Tec 1982
PHD University of Tennessee 1988

Haina Shin, PHD Assistant Professor of Medicine (primary appointment)
BA Northwestern University 2004
PHD University of Pennsylvania 2009

Jimann Shin Instructor in Developmental Biology (primary appointment)
BS Kyung Pook National University 2002

Marwan Shinawi, MD Professor of Pediatrics (primary appointment)
MD Technion - Israel Inst. of Tec 1996

Cara L Shirai, MS Instructor in Medicine (primary appointment)
MS Southeast Missouri St Univers 2005

Min-Yi Katherin Shiu, MD Instructor in Clinical Pediatrics (primary appointment)
BS Washington Univ in St. Louis 1992

Kooresh Isaac Shoghi, MS, PHD Associate Professor of Radiology (primary appointment)
MS University of CA Los Angeles 2000
PHD University of CA Los Angeles 2005
BS University of CA Los Angeles 1996

Monica Shokeen, PHD Assistant Professor of Radiology (primary appointment)
PHD Washington Univ in St. Louis 2006
BS School Not Listed 1997

Bernard L Shore Professor of Clinical Medicine (primary appointment)

Howard Newton Short, MD Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
Mary Ann Shortal Adjunct Instructor in Audiology and Communication Sciences (primary appointment)
BS Washington Univ in St. Louis 1976
Michael Shoykhet, MD, PHD Assistant Professor of Pediatrics (primary appointment)
BA Cornell University 1996
MD University of Pittsburgh 2005
PHD University of Pittsburgh 2003
Hui Hua Shu, MD Instructor in Radiology (primary appointment)
BA University of Missouri Kansas City 1987
MD University of Missouri Kansas City 1986
Gordon L Shulman, MS, PHD Professor of Neurology (primary appointment)
BA Yale University 1975
MS University of Oregon 1977
PHD University of Oregon 1979
Robert B Shuman Associate Professor of Clinical Medicine (primary appointment)
BA Brandeis University 1977
Sherry E Shuman, MD Associate Professor of Clinical Medicine (primary appointment)
BS University of Michigan 1978
MD Wayne State University 1982
Eli R Shuter, MD Associate Professor of Clinical Neurology (primary appointment)
MD Washington Univ in St. Louis 1960
Laurence David Sibley, PHD Professor of Molecular Microbiology (primary appointment)
Alan A and Edith L Wolff Distinguished Professor
BA Oberlin College 1978
PHD Louisiana St University 1985
Gregorio A Sicard, MD Prof Emeritus of Surgery (primary appointment)
MD University of Puerto Rico 1972
BS Saint Louis University 1965
Barry Alan Siegel Professor of Radiology (primary appointment)
Vice Chair for Nuclear Medicine in Radiology
Professor of Medicine
BA Washington Univ in St. Louis 1966
Cary Lynn Siegel, MD Professor of Radiology (primary appointment)
MD Davenport University 1987
BS Davenport University 1983
Marilyn J Siegel Professor of Radiology (primary appointment)
Professor of Radiology in Pediatrics
Carla J Siegfried, MD Jacquelyn E and Allan E Kolker M.D. Distinguished Professor of Ophthalmology (primary appointment)
BA University of Missouri Kansas City 1989
MD University of Missouri Kansas City 1989
Jeffrey E Sieglern Instructor in Emergency Medicine in Medicine (primary appointment)
Christine A Sigman Instructor in Clinical Medicine (primary appointment)
Charles D Signorelli, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD School Not Listed 1957
Jennifer N Silva, Assistant Professor of Pediatrics (primary appointment)
BA Union College New York 1997

Matthew J Silva, ME, PHD, Julia and Walter R Peterson Professor of Orthopaedic Research (primary appointment)
Assistant Professor of Biomedical Engineering
ME Cornell University 1984
PHD Mass Inst of Technology (MIT) 1996
BS Cornell University 1982

Gary Arthur Silverman, PHD, MD, Harriet B Spoehrer Professor of Pediatrics (primary appointment)
Head of the Department of Pediatrics
BS Washington Jefferson College 1978
PHD University of Chicago 1982
MD University of Chicago 1984

Todd B Silverman, Instructor in Clinical Neurology (primary appointment)

Barbara Sue Silverstein, PHD, Assistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)
PHD Saint Louis University 1992
BS University of Missouri 1978

Julie Martha Silverstein, MD, Assistant Professor of Medicine (primary appointment)
Assistant Professor of Neurological Surgery
MD Drexel University 2007
BA New York University 2004

Randy B Silverstein, MD, Instructor in Clinical Medicine (primary appointment)
MD University of Missouri
Nicholas James Silvestros, Instructor in Ophthalmology and Visual Sciences (primary appointment)

Matthew Leon Silviera, MD, Assistant Professor of Surgery (General Surgery) (primary appointment)
MS1 Temple University 2010
BS Pennsylvania State University 2001
MD Temple University 2005

Connie Darlene Simmons, Instructor in Clinical Pediatrics (primary appointment)

Nathan M Simon, MS, MD, Professor Emeritus of Clinical Psychiatry (primary appointment)

Prof Emeritus of Clinical Psychiatry (primary appointment)

Paul S Simons, MD, Associate Professor of Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1967
BA University of Texas Austin 1963

Joseph Rogers Simpson, PHD, Professor Emeritus of Radiation Oncology (primary appointment)

Prof Emeritus of Radiation Oncology (primary appointment)

PHD University of Chicago 1967

Kathleen Elizabeth Simpson, MD, Assistant Professor of Pediatrics (primary appointment)
MD University of MO Kansas City 2006

Reed Earl Simpson, MD, Assistant Professor of Clinical Psychiatry (primary appointment)
BA Wabash College 1972
MD Washington Univ in St. Louis 1976
David R Sinacore, MHS, PHD
Professor of Physical Therapy (primary appointment)
Professor of Medicine
MHS Washington Univ in St. Louis 1983
PHD West Virginia University 1992
BS State University of New York 1979

Robert W Sindel, MD
Instructor in Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1969
MD Washington Univ in St. Louis 1975

Sanford S Sineff, MD
Assistant Professor of Emergency Medicine in Medicine (primary appointment)
BS Harvard University 1992
MD Brown University 1996

Barry A. Singer
Assistant Professor of Clinical Neurology (primary appointment)

Gary Singer, MD
Assistant Professor of Clinical Medicine (primary appointment)
MD University of Toronto 1987

Gautam K Singh, MBBS, MD
Professor of Pediatrics (primary appointment)
MBBS Ranchi University 1977
MD Patna Medical College 1982

Gurcharan J Singh, MD
Instructor in Clinical Medicine (primary appointment)
BS Delhi University 1968
MD Delhi University 1975

Itender Singh, PHD
Assistant Professor of Neurological Surgery (primary appointment)
PHD UNIVERSITY OF DELHI 2004

Jasvindar Singh, MD
Associate Professor of Medicine (primary appointment)
MD Fiji School of Medicine 1988

Carl Jeffrey Sippel, MD, PHD
Assistant Professor of Clinical Pediatrics (primary appointment)
MD Saint Louis University 1983
BA University of Missouri 1975
PHD Saint Louis University 1980

David Siroospour, MD
Assistant Professor of Clinical Surgery (General Surgery) (primary appointment)
MD School Not Listed 2000

Bryan Anthony Sisk
Instructor in Pediatrics (primary appointment)

James C Sisk, MD
Assoc Prof Emeritus of Clin Medicine (Derm) (primary appointment)
BA Washington Univ in St. Louis 1943
MD Washington Univ in St. Louis 1946

Kelsey Alayne Sisti, MD
Instructor in Pediatrics (primary appointment)
MD University of Arkansas 2009
BS University of Alaska 2005

Harold B Sitrin, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
BA University of Rochester 1966
MD Saint Louis University 1971

Clayton D. Skaggs
Adjunct Instructor in Obstetrics and Gynecology (primary appointment)
BS Southwest Missouri St Universi 1984

Judith Ann Skala, RN, RN, MA, PHD
Instructor in Psychiatry (Pending Dean's Approval) (primary appointment)
RN St Louis Community College 1981
RN 1981
MA Washington Univ in St. Louis 1992
PHD Washington Univ in St. Louis 2001
BS Washington Univ in St. Louis 1989

James B Skeath, PHD Professor of Genetics (primary appointment)
BA Haverford College 1988
PHD Univ of Wisconsin Madison 1993

Celette Sugg Skinner, MA Adjunct Assistant Professor of Radiology (primary appointment)
BA Furman University 1980
MA Wheaton College 1982

Donald A Skor, MD Professor of Clinical Medicine (primary appointment)
MD Rush University 1978
BA Washington Univ in St. Louis 1973

Alan Joseph Skoultchi, MD Instructor in Clinical Pediatrics (primary appointment)
BS Duke University 1989
MD U Medical-Dental Of New Jersey 1995

Eduardo Slatopolsky Prof Emeritus of Medicine (primary appointment)
BS School Not Listed 1952

Stacy Lynn Smallfield, MS, MD Assistant Professor of Occupational Therapy (Pending Executive Faculty Approval) (primary appointment)
BS Gustavus Adolphus College 1995
MS Washington Univ in St. Louis 1996
MD Nova Southeastern University 2007

Bradley Thomas Smith, MD Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
MD University of AL Birmingham 2002

Carl Hugh Smith, MD Prof Emeritus of Pediatrics (primary appointment)
BA Swarthmore College 1955
MD Yale University 1959

Carolyn Anne Delaney Smith Assistant Professor of Pediatrics (primary appointment)
BA Rice University 1996

Emily Louise Smith, MD Asst Prof Emeritus of Radiology (primary appointment)
BA Washington Univ in St. Louis 1964
MD Washington Univ in St. Louis 1968

Gordon Ian Smith, PHD, MS Assistant Professor of Medicine (primary appointment)
PHD University of Aberdeen 2006
MS University College Chichester 2002

James B Smith, MD Assoc Prof Emeritus Of Clinical Psychiatry (primary appointment)
BA University of Missouri 1963
MD University of Missouri 1967

Jennifer H. Smith Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS University of California 1995

Joshua C Smith Instructor in Clinical Pediatrics (primary appointment)

Matthew Vernon Smith, MD Assistant Professor of Orthopaedic Surgery (primary appointment)
MD Virginia Comm University 2002

Morton Edward Smith, MD Professor Emeritus of Ophthalmology and Visual Sciences (primary appointment)

Prof Emeritus of Ophthalmol & Vis Sci (primary appointment)
Lecturer in Ophthalmology and Visual Sciences
Lecturer in Pathology and Immunology
Associate Dean Emeritus for Post-Graduate Education
BS University of Maryland 1956
MD University of Maryland 1960

Nancy Bloom Smith, DPT
Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
DPT Washington Univ in St. Louis 2002
BS Washington Univ in St. Louis 1984
BA University of Virginia 1976

Peter Gaillard Smith, ME, PHD
Assistant Professor of Clinical Otolaryngology (primary appointment)
BS Clemson University 1967
ME Purdue University 1970
PHD Purdue University 1972

Raymond P Smith, MD
Instructor in Clinical Medicine (primary appointment)
BA Vassar College 1980
MD University of Virginia 1984

Stacey L Smith, MD
Assistant Professor of Clinical Psychiatry (primary appointment)
BA Northwestern University 1986
MD Northwestern University 1991

Timothy Robert Smith, MD
Instructor in Clinical Medicine (primary appointment)
MD University of Mississippi 1989
BS University of Mississippi 1983

Timothy W. Smith, MD, PHD
Associate Professor of Medicine (primary appointment)
MD Duke University 1993
PHD Oxford University 1989
BS Duke University 1986

Christopher D Smyser
Assistant Professor of Neurology (primary appointment)

Matthew D Smyth, MD
Professor of Neurological Surgery (primary appointment)
Professor of Pediatrics
MD University of CA San Francisco 1996
BA Cornell University 1992

Barbara Joy Snider, MD
Professor of Neurology (primary appointment)
MD University of Texas Southwest 1989

Jules M Sntzer, DDENT
Instructor in Clinical Otolaryngology (DDS) (primary appointment)
DDENT Washington Univ in St. Louis 1955

Claud Randall Snowden, OD
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Illinois College of Optometry 1974
BS Illinois College of Optometry 1972

Abraham Z Snyder, MD, PHD
Professor of Radiology (primary appointment)
Associate Professor of Neurology
BA Columbia University 1970
MD State University of New York 1981
PHD Rockefeller University 1977

Jason Andrew Snyder
Assistant Professor of Surgery (General Surgery) Pending Executive Faculty Approval (primary appointment)
Lawrence H Snyder, AB, PHD, MD, MS
Professor of Neuroscience (primary appointment)
Professor of Psychological & Brain Sciences
AB Princeton University 1982
PHD University of Rochester 1992
MD University of Rochester 1992
MS University of Rochester 1992
Michael C Snyder Adjunct Instructor in Medicine (primary appointment)
Alison K Snyder-Warwick, MD Assistant Professor of Surgery (Plastic and Reconstructive Surgery)
(primary appointment)
MD Washington Univ in St. Louis 2004
Allen D Soffer, MD Instructor in Clinical Medicine (primary appointment)
BA Emory University
MD University of Missouri 1983
Richard S Sohn Assoc Prof Emeritus of Neurology (primary appointment)
BS Brooklyn College 1964
Nareshkumar J Solanki Assistant Professor of Clinical Pediatrics (primary appointment)
UNKNOWN University of Nairobi 1975
Lilianna Solnica-Krezel, MS Professor of Developmental Biology (primary appointment)
Head of the Department of Developmental Biology
Alan A and Edith L Wolff Professor of Developmental Biology
MS Medical University of Warsaw 1985
Stephanie Rose Solomon, PHD Adjunct Assistant Professor of Medicine (primary appointment)
PHD Emory University 2008
BS Ohio State University 2001
Steven Lee Solomon, MD Assistant Professor of Clinical Radiology (primary appointment)
MD University of Chicago 1985
BA Northwestern University 1981
Rand Washburn Sommer, MD Associate Professor of Clinical Medicine (primary appointment)
BS Davidson College 1976
MD Washington Univ in St. Louis 1980
Mitchell S. Sommers, PHD Professor of Psychological & Brain Sciences (primary appointment)
Chair, Human Research Protection Office
PHD University of Michigan 1990
BS Georgetown University 1982
Richard Brian Sommerville, MD Assistant Professor of Neurology (primary appointment)
MD Columbia University 2005
BS Harvard University 1999
Sheng-Kwei Song, MS, PHD Professor of Radiology (primary appointment)
MS University of Alabama 1986
PHD Washington Univ in St. Louis 1990
BS Tamkang University 1981
Tammy Shim Sonn, MD Associate Professor of Obstetrics and Gynecology (primary appointment)
MD Rush University 2004
BS University of Chicago 1999
Umang Sood Instructor in Pediatrics (primary appointment)
BS University of MO Kansas City 2003
Andrea Soranno Assistant Professor Biochemistry and Molecular Biophysics (Pending Executive Faculty Approval) (primary appointment)
Craig H Sorce, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD University of Missouri 1992
BA Southern Illinois University 1988
Florentina Soto Lucas, PHD Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
PHD University of Alicante 1992
Hani Charles Soudah, MD, PHD Associate Professor of Clinical Medicine (primary appointment)
MD School Not Listed 1983
PHD School Not Listed 1988
William F Southworth, MD Assistant Professor of Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1969
MD Washington Univ in St. Louis 1975
James Joseph Spadaro Jr Assistant Professor of Clinical Medicine (primary appointment)
Michael L Spearman, MD Instructor in Clinical Medicine (primary appointment)
BS Kansas State University 1978
MD University of Kansas Medical 1982
Andrej Spec, MD Instructor in Medicine (primary appointment)
MD University of Illinois 2010
Gershon J Spector, MD Prof Emeritus of Otolaryngology (primary appointment)
MD University of Maryland 1964
BA Johns Hopkns University Medic 1960
William Marshall Spees, PHD Assistant Professor of Radiology (primary appointment)
BS Truman State University 1993
PHD Washington Univ in St. Louis 1999
Christopher Spencer, MD, MA, BAS Adjunct Instructor in Radiation Oncology (primary appointment)
MD Saint Louis University 2010
MA Truman State University 2006
BAS Truman State University 2005
David H. Spencer, MD, PHD Assistant Professor of Medicine (primary appointment)
MD University of Washington 2010
BS University of Washington 2001
PHD University of Washington 2008
John Spertus Adjunct Professor of Medicine (primary appointment)
Tara V. Spevack, MS, PHD Instructor in Clinical Neurology (primary appointment)
BS McGill University 1987
MS University of Florida 1994
PHD University of Florida 1997
Robert D Spewak, MD Instructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1979
BA Drake University 1975
Michael Spezial Instructor in Clinical Medicine (primary appointment)
Craig A Spiegel, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MD Case Western Reserve Univ 1982
BA Washington Univ in St. Louis 1978
Timothy Eric Spiegel, MD Assistant Professor of Psychiatry (Child Psychiatry) (primary appointment)
BS Saint Louis University 2006
MD University of Utah 2011
**Philip Charles Spinella, MD**
Associate Professor of Pediatrics (primary appointment)
MD New York Medical College 1995
BS Tufts University 1991

**John Charles Spitler, MD**
Assistant Professor of Anesthesiology (primary appointment)
BS University of MO Columbia 1998
MD University of MO Columbia 2003

**Dirk M Spitzer, PHD**
Assistant Professor of Surgery (General Surgery) (primary appointment)
BS School Not Listed 1995
PHD Technische U Braunschweig 1999

**Theresa M Spitznagle, DPT, MHS**
Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Obstetrics and Gynecology
DPT Washington Univ in St. Louis 2006
MHS Washington Univ in St. Louis 1994
BS Marquette University 1986

**Jennifer E. Sprague, PHD, MD**
Assistant Professor of Pediatrics (primary appointment)
BS Indiana University Bloomington 2000
PHD Washington Univ in St. Louis 2007
MD Washington Univ in St. Louis 2007

**Mark H Spurrier, MD**
Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
MD Washington Univ in St. Louis 1980
BA Kansas State University 1976

**Mythili Srinivasan, MS**
Associate Professor of Pediatrics (primary appointment)
MS Madurai Kamaraj University 1983

**Chotchai Srisuro, MD**
Associate Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD School Not Listed 1967

**Danielle R St Leger**
Instructor in Clinical Pediatrics (primary appointment)

**Erik Christian Stabell**
Instructor in Clinical Medicine (primary appointment)

**Robert Peter Stachecki, MD**
Instructor in Radiology (primary appointment)
BS University of Notre Dame 2003
MD Georgetown University 2007

**Kristin Voellinger Stahl**
Instructor in Clinical Neurology (primary appointment)

**Philip Damien Stahl, PHD**
Edward Mallinckrodt Jr Prof Emeritus (primary appointment)
BS West Liberty St College 1964
PHD West Virginia University 1967

**Klaus J Staisch, MD**
Assoc Prof Emeritus of Clinical Ob & Gyn (primary appointment)
MD School Not Listed 1966

**Christina Leigh Stallings, MS, MA, PHD**
Assistant Professor of Molecular Microbiology (primary appointment)
MS Columbia University 2002
MA Columbia University 2001
PHD Columbia University 2005
BS Mary Washington College 1999

**Sarah A Stanage**
Instructor in Pediatrics (primary appointment)
BS Washington Univ in St. Louis 2001
Thaddeus S. Stappenbeck, PHD, MD
Conan Professor of Laboratory and Genomic Medicine (primary appointment)
Professor of Developmental Biology
BA Northwestern University 1987
PHD Northwestern University 1994
MD Northwestern University 1995

Susan L Stark, PHD, MS
Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Neurology
PHD University of MO Columbia 1998
BS Alma College 1988
MS Washington Univ in St. Louis 1989

Ashley L. Steed, MD, PHD
Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
MD Washington Univ in St. Louis 2008
PHD Washington Univ in St. Louis 2008
BS Duke University 2001

Norman P Steele
Instructor in Clinical Pediatrics (primary appointment)

Alan Joel Stein, MD
Assistant Professor of Clinical Surgery (Urologic Surgery) (primary appointment)
BS Univ of Wisconsin Madison 1972
MD Wayne State University 1976

Paul M Stein, MD
Professor of Clinical Medicine (primary appointment)
MD Saint Louis University 1971
BA University of Rochester 1967

Phyllis K Stein, PHD
Associate Professor of Medicine (primary appointment)
BA Barnard College 1962
PHD University of Virginia 1990

Richard Ian Stein, PHD
Associate Professor of Medicine (primary appointment)
PHD Arizona State University 2000

Joseph H Steinbach, PHD
Prof Emeritus of Anesthesiology (primary appointment)
PHD University of CA San Diego 1973
BA Reed College 1968

Emily Steiner, MD
Instructor in Medicine (primary appointment)
MD University of Toledo 2013

Holly L Steiner
Assistant Professor of Obstetrics and Gynecology (primary appointment)
BS Southern Ill Univ Edwardsville 2005

Leena Lata Stemler, MD
Instructor in Pediatrics (primary appointment)
BA Brown University 2003
MD Brown University 2007

James Derek Stensby, MD
Assistant Professor of Radiology (primary appointment)
MD Emory University 2008
BS Emory University 2003

William F Stenson
Dr Nicholas V Costrini Professor of Medicine (primary appointment)
BS Providence College 1967

Barbara B Sterkel
Adjunct Associate Professor of Medicine (primary appointment)

Randall S Sterkel
Assistant Professor of Clinical Pediatrics (primary appointment)
BA Duke University 1989

Karin Sterl, MD
Instructor in Medicine (primary appointment)
MD Lului Hatieganu U of Med 2007

Kara Ellen Sternhell-Blackwell, MA, MD
Assistant Professor of Medicine (Dermatology) (primary appointment)

MA Washington Univ in St. Louis 2003
MD Washington Univ in St. Louis 2005
BA Washington Univ in St. Louis 1999

Tracey Wagner Stevens
Assistant Professor of Anesthesiology (primary appointment)

Sheila Stewart-Wigglesworth, PHD
Professor of Cell Biology and Physiology (primary appointment)

Professor of Medicine

MA Washington Univ in St. Louis 2003
MD Washington Univ in St. Louis 2005
BA Washington Univ in St. Louis 1999

Arthur Waldo Stickle Jr, MD
Asst Prof Emeritus Of Clin Ophthal & VIs Sci (primary appointment)
Asst Prof Emeritus Of Clin Ophthalmol & VIs Sc (primary appointment)

MD University of Oklahoma 1943

Anita R Stiffelman, MD
Associate Professor of Clinical Pediatrics (primary appointment)

BA Washington Univ in St. Louis 1983
MD New York Medical College 1987

Wayne A Stillings
Assistant Professor of Clinical Psychiatry (primary appointment)

Jennifer S Stith, MSW, MS, PHD
Professor of Physical Therapy (primary appointment)
Associate Director of Professional Curriculum in Physical Therapy
Division Director for Education in Physical Therapy

Professor of Neurology

BS University of California 1976
MSW Washington Univ in St. Louis 2006
MS University of Southern Calif 1979
PHD Washington Univ in St. Louis 1994

Nathan O. Stitziel
Assistant Professor of Medicine (primary appointment)

Assistant Professor of Genetics

BA1 Washington Univ in St. Louis 1998

Marissa Christine Stock, MD

MD University of MO Kansas City 2002

Keith Evan Stockerl-Goldstein, MD
Associate Professor of Medicine (primary appointment)

MD University of CA Los Angeles 1991
BA Washington Univ in St. Louis 1986

Daniel Charles Stoeckel
Instructor in Clinical Surgery (primary appointment)

James Andrew Stokes, MD
Instructor in Clinical Medicine (primary appointment)

MD University of Missouri 1984
BA Stanford University 1976

Jeffrey R Stokes
Professor of Pediatrics (Pending Executive Faculty Approval) (primary appointment)

Janis Marie Stoll, MD
Assistant Professor of Pediatrics (primary appointment)

MD Eastern Virginia Med School 2004

Michael Gary Stone, MD
Instructor in Clinical Medicine (primary appointment)

MD Kansas Cty Univ Med/Bioscience 2008

Stephen I Stone, MD
Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)

BS University of Illinois Chicago 2005
MD Rosalind Franklin University 2010

John A Stopple, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Gregory A Storch, MD  
Ruth L. Siteman Professor of Pediatrics (primary appointment)  
Professor of Molecular Microbiology  
Professor of Medicine  
MD New York University 1973  
BA Harvard University 1969

Gary D Stormo, PhD, MA  
Professor of Genetics (primary appointment)  
Joseph Erlanger Professor  
Professor of Computer Science  
Professor of Biomedical Engineering  
PHD University of Colorado Boulder 1981  
BS California Institute of Technology 1972  
MA University of Colorado Boulder 1975

Molly Jean Stout, MD  
Assistant Professor of Obstetrics and Gynecology (primary appointment)  
BA Bryn Mawr College 2002  
MD Loyola University Chicago 2007

James Stowe, PhD, MS  
Instructor in Medicine (primary appointment)  
BA Kansas State University 2009  
PHD Columbia, MO 2014  
BS Kansas State University 2006

Jennifer Mae Strahle, MD  
Asst Prof of Neurological Surgery (primary appointment)  
Asst Prof of Orthopaedic Surgery  
Asst Prof of Pediatrics  
MD University of Minnesota 2008  
BS Bates College 2002

Eric A Strand, MD  
Associate Professor of Obstetrics and Gynecology (primary appointment)  
MD Johns Hopkins University Medicine 1995

Steven M Strasberg, MD  
Pruett Professor of Surgery (General Surgery) (primary appointment)  
Associate Professor of Cell Biology and Physiology  
MD University of Toronto 1963

Robert H Strashun, MD, MA  
Associate Professor of Clinical Pediatrics (primary appointment)  
MD New York University 1982  
BA Yeshiva University 1978  
MA Yeshiva University 1978

William L Straube, MEE  
Associate Professor of Radiation Oncology (primary appointment)  
MEE Washington University in St. Louis 1992

M. Anne Street, MD  
Assistant Professor of Clinical Pediatrics (primary appointment)  
MD University of Illinois 1976

James W Strickland, MD  
Visiting Professor of Orthopaedic Surgery (primary appointment)  
BS Indiana University Bloomington 1958  
MD Indiana University 1962

James F Strieter, MBA, OD  
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)  
MBA Southern Illinois University Edwardsville 1988  
BS School Not Listed 1953  
OD School Not Listed 1954  
Catherine Striley  
Asjunct Assistant Professor of Psychiatry (primary appointment)
Cristina Strong, Assistant Professor of Medicine (Dermatology) (primary appointment)
Malcolm H Stroud, MD, Prof Emeritus of Otolaryngology (primary appointment)
UNKNOWN Birmingham University 1945
UNKNOWN School Not Listed 1952
MD University of Birmingham 1945
Judith M. Stucki-Simeon, MD, Instructor in Clinical Pediatrics (primary appointment)
MD Univ of Wisconsin Madison 1987
Christopher Michael Sturgeon, PhD, Assistant Professor of Medicine (primary appointment)
Assistant Professor of Developmental Biology
PHD University of British Columbia 2006
Xinming Su, Instructor in Medicine (primary appointment)
Christopher Michael Sturgeon, PhD, Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
PHD Washington Univ in St. Louis 2004
BS Beijing University 1998
Yi Su, PhD, Assistant Professor of Radiology (primary appointment)
BS University of Science & Tech 1999
PHD Mayo Clinic 2006
Brian K Suarez, PhD, MA, Prof Emeritus of Psychiatry (primary appointment)
PHD University of CA Los Angeles 1974
MA University of CA Los Angeles 1972
Rosa M Suarez-Solar, Instructor in Clinical Pediatrics (primary appointment)
BA University of Puerto Rico 1990
Hamsa Subramanian, Instructor in Clinical Medicine (primary appointment)
BS St. Joseph's Convent - Trichy 1986
Kanagaraj Subramanian, PhD, MS, Instructor in Medicine (primary appointment)
PHD Heidelberg University 2007
MS Heidelberg University 2000
Abbe L Sudvarg, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Lisa Suffian, MD, Instructor in Clinical Pediatrics (primary appointment)
MD University of MO Kansas City 1996
BS University of MO Kansas City 1990
Toshifumi Sugatani, PhD, D DENT, Instructor in Pediatrics (primary appointment)
PHD Meiji University 2003
DDENT Meiji University 1991
Alexander L Sukstansky, MS, D SC, Associate Professor of Radiology (primary appointment)
MS Kharkov State University 1971
D SC Donetsk State University 1991
Hani Suleiman, MD, Instructor in Medicine (primary appointment)
MD Regensburg University 2007
Kaharu Sumino, PhD, M PA, MD, Associate Professor of Medicine (primary appointment)
PHD Yokohama City Univ Sch Med 1999
M PA Johns Hopkins University 2008
MD Yokohama City Univ Sch Med 1992
William Craig Summers, MD, Instructor in Clinical Medicine (primary appointment)
MD University of AL Birmingham 1999
BS University of Alabama 1994
Brian Patrick Sumner, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
Walton Sumner II, MD  
Associate Professor of Medicine (primary appointment)  
MD Southwestern University 1985  
BA Rice University 1981

Baozhou Sun, PHD, MS  
Assistant Professor of Radiation Oncology (primary appointment)  
PHD College of William and Mary 2005  
BS Jilin Medical University 2000  
MS College of William and Mary 2002

Peng Sun, PHD, MS  
Instructor in Radiology (primary appointment)  
PHD Beijing University 2005  
MS Beijing Inst Of Technology 2002  
BS Harbin Engineering University 1999

Yun Ju Sung  
Associate Professor of Biostatistics (primary appointment)  

Herbert Sunshine, MD  
Instructor in Clinical Surgery (Urologic Surgery) (primary appointment)  
BA Washington Univ in St. Louis 1950  
MD Washington Univ in St. Louis 1954

In Sook Sunwoo, MD  
Instr Emeritus in Neurology (primary appointment)  
MD School Not Listed 1959

Rama Suresh, MBBS  
Assistant Professor of Medicine (primary appointment)  
MBBS University of Madras 1993

Jagdish C Suri, MD  
Assistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)  
UNKNOWN School Not Listed 1959  
BS School Not Listed 1954  
MD School Not Listed 1964

Vinod Suri  
Instructor in Clinical Psychiatry (Child Psychiatry) (Full-Time at Hawthorn Children's Psychiatric Hospital) (primary appointment)  
UNKNOWN Punjab University 1962

Noah Susman, MD  
Prof Emeritus Of Clinical Radiology (primary appointment)  
MD Washington Univ in St. Louis 1952  
BA Washington Univ in St. Louis 1948

Siobhan Sutcliffe, MHS, PHD, MS  
Associate Professor of Surgery (Public Health Sciences) (primary appointment)  
MHS Johns Hopkins University 2001  
BS Princeton University 1998  
PHD Johns Hopkins University 2005  
MS Johns Hopkins University 2004

Rudee Suwannasri, MD  
Instructor in Clinical Medicine (primary appointment)  
MD Chiang Mai University 1973  
BS Chiang Mai University 1971  
Bridgette B Svancarek  
Assistant Professor of Emergency Medicine in Medicine (primary appointment)  

Dragan M Svrakic, MD, PHD  
Professor of Psychiatry (primary appointment)  
MD University of Belgrade 1978  
PHD University of Belgrade 1989

Sanjay Joshua Swamidass, PHD, MA, MD  
Assistant Professor of Pathology and Immunology (primary appointment)
Assistant Professor in Computer Science and Engineering
PHD University of California 2007
MA University of California 2006
MD University of California 2009
BS University of California 2000
Kenneth V Swanson
Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)

Robert A Swarm
Professor of Anesthesiology (primary appointment)

Wojciech A. Swat, MS, PHD
Associate Professor of Pathology and Immunology (primary appointment)

MS University of Warsaw 1989
PHD University of Basel 1992
Stuart C Sweet, PHD
Mckim O. Marriott Professor of Pediatrics (primary appointment)

Amanda Sweetland
Instructor in Clinical Pediatrics (primary appointment)

Elzbieta Anna Swietlicki, MS, PHD
Instructor in Medicine (primary appointment)

MS Medical Academy Lodz 1975
PHD Medical Academy Lodz 1981
Chad M Sylvester, PhD, MD
Instructor in Psychiatry (Child) (primary appointment)

PHD Washington Univ in St. Louis 2009
MD Washington Univ in St. Louis 2009
BS University of Notre Dame 2001
Susan C. Sylvi
Instructor in Clinical Pediatrics (primary appointment)

Martha Zorko Szabo
Assistant Professor of Anesthesiology (primary appointment)

Steven D Taff, MS, PHD
Assistant Professor of Occupational Therapy (primary appointment)

Assistant Professor of Medicine

MS Washington Univ in St. Louis 1997
BS MO State U (formerly SW MO St) 1989
PHD University of MO St Louis 2005

Paul H Taghert, PHD
Professor of Neuroscience (primary appointment)

BA Reed College 1975
PHD University of Washington 1981

Mohammad Tahir, MD
Instructor in Clinical Medicine (primary appointment)

MD Dow Medical College Karachi 1976

Yuan-Chuan Tai, MEE, PHD
Associate Professor of Radiology (primary appointment)

BS National Tsing Hua University 1988
MEE University of Texas Arlington 1992
PHD University of CA Los Angeles 1998

Chandrakant Tailor, MD
Assistant Professor of Clinical Radiology (primary appointment)

MD Medical College of India 1970

Benjamin R Tan, MD
Associate Professor of Medicine (primary appointment)

BS University of the Philippines 1985
MD University of the Philippines 1990

David Tan, MD
Associate Professor of Emergency Medicine in Medicine (primary appointment)

MD Loma Linda University 1997

Mini Tandon, DOST
Assistant Professor of Psychiatry (Child Psychiatry) (primary appointment)

DOST Kansas Cty Univ Med/Bioscience 2002
BS Truman State University 1997
Chi-Tsai Tang  
*Assistant Professor of Orthopaedic Surgery* (primary appointment)  
*Assistant Professor of Neurology*  
**Rui Tang, PHD, MS**  
Instructor in Radiology (primary appointment)  
PHD Wayne Community College 2009  
MS Washington Univ in St. Louis 2004  
BS University of Science & Tech  

**Simon Tang, PHD, MS**  
Assistant Professor of Orthopaedic Surgery (primary appointment)  
PHD Rensselaer Poly Institute 2007  
BS University of CA Berkeley 2003  
MS Rensselaer Poly Institute 2005  

**Kongsak Tanphaichitr, MD**  
Professor of Clinical Medicine (primary appointment)  
MD Siriraj Medical School 1970  

**Richard S Tao, MD**  
Instructor in Emergency Medicine in Medicine (primary appointment)  
MD Indiana State University 1995  
BA Indiana State University 1991  

**Phillip Irwin Tarr, MD**  
Melvin E Carnahan Professor of Pediatrics (primary appointment)  

**Professor of Molecular Microbiology**  
BA Brown University 1975  
MD Yale University 1980  

**Sandra L Tate, MD**  
Instructor in Clinical Neurology (primary appointment)  
MD Southern Illinois University 1987  
BA School Not Listed  

**Sharlene A Teeffey**  
Professor of Radiology (primary appointment)  

**Steven L Teitelbaum, MD**  
Messing Professor of Pathology and Immunology (primary appointment)  

**Professor of Medicine**  
MD Washington Univ in St. Louis 1964  

**Rene Tempelhoff, MD**  
Professor of Anesthesiology (primary appointment)  

**Marissa Morningstar Tenenbaum, MD**  
Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)  
BS Univ of Wisconsin Madison 1998  
MD Washington Univ in St. Louis 2002  

**Melissa Dawn Tepe, MD, MS**  
Instructor in Clinical Obstetrics and Gynecology (primary appointment)  
BS Yale University 1999  
MD Albert Einstein College of Med 2005  
MS Columbia University 2004  

**Arnold S Tepper, MD**  
Instructor in Clinical Medicine (primary appointment)  
MD University of Missouri 1970  
BS School Not Listed 1966  

**Raghu P Terkonda, MD**  
Assistant Professor of Anesthesiology (primary appointment)  
MD University of MO Columbia 1987  
BS University of MO Columbia 1983  

**Wanda T Terrell, MD**  
Associate Professor of Clinical Medicine (primary appointment)  
BA Washington Univ in St. Louis 1975  
MD Washington Univ in St. Louis 1979  

**Kristen A Terrill**  
Instructor in Clinical Pediatrics (primary appointment)
Mengesha A Teshome, MD  
Instructor in Neurology (primary appointment)  
MD Addis Ababa University 1989

Paul M Tesser  
Associate Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)

Larissa Bryka Thackray, PHD  
Assistant Professor of Medicine (primary appointment)  
BS Cornell University 1991  
PHD U of Colorado Health Sci Ctr 2003

Donna T Thackrey, MD  
Instructor in Clinical Pediatrics (primary appointment)  
BS John Carroll University 1990  
MD Wright State University 1994

Premal H Thaker, MD, MS  
Associate Professor of Obstetrics and Gynecology (primary appointment)  
MD Allegheny College 1997  
BA Villanova University 1995  
MS University of Texas Houston 2004

Isolde E Thalmann, PHD  
Professor Emeritus of Otolaryngology (primary appointment)

Prof Emeritus of Otolaryngology (primary appointment)

Resrch Prof Emeritus of Otolaryngology (primary appointment)
  
BS Washington Univ in St. Louis 1968  
PHD California Western 1982

Ruediger Thalmann  
Professor Emeritus of Otolaryngology (primary appointment)  
Prof Emeritus of Otolaryngology (primary appointment)

Lecturer in Otolaryngology

George K. Thampy  
Instructor in Clinical Medicine (primary appointment)

Stanley E Thawley, MD  
Associate Professor of Otolaryngology (primary appointment)
  
MD University of Texas Galveston 1967  
BA University of Texas Austin 1963

Tama Saint The, MD  
Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)  
BS1 University of Kentucky 2009  
MD University of Louisville 2013  
BS University of Kentucky 2009

Marie Angele Theard, MD  
Assistant Professor of Anesthesiology (primary appointment)  
MD University of Illinois 1989

Daniel Leonidas Theodoro, MD  
Assistant Professor of Emergency Medicine in Medicine (primary appointment)  
MD Brown University 1997

J. Allen Thiel, MD  
Associate Professor of Clinical Medicine (primary appointment)  
BS Rockhurst College 1956  
MD Saint Louis University 1960

Stephen Thierauf  
Instructor in Clinical Pediatrics (primary appointment)

Kwee L Thio, PHD, MD  
Associate Professor of Neurology (primary appointment)

Associate Professor of Pediatrics

Associate Professor of Neuroscience  
PHD Washington Univ in St. Louis 1992  
MD Washington Univ in St. Louis 1992  
BS Brown University 1984

Mark S Thoelke, MD  
Associate Professor of Medicine (primary appointment)  
BS University of Illinois 1982
Benjamin S Thomas, MD\textit{Adjunct Instructor in Medicine} (primary appointment)
MD Mercer University Macon 2009
BS Georgia Tech 2002
Maria A Thomas, PHD, MD\textit{Assistant Professor of Radiation Oncology} (primary appointment)
BS Creighton University 2000
PHD Saint Louis University 2006
MD Saint Louis University 2008
Matthew A Thomas, MD\textit{Professor of Clinical Ophthalmology and Visual Sciences} (primary appointment)
MD Harvard University 1991
BS Harvard University 1977
Lewis J Thomas Jr, MD\textit{Prof Emeritus Of Biomedical Computing In IBC} (primary appointment)
MD Washington Univ in St. Louis 1957
BS Haverford College 1953
Jean Alfred Thomas Sr., MD\textit{Instructor in Clinical Obstetrics and Gynecology} (primary appointment)
MD School Not Listed 1972
Jeffrey Bryant Thompson, MD\textit{Instructor in Clinical Obstetrics and Gynecology} (primary appointment)
BS Vanderbilt University 1989
MD University of Missouri 1994
M. Bryant Thompson\textit{Associate Professor of Clinical Obstetrics and Gynecology} (primary appointment)
BA Eastern New Mexico University 1957
Robert W Thompson, MD\textit{Professor of Surgery (General Surgery)} (primary appointment)
Professor of Cell Biology and Physiology
Professor of Radiology
BA Hope College 1979
MD University of Michigan 1983
Wade L Thorstad, MD\textit{Associate Professor of Radiation Oncology} (primary appointment)
MD University of Texas Austin 1991
BS Trinity University 1986
Dinesh Thotala, PHD, MS\textit{Assistant Professor of Radiation Oncology} (primary appointment)
PHD Bangalore University 1998
BS Bangalore University 1990
MS Bangalore University 1993
Jean Holowach Thurston, MD\textit{Prof Emeritus Of Pediatrics} (primary appointment)
BA University of Alberta 1938
MD University of Alberta 1941
Erik P Thyssen, MD\textit{Assistant Professor of Clinical Medicine} (primary appointment)
MD University of Copenhagen 1984
BS University of Copenhagen 1980
LinLin Tian, PHD\textit{Instructor in Emergency Medicine in Medicine} (primary appointment)
PHD Beijing Institute of Radiation 2009
BS Hebei Medical University 2004
Lawrence S Tierney, MD\textit{Associate Professor of Clinical Medicine} (primary appointment)
BS University of Illinois 1984
MD University of Illinois 1988
Jeffrey P Tillinghast, MD  **Associate Professor of Clinical Medicine** (primary appointment)

MD Washington Univ in St. Louis 1980
Mary A Tillman  **Professor of Clinical Pediatrics** (primary appointment)
Amaris Renee Tippey  **Assistant Professor of Clinical Radiation Oncology** (primary appointment)
Jeffrey B. Titus, MA, PHD  **Assistant Professor of Clinical Neurology** (primary appointment)

MA University of Northern Colora 1999
PHD Ball State University 2002
Wael Toama, MD  **Instructor in Medicine** (primary appointment)

MD Damascus U. Medical School 2005
Albro C Tobey, MD  **Assistant Professor of Clinical Obstetrics and Gynecology** (primary appointment)

BS Butler University 1965
MD School Not Listed 1972
Malcolm Tobias  **Instructor in Radiology** (Pending Dean's Approval) (primary appointment)
Garry S Tobin, MD  **Professor of Medicine** (primary appointment)

MD Washington Univ in St. Louis 1985
BS MO S&T (formerly UofMO Rolla) 1981
Jerry Tobler, MD, PHD  **Instructor in Clinical Radiology** (primary appointment)

MD Yale University 1983
PHD California Institute Technolo 1978
BS Cornell University 1973
Randall W Tobler  **Assistant Professor of Clinical Obstetrics and Gynecology** (primary appointment)
Alexandre Todorov, M ED  **Professor of Psychiatry** (primary appointment)

BS Vanderbilt University 1985
M ED Vanderbilt University 1988
Robert W Tolan Jr., MA, MD  **Instructor in Clinical Pediatrics** (primary appointment)

MA Indiana University Bloomington 1983
BA Indiana University Bloomington 1982
MD Washington Univ in St. Louis 1987
Niraj Harish Tolia, PHD  **Associate Professor of Molecular Microbiology** (primary appointment)
**Associate Professor of Biochemistry and Molecular Biophysics**

PHD Watson Sch of Biological Scien 2004
BS Imperial College 1999
Douglas M Tollefsen, MD  **Professor of Medicine** (primary appointment)

MD Washington Univ in St. Louis 1977
Michael H. Tomasson, MD  **Adjunct Assistant Professor of Medicine** (primary appointment)

BA Wesleyan University 1986
MD Stanford University 1992
Silvestre A Tomeldan Jr, MD  **Instr Emeritus in Anesthesiology** (primary appointment)

MD School Not Listed 1970
Adetunji Toriola, PHD  **Assistant Professor of Surgery (General Surgery)** (primary appointment)

PHD University of Tampere 2011
Ralph J Torrence, MD  **Assistant Professor of Surgery (Urologic Surgery)** (primary appointment)

MD Georgetown University 1983
Robert R Townsend, MD, PHD, MS  **Professor of Medicine** (primary appointment)
**Professor of Cell Biology and Physiology**

BS Centenary College 1972
MD Tulane University 1976
PHD Johns Hopkins University 1982
MS Tulane University 1976
**Elizabeth A Tracy, MD**
Instructor in Clinical Medicine (primary appointment)
BS Marquette University 1982
MD Univ of Wisconsin Milwaukee 1986
**Scott A. Trail, MD**
Instructor in Clinical Pediatrics (primary appointment)
BA Saint Louis University 1985
MD University of MO Columbia 1990
**Erica J Traxel, MD**
Assistant Professor of Surgery (Urologic Surgery) (primary appointment)
BS Texas A&M University 1998
MD Beaufort Technical College 2002
**Yvonne Perle Treece, AA**
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
AA Pellissippi St Technical Coll 1997
**Indi Trehan, MD, MPH**
Assistant Professor of Pediatrics (primary appointment)
MD Northwestern University 2004
MPH Northwestern University 2004
BS University of CA Berkeley 1998
**Norman Edwin Trevathan III, MS, MD**
Adjunct Professor of Neurology (primary appointment)
MS Emory University 1982
BS David Lipscomb University 1977
MD Emory University 1982
**Doris Janet Tribune-Brown**
Instructor in Clinical Medicine (primary appointment)
**Sandeep Kumar Tripathy, PHD**
Assistant Professor of Medicine (primary appointment)
PHD University of Chicago 1995
**Shamik Bharat Trivedi, MD**
Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
MD University of Toledo 2009
Heather L. True
Professor of Cell Biology and Physiology (primary appointment)
**Elbert P Trulock III, MD**
Rosemary and I Jerome Flance Professor of Pulmonary Medicine in Medicine (primary appointment)
MD Emory University 1978
BS Emory University 1968
**Linda Mei-Lin Tsai, MD**
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)
MD Northwestern University 1995
**Garland R Tschudin, MD**
Instructor in Clinical Pediatrics (primary appointment)
BA University of Missouri 1971
MD University of Missouri 1975
**Thomas F Tse, MD**
Instructor in Clinical Medicine (primary appointment)
BS University of Nebraska 1972
MD Univ of Nebraska at Omaha 1976
**Christina Irene Tsien, MD**
Professor of Radiation Oncology (primary appointment)
MD McGill University 1995
**Zhude Tu, MS, PHD**
Associate Professor of Radiology (primary appointment)
MS Beijing Normal University 1991
PHD Beijing Normal University 1995
MS1 University of St Thomas 2000
BS Beijing Normal University 1988
Garth D Tubbs Asst Prof Emeritus Of Occupational Therapy (primary appointment)
David J Tucker Assistant Professor of Clinical Medicine (primary appointment)
Dolores R Tucker, MD Assistant Professor of Clinical Medicine (Dermatology) (primary appointment)
MD Washington Univ in St. Louis 1974
BS Saint Mary's College 1958
Stacey S Tull, MD, M PH Assistant Professor of Clinical Medicine (Dermatology) (primary appointment)
MD Duke University 1997
M PH Duke University 1997
Thomas H Tung Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
John W Turk, PHD, MD Professor of Medicine (primary appointment)
Alan A and Edith L Wolff Professor of Endocrinology
Professor of Pathology and Immunology
BA Washington Univ in St. Louis 1970
PHD Washington Univ in St. Louis 1976
MD Washington Univ in St. Louis 1976
Michael P Turmelle, MD Associate Professor of Pediatrics (primary appointment)
MD Johns Hopkins University 1998
BA Bowdoin College 1994
Yumirle Padron Turmelle, MD, AA Associate Professor of Pediatrics (primary appointment)
MD University of Florida 2000
AA Miami Dade Community College 1993
BA University of Miami 1995
Isaiah Turnbull, MD, MS Assistant Professor of Surgery (General Surgery) (primary appointment)
MD Washington Univ in St. Louis 2008
MS Washington Univ in St. Louis 2008
BS University of Oregon 1998
Jacqueline Sue Turner, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Tulane University 1983
BA Massachusetts Institute of Technology (MIT) 1979
Peter G Tuteur Assoc Prof Emeritus of Medicine (primary appointment)
BA Johns Hopkins University Medic 1962
Methodius Gamuo Tuuli, M PH Associate Professor of Obstetrics and Gynecology (primary appointment)
M PH University of California 2003
BS University of Ghana 1997
Robert Lawrence Tychsen Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Neuroscience
Professor of Ophthalmology and Visual Sciences in Pediatrics
John F Hardesty MD Distinguished Professor of Ophthalmology and Visual Sciences
BS Georgetown University 1975
Stacy Lynne Tylka, DPT, MS Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
Associate Professor of Obstetrics and Gynecology
BS Saint Louis University 2000
DPT Washington Univ in St. Louis 2009
Ellen Twining Tyson, MA
Asst Prof Emeritus Of Occupational Therapy (primary appointment)
MA Syracuse University 1950
BA Syracuse University 1949

April L Tyus
Instructor in Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1995

Rosalie May Uchanski, MS, PHD
Assistant Professor of Otolaryngology (primary appointment)
Assistant Professor of Audiology and Communication Sciences
BS University of Illinois Chicago 1978
MS Mass Inst of Technology (MIT) 1981
PHD Mass Inst of Technology (MIT) 1988

Robert C. Uchiyama, MD
Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1980

Jason Daniel Ulrich
Assistant Professor of Neurology (primary appointment)

Emil Raphael Unanue, MD
Paul and Ellen Lacy Professor of Pathology and Immunology (primary appointment)
BS Institute of Secondary Educati 1952
MD Havana University 1960

Fumihiko Urano, MD
Samuel E Schechter Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology
MD Keio University 1994

Mwiza Ushe, MD, MS
Assistant Professor of Neurology (primary appointment)
MD Washington Univ in St. Louis 2007
MS Washington Univ in St. Louis 2007

Elizabeth C Utterson, MD
Assistant Professor of Pediatrics (primary appointment)
BA University of Notre Dame 1994
MD Creighton University 1998

Geoffrey L Uy, MD
Associate Professor of Medicine (primary appointment)
BA1 Cornell University 1996
BA Cornell University 1996
MD Washington Univ in St. Louis 2001

Akshaya J Vachharajani, MBBS, MD
Associate Professor of Pediatrics (primary appointment)
MBBS Topiwala National Med College 1984
MD University of Bombay 1986

Justin Marinus Vader, MD
Assistant Professor of Medicine (primary appointment)
MD University of Texas Southwest 2006

Brij R Vaid, MD
Instructor in Clinical Medicine (primary appointment)
MD Rush University 1992

Lora Maureen Valente
Associate Professor of Otolaryngology (primary appointment)
Associate Professor of Audiology and Communication Sciences
Director of Audiology Studies in Audiology and Communication Sciences
BS University of Illinois 1974

Michael Valente, MS, PHD
Professor of Otolaryngology (Audiology) (primary appointment)
Professor of Audiology and Communication Sciences
MS Adelphi Univ 1972
PHD University of Illinois 1975
BA Adelphi Univ 1970

Albert Lee Van Amburg Iil, MD
Assistant Professor of Clinical Medicine (primary appointment)
Dorothy J. Van Buren  
Associate Professor of Psychiatry (primary appointment)

Linda R Van Dillen, MS, PHD  
Professor of Physical Therapy (primary appointment)

Professor of Orthopaedic Surgery  
Associate Director of Musculoskeletal Research in Physical Therapy

Michele Van Eerdewegh, MD  
Instructor in Clinical Psychiatry (primary appointment)

David C Van Essen, PHD  
Alumni Endowed Professor of Neurobiology (primary appointment)

George Frederick Van Hare III, MD  
Louis Larrick Ward Professor of Pediatrics (primary appointment)

Gregory Paul Van Stavern, MD  
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)

Associate Professor of Neurology

Michele Van Eerdewegh, MD  
Instructor in Clinical Psychiatry (primary appointment)

David C Van Essen, PHD  
Alumni Endowed Professor of Neurobiology (primary appointment)

George Frederick Van Hare III, MD  
Louis Larrick Ward Professor of Pediatrics (primary appointment)

Gregory Paul Van Stavern, MD  
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)

Associate Professor of Neurology

Michele Van Eerdewegh, MD  
Instructor in Clinical Psychiatry (primary appointment)

David C Van Essen, PHD  
Alumni Endowed Professor of Neurobiology (primary appointment)

George Frederick Van Hare III, MD  
Louis Larrick Ward Professor of Pediatrics (primary appointment)

Gregory Paul Van Stavern, MD  
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)

Associate Professor of Neurology

Michele Van Eerdewegh, MD  
Instructor in Clinical Psychiatry (primary appointment)

David C Van Essen, PHD  
Alumni Endowed Professor of Neurobiology (primary appointment)

George Frederick Van Hare III, MD  
Louis Larrick Ward Professor of Pediatrics (primary appointment)

Gregory Paul Van Stavern, MD  
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)

Associate Professor of Neurology

Michele Van Eerdewegh, MD  
Instructor in Clinical Psychiatry (primary appointment)

David C Van Essen, PHD  
Alumni Endowed Professor of Neurobiology (primary appointment)

George Frederick Van Hare III, MD  
Louis Larrick Ward Professor of Pediatrics (primary appointment)

Gregory Paul Van Stavern, MD  
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)

Associate Professor of Neurology

Michele Van Eerdewegh, MD  
Instructor in Clinical Psychiatry (primary appointment)

David C Van Essen, PHD  
Alumni Endowed Professor of Neurobiology (primary appointment)

George Frederick Van Hare III, MD  
Louis Larrick Ward Professor of Pediatrics (primary appointment)

Gregory Paul Van Stavern, MD  
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)

Associate Professor of Neurology

Michele Van Eerdewegh, MD  
Instructor in Clinical Psychiatry (primary appointment)

David C Van Essen, PHD  
Alumni Endowed Professor of Neurobiology (primary appointment)

George Frederick Van Hare III, MD  
Louis Larrick Ward Professor of Pediatrics (primary appointment)

Gregory Paul Van Stavern, MD  
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)

Associate Professor of Neurology

Michele Van Eerdewegh, MD  
Instructor in Clinical Psychiatry (primary appointment)

David C Van Essen, PHD  
Alumni Endowed Professor of Neurobiology (primary appointment)

George Frederick Van Hare III, MD  
Louis Larrick Ward Professor of Pediatrics (primary appointment)

Gregory Paul Van Stavern, MD  
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)

Associate Professor of Neurology

Michele Van Eerdewegh, MD  
Instructor in Clinical Psychiatry (primary appointment)

David C Van Essen, PHD  
Alumni Endowed Professor of Neurobiology (primary appointment)

George Frederick Van Hare III, MD  
Louis Larrick Ward Professor of Pediatrics (primary appointment)

Gregory Paul Van Stavern, MD  
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)

Associate Professor of Neurology

Michele Van Eerdewegh, MD  
Instructor in Clinical Psychiatry (primary appointment)

David C Van Essen, PHD  
Alumni Endowed Professor of Neurobiology (primary appointment)

George Frederick Van Hare III, MD  
Louis Larrick Ward Professor of Pediatrics (primary appointment)

Gregory Paul Van Stavern, MD  
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)

Associate Professor of Neurology

Michele Van Eerdewegh, MD  
Instructor in Clinical Psychiatry (primary appointment)

David C Van Essen, PHD  
Alumni Endowed Professor of Neurobiology (primary appointment)

George Frederick Van Hare III, MD  
Louis Larrick Ward Professor of Pediatrics (primary appointment)

Gregory Paul Van Stavern, MD  
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)

Associate Professor of Neurology

Michele Van Eerdewegh, MD  
Instructor in Clinical Psychiatry (primary appointment)

David C Van Essen, PHD  
Alumni Endowed Professor of Neurobiology (primary appointment)

George Frederick Van Hare III, MD  
Louis Larrick Ward Professor of Pediatrics (primary appointment)

Gregory Paul Van Stavern, MD  
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)

Associate Professor of Neurology

Michele Van Eerdewegh, MD  
Instructor in Clinical Psychiatry (primary appointment)

David C Van Essen, PHD  
Alumni Endowed Professor of Neurobiology (primary appointment)

George Frederick Van Hare III, MD  
Louis Larrick Ward Professor of Pediatrics (primary appointment)

Gregory Paul Van Stavern, MD  
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)

Associate Professor of Neurology

Michele Van Eerdewegh, MD  
Instructor in Clinical Psychiatry (primary appointment)

David C Van Essen, PHD  
Alumni Endowed Professor of Neurobiology (primary appointment)

George Frederick Van Hare III, MD  
Louis Larrick Ward Professor of Pediatrics (primary appointment)

Gregory Paul Van Stavern, MD  
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)

Associate Professor of Neurology

Michele Van Eerdewegh, MD  
Instructor in Clinical Psychiatry (primary appointment)

David C Van Essen, PHD  
Alumni Endowed Professor of Neurobiology (primary appointment)

George Frederick Van Hare III, MD  
Louis Larrick Ward Professor of Pediatrics (primary appointment)

Gregory Paul Van Stavern, MD  
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)
Emmanuel A Venkatesan, MBBS  
Associate Professor of Clinical Medicine  (primary appointment)
MBBS CMC, Vellore, India 1990

Ramakrishna Venkatesh, MS  
Professor of Surgery  (Urologic Surgery)  (primary appointment)
MS1 School Not Listed 1991
MS Bangalore University 1991

Thomas J Veraldi, MS  
Instructor in Clinical Otolaryngology  (primary appointment)
MS Washington Univ in St. Louis 1988
BS Moravian College 1976

William Vermi  
Adjunct Assistant Professor of Pathology and Immunology  (primary appointment)

Laird Henry Vermont  
Instructor in Clinical Pediatrics  (primary appointment)

Zachary Andrew Vesoulis, MD  
Instructor in Pediatrics  (primary appointment)
MD Ohio State University 2009

Garry M. Vickar  
Instructor in Clinical Psychiatry  (primary appointment)

Zevidah Vickery, MD  
Instructor in Clinical Obstetrics and Gynecology  (primary appointment)
MD Ben-Gurion Univ of the Negev 2005

Wayne A Viers  
Associate Professor of Clinical Otolaryngology  (primary appointment)

Monika Vig, PHD  
Assistant Professor of Pathology and Immunology  (primary appointment)
BS Phillips University 1952

Kiran Raj Vij, MD  
Assistant Professor of Medicine  (primary appointment)
Assistant Professor of Pathology and Immunology
MD Indira Gandhi Medical College 1993
Ravi Vij  
Professor of Medicine  (primary appointment)
Anitha Vijayan  
Professor of Medicine  (primary appointment)
Dennis T Villareal  
Adjunct Associate Professor of Medicine  (primary appointment)

Herbert W Virgin IV, PHD  
Mallinckrodt Professor of Pathology and Immunology  (primary appointment)
Professor of Medicine
Head of the Department of Pathology and Immunology
Professor of Molecular Microbiology
PHD Harvard University 1985

Harry John Visser  
Instructor in Clinical Orthopaedic Surgery  (primary appointment)

Gregory Riccardo Vlacich, MD, PHD  
Assistant Professor of Radiation Oncology  (primary appointment)
MD University of Chicago 2009

Andrei G Vlassenko, MD, PHD  
Assistant Professor of Radiology  (primary appointment)
MD Moscow Med Stomatology Inst 1987
PHD Institute of Neurology 1991

Katie Dieu Thu Vo  
Associate Professor of Radiology  (primary appointment)
BS Mass Inst of Technology (MIT) 1986
BA Wellesley College 1986

Erin Foster Voegtli, OTD  
Assistant Professor of Occupational Therapy  (primary appointment)
Assistant Professor of Neurology
Assistant Professor of Psychiatry
OTD Washington Univ in St. Louis 2005
BS Washington Univ in St. Louis 2003

Gary Lee Vogel, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Ohio State University 1977
BA University of Iowa 1970

Joseph Paul Vogel, PHD Associate Professor of Molecular Microbiology (primary appointment)
PHD Princeton University 1993
BS2 Minnesota State University 1986
BS1 Minnesota State University 1986
BS Minnesota State University 1986

David Edward Vollman, MD Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
MD Ohio State University 2006

Gershon Ram Volotzky, MD Assistant Professor of Anesthesiology (primary appointment)
MD Tel-Aviv University 1979

Oksana Volshteyn, MD Professor of Neurology (primary appointment)
Professor of Medicine
MD Minsk State Medical Institute 1976

Benjamin Allen Voss, MD Instructor in Clinical Medicine (primary appointment)
MD Creighton University 2007
BA Saint Louis University 2003
BA1 Saint Louis University 2003

Gino J Vricella, MD Assistant Professor of Surgery (Urologic Surgery) (primary appointment)
BS Saint Louis University 2012
MD University of MO Columbia 2006

Stanley G Vriezelaar, MD Instructor in Clinical Medicine (primary appointment)
MD University of Iowa 1981

James J Wachter, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Illinois College of Optometry 1991
BS Illinois College of Optometry 1990

Kathryn Kerr Wade, MD Instructor in Clinical Pediatrics
BS Saint Louis University 2000
MD Loyola University Chicago 2005

Harry Lee Wadsworth, MD Instructor in Clinical Medicine (primary appointment)
MD Texas Tech University 1983
BS Texas Tech University 1978

Daniel G Wagner Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA1 Holy Cross College 1985

Jason Cass Wagner, MD Assistant Professor of Emergency Medicine in Medicine (primary appointment)
MD University of Colorado Denver 2001

Jean V Wagner Instructor in Clinical Pediatrics (primary appointment)

Richard L Wahl, MD Elizabeth E Mallinckrodt Professor of Radiology (primary appointment)
Director of the Edward Mallinckrodt Institute of Radiology
Head of the Department of Radiology
Professor of Radiation Oncology
MD Washington Univ in St. Louis 1978
Gabriel Waksman, MS, PHD Adjunct Professor of Biochemistry and Molecular Biophysics (primary appointment)
BS School Not Listed 1979
MS School Not Listed 1980
PHD School Not Listed 1982

Stanley M Wald, MD Associate Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1946
Mary C. Waldron Adjunct Assistant Professor of Psychiatry (primary appointment)

Howard S Walker, MD Instructor in Clinical Surgery (Cardiothoracic Surgery) (primary appointment)
BA Citadel 1971
MD Beaufort Technical College 1974

J. Leslie Walker, MD Asst Prof Emeritus Of Clinical Ob & Gyn (primary appointment)
MD University of Tennessee 1960
BA Vanderbilt University 1957

Sara Walker, MD Instructor in Clinical Psychiatry (primary appointment)
MD University of South Florida 2001

Leonard Lewis Wall, MD, MS, PHD Selina Okin Kim Conner Professor in Arts & Sciences and
Professor of Anthropology (primary appointment)
Professor of Obstetrics and Gynecology
Professor of Obstetrics and Gynecology
Professor of Obstetrics and Gynecology
MD University of Kansas 1983
BA University of Kansas 1972
MS Monash University 2001
PHD Oxford University 1983
BS Oxford University 1974

Lindley Bevelle Wall, MD Assistant Professor of Orthopaedic Surgery (primary appointment)
MD Washington Univ in St. Louis 2006
BS Duke University 2002

Colleen M Wallace, MD Assistant Professor of Pediatrics (primary appointment)
Director, Humanities Program
MD Washington Univ in St. Louis 2001
BS University of Notre Dame 1997

David Wallace, MD Instructor in Clinical Medicine (primary appointment)
BA Saint Anselm College 1980
MD Saint Louis University 1984

Jerold W Wallis, MS, MD Associate Professor of Radiology (primary appointment)
Associate Professor of Biomedical Engineering
MS Stanford University 1981
MD Stanford University 1981
BS Yale University 1976

David A Walls, MD Instructor in Clinical Medicine (primary appointment)
MD Southern Illinois University 1982
BA Southern Illinois University 1979

Sarah N. Walsh Instructor in Clinical Medicine (Dermatology) (primary appointment)
Matthew John Walter Associate Professor of Medicine (primary appointment)
Associate Professor of Genetics
William Lee Walter, MD  Assistant Professor of Clinical Ophthalmology and Visual Sciences  (primary appointment)  
MD Ohio State University 1954  
BA De Paul University 1950  
Donald E Walter Jr, OD  Adjunct Instructor in Ophthalmology and Visual Sciences  (primary appointment)  
BS University of Houston 1971  
OD University of Houston 1972  
Richard Coburn Walters, MD  Instructor in Clinical Medicine (Dermatology)  (primary appointment)  
BS University of Illinois 1969  
MD Washington Univ in St. Louis 1973  
Stephen R Waltman, MD, MBA  Professor of Clinical Ophthalmology and Visual Sciences  (primary appointment)  
BS Mass Inst of Technology (MIT) 1961  
MD Yale University 1964  
MBA Washington Univ in St. Louis  
Bruce J Walz, MD  Associate Professor of Clinical Radiation Oncology  (primary appointment)  
BA Washington Univ in St. Louis 1962  
MD Washington Univ in St. Louis 1966  
Jennifer Anne Wambach, MD  Assistant Professor of Pediatrics  (primary appointment)  
BS Vanderbilt University 1997  
MD Vanderbilt University 2001  
Caihong Wang, PhD  Instructor in Obstetrics and Gynecology  (primary appointment)  
BS Laiyang Agricultural College 1993  
PHD China Agriculture University 1998  
David Wang, PhD  Associate Professor of Molecular Microbiology  (primary appointment)  
Associate Professor of Pathology and Immunology  
BS Stanford University 1992  
PHD Mass Inst of Technology (MIT) 1998  
Guoqiao Wang, MA  Assistant Professor of Biostatistics  (primary appointment)  
MA University of Alabama-Tuscaloosa 2010  
Jean S Wang, PhD  Associate Professor of Medicine  (primary appointment)  
Associate Professor of Surgery (General Surgery)  
PHD John Hopkins University 2009  
Lawrence L. Wang, MD, PhD  Instructor in Clinical Medicine (Dermatology)  (primary appointment)  
BA Harvard University 1993  
MD Washington Univ in St. Louis 2001  
PHD Washington Univ in St. Louis 2001  
Sarah Qian Wang  Instructor in Medicine  (primary appointment)  
Shizhen Wang, PhD  Instructor in Cell Biology and Physiology  (primary appointment)  
PHD Tsinghua University, China 2007  
Ting Wang, PhD, MS  Associate Professor of Genetics  (primary appointment)  
Associate Professor of Computer Science and Engineering  
Associate Professor of Biostatistics  
BS School Not Listed 1997  
PHD Washington Univ in St. Louis 2006  
MS Washington Univ in St. Louis 2001  
Xiaoli Wang, PhD  Assistant Professor of Pathology and Immunology  (primary appointment)
Xiaowei Wang, PHD
Associate Professor of Radiation Oncology (primary appointment)
PHD Tufts University 2000
BS Nankai University 1993

Yong Wang
Assistant Professor of Obstetrics and Gynecology (primary appointment)

Andrew Wang-Gillam, MD
Associate Professor of Medicine (primary appointment)
MD University of AR Little Rock 2001
BS Ouachita Baptist University 1993
BS1 Ouachita Baptist University 1993

Saiama Naheed Waqar, MD
Assistant Professor of Medicine (primary appointment)
MD Aga Khan University 2001

Mark Edward Warchol, PHD
Professor of Otolaryngology (primary appointment)

Professor of Audiology and Communication Sciences

Professor of Neuroscience

Jeffrey Peter Ward, MD, PHD
Instructor in Medicine (primary appointment)
MD SUNY - Empire State College 2010
BS Wilkes University 2002
PHD SUNY - Empire State College 2010

Barbara B. Warner, MS, MD
Professor of Pediatrics (primary appointment)
MS University of Massachusetts 1981
MD University of Cincinnati 1985
BS University of Dayton 1976

Brad W. Warner
Jessie L. Ternberg, M.D., PhD. Distinguished Professor of Pediatric Surgery in Surgery (Pediatric Surgery) (primary appointment)

Professor of Pediatrics

Corinna Hendrell Warren, MD
Instructor in Clinical Medicine (primary appointment)
MD University of Illinois Chicago 1994
BS Southern Ill Univ Edwardsville 1990

David K. Warren, MD, MPH
Professor of Medicine (primary appointment)
MD University of Pittsburgh 1994
MPH Saint Louis University 2005
BS Pennsylvania State University 1990

James C Warren, MD, PHD
Prof Emeritus Of Ob & Gyn (primary appointment)
MD University of Kansas 1954
PHD University of Nebraska 1961
BA School Not Listed 1950

Wesley Charles Warren, MS, PHDAcademic Rank held in Genetics (primary appointment)

Associate Professor of Genetics
MS Clemson University 1986
BS Oklahoma St University 1984
PHD University of Missouri 1990

Lukas Delbert Wartman, MD
Assistant Professor of Medicine (primary appointment)
BS Univ of Wisconsin Madison 1998
MD Washington Univ in St. Louis 2005

Andrzej J. Wasiak, PHD
Assistant Professor of Clinical Medicine (primary appointment)
PHD Szczecin Medical School 1980
MD Szczecin Medical School 1972

Gary Michael Wasserman, MD Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)

MD University of Missouri 1980

Mark S Wasserman, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)

BA University of Missouri 1980

MD University of Missouri 1984

BS University of Missouri

Scott P Wasserstrom, MD, MA Instructor in Clinical Medicine (primary appointment)

MD Washington Univ in St. Louis 1995

BS University of Illinois 1990

MA Washington Univ in St. Louis 1995

Erika Waters, M PH, MS PSYC Associate Professor of Surgery (Public Health Sciences) (primary appointment)

M PH Johns Hopkins University Medic 2007

MS PSYC Rutgers University 2003

BS Arizona State University 1999

Mark A Watson, PHD, MD Associate Professor of Pathology and Immunology (primary appointment)

PHD Washington Univ in St. Louis 1992

MD Washington Univ in St. Louis 1992

BA University of Pennsylvania 1985

Michael S Watson, MS, PHD Adjunct Professor of Pediatrics (primary appointment)

MS University of Alabama 1978

PHD University of Alabama 1981

Andrew M. Wayne Instructor in Clinical Neurology (primary appointment)

Michael J. Weaver, MD Instructor in Medicine (primary appointment)

MD Loyola University Chicago 2013

Jason Dean Weber, PHD Associate Professor of Medicine (primary appointment)

Associate Professor of Cell Biology and Physiology

BS Bradley University 1993

PHD Saint Louis University 1997

Marysia Weber Instructor in Clinical Psychiatry (primary appointment)

H. James Wedner, MD Phillip & Arleen Korenblat Professor of Allergy and Immunology in Medicine (primary appointment)

BS Cornell University 1963

MD Cornell University 1967

Ling Wei, MD Adjunct Research Assistant Professor of Neurology (primary appointment)

MD Beijing Medical University 1977

Xiaochao Wei, PHD Instructor in Medicine (primary appointment)

PHD University of Rochester 2007

Conrad Christian Weihl, PHD, MD Associate Professor of Neurology (primary appointment)

PHD University of Chicago 1998

BS University of Illinois 1993

MD University of Chicago 2001

Kevin D Weikart, MD Instructor in Clinical Medicine (primary appointment)

MD American Univ of the Caribbean 1979

Gary J Weil, MD Professor of Medicine (primary appointment)
Professor of Molecular Microbiology
MD Harvard University 1975
BA Harvard University 1971

Katherine N Weilbaecher, MD Professor of Medicine (primary appointment)
Professor of Pathology and Immunology
Professor of Cell Biology and Physiology
BA Harvard University 1987
MD Stanford University 1992

Carla Joy Weinheimer, MSAssociate Professor of Medicine (primary appointment)
MS Washington Univ in St. Louis 1997
BS University of Illinois 1984

Ashley Brooke Weinhold, MDInstructor in Anesthesiology (primary appointment)
MD University of Arkansas 2011

David L WeinsteinAssociate Professor of Clinical Obstetrics and Gynecology (primary appointment)

Leonard B WeinstockAssociate Professor of Clinical Medicine (primary appointment)
Assistant Professor of Clinical Surgery (General Surgery)
BA University of Vermont 1977
Benjamin David WeintraubInstructor in Clinical Pediatrics (primary appointment)

Steven Jay Weintraub, MD, MSAssistant Professor of Medicine (primary appointment)
BA State Univ of NY Binghampton 1978
MD University of Virginia 1985
MS University of Virginia 1981

Edmond WeisbartAssistant Professor of Clinical Medicine (primary appointment)
Judith L. WeisenbergAssistant Professor of Neurology (primary appointment)
BS Barnard College 1998

Alan N Weiss, MDPprofessor of Medicine (primary appointment)
BA Ohio State University 1963
MD Ohio State University 1966

Calvin H Weiss, DDENTInstructor in Clinical Otolaryngology (DDS) (primary appointment)
DDENT Saint Louis University 1946
BA University of Missouri 1943

Don Weiss, MS, MDInstructor in Clinical Pediatrics (primary appointment)
MS Saint Louis University 1996
BS Dickinson College 1979
MD School Not Listed 1986

Edward P Weiss, PHD, MSAdjunct Research Assistant Professor of Medicine (primary appointment)
BS Southern Illinois University 1989
PHD University of Maryland 2003
MS Southern Illinois University 1992
Howard I WeissAssistant Professor of Clinical Neurology (primary appointment)

Michael D Weiss, MDAssistant Professor of Surgery (General Surgery) (primary appointment)
MD Ohio College of Podiatric Medi 1981
BS1 Ohio State University 1977

Peter Douglas Weiss, MDInstructor in Clinical Medicine (primary appointment)
MD Case Western Reserve Univ 1980
BA Harvard University 1975
John Sutton Welch, PHD, MD
Assistant Professor of Medicine (primary appointment)
PHD University of CA San Diego 2002
MD San Diego St University 2004
BS Brigham Young University 1995

Timothy P Welch, MD
Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Pediatrics
MD University of Cincinnati 2004

Valerie B. Welch, MD
Instructor in Clinical Pediatrics (primary appointment)
BA Baylor University 1994
MD University Texas San Antonio 1998

Reuben R Welch II, PHD, M ED
Associate Professor of Psychiatry (primary appointment)
PHD University of Missouri 1988
M ED University of Missouri 1982
BA Point Loma Nazrene College 1980

Jason R Wellen
Assistant Professor of Surgery (General Surgery) (primary appointment)
BS Emory University 1998

Lynn Ellis Welling
Adjunct Associate Professor of Medicine (primary appointment)

Samuel A Wells Jr, MD
Prof Emeritus of Surgery (primary appointment)
MD Emory University 1961

Zila Welner, MD
Associate Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)
MD School Not Listed 1961

Jie Wen, PHD
Instructor in Radiology (primary appointment)

Michael C Wendl
Academic Rank held in Genetics (primary appointment)
Assistant Professor of Genetics
Assistant Professor of Genetcs
Assistant Professor of Mechanical Engineering & Materials Science
Assistant Professor of Mathematics
Assistant Professor of Genetics

Pamela M. Wendl, DPT
Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Orthopaedic Surgery
BS North Park College 1991
DPT Washington Univ in St. Louis 2007

Alvin S Wenneker, MD
Professor of Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1949
MD Washington Univ in St. Louis 1953

Nicole Joy Werner, PHD, MS
Associate Professor of Neurology (primary appointment)
PHD Saint Louis University 2004
MS Saint Louis University 2000
BS Univ of Minnesota Twin Cities 1997

Jennifer Marie Wessels, MD
Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 2009

Brian T Wessman, MD
Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Emergency Medicine in Medicine
MD Commonwealth College 2005
BS College of William and Mary 2000

Jennifer Corinne Wessman, MD
Instructor in Pediatrics (primary appointment)
MD Commonwealth College 2005
Peter Westervelt, MD, PHD Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1992
PHD Washington Univ in St. Louis 1992
Richard D Wetzel Prof Emeritus of Psychiatry (primary appointment)
BA Concordia University 1960
Stephen Alan Wexler Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Concordia University 1977
Philip J Weyman, MD Associate Professor of Clinical Radiology (primary appointment)
BA Yale University 1968
MD Yale University 1972
Alexander Weymann, MD Assistant Professor of Pediatrics (primary appointment)
MD Witten Herdecke University 1999
Alison J Whelan, MD Professor of Medicine (primary appointment)
Senior Associate Dean for Education
Professor of Pediatrics
MD Washington Univ in St. Louis 1986
Andrew J White, MD James P Keating Professor of Pediatrics (primary appointment)
Vice Chair of Medical Education in Pediatrics
MD University of Texas Southwest 1994
Brad C White, MD Instructor in Clinical Surgery (Urologic Surgery) (primary appointment)
BS Illinois State University 1986
MD Loyola University Chicago 1993
Bruce I White Instructor in Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)
Frances V White, MD, MS Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Pediatrics
MD University of North Carolina 1989
MS University of North Carolina 1978
BA Princeton University 1975
Michael Aaron White, PHD, MS Assistant Professor of Genetics (primary appointment)
BA Brigham Young University 2000
PHD University of Rochester 2006
MS University of Rochester 2004
Neil Harris White, MD Professor of Pediatrics (primary appointment)
Professor of Medicine
MD Albert Einstein College of Med 1975
BS State Univ of NY at Albany 1971
Nicole Izetta White Instructor in Clinical Pediatrics (primary appointment)
Patrick White, MD Assistant Professor of Medicine (primary appointment)
BS Notre Dame College 2002
MD Ohio State University 2007
Karen Whiteside Instructor in Clinical Pediatrics (primary appointment)
John Bair Whitfield Adjunct Instructor in Psychiatry (primary appointment)
Michael Peter Whyte, MD Professor of Medicine (primary appointment)
Professor of Pediatrics
Professor of Genetics
MD State University of New York 1972
BA New York University 1968
Burton M Wice, PHD Associate Professor of Medicine (primary appointment)
MD State University of New York 1972
BA New York University 1968
Burton M Wice, PHD Associate Professor of Medicine (primary appointment)
PHD Washington Univ in St. Louis 1992
Martin B Wice, MD, MS Associate Professor of Neurology (primary appointment)
MD Northwestern University 1977
BS Grinnell College 1972
MS University of Washington 1983
Cynthia A Wichelman Associate Professor of Emergency Medicine in Medicine (primary appointment)
BA University of California 1982
Karen Mori Wickline, MD Associate Professor of Pediatrics (primary appointment)
MD Saint Louis University 1986
BS University of Hawaii 1978
Richard Harris Wieder, MD Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
MD University of Illinois 1986
BS University of Illinois 1982
John F Wiedner, MD Instructor in Clinical Medicine (primary appointment)
BA Knox College 1982
MD School Not Listed 1985
Kimberly N Wiele, MD Assistant Professor of Radiology (primary appointment)
BA University of MO Kansas City 1981
MD University of MO Kansas City 1981
Deborah A Wienski, MD Instructor in Clinical Medicine (primary appointment)
BA Smith College 1979
MD Tufts University 1983
Walter G Wiest, PHD Prof Emeritus Of Biochem In Ob & Gyn (primary appointment)
PHD Univ of Wisconsin Madison 1952
Tanya M Wilde, MD Assistant Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 2002
BS Illinois Wesleyan University 1998
Troy S Wilde, MD Associate Professor of Anesthesiology (primary appointment)
BS Illinois Wesleyan University 1998
MD Washington Univ in St. Louis 2002
Katherine Anne Henzler Wildman, PHD Adjunct Associate Professor of Biochemistry and Molecular Biophysics (primary appointment)
PHD University of Michigan 2003
Denise Wilfley, PHD Professor of Psychiatry (primary appointment)
Professor of Medicine
Professor of Psychological & Brain Sciences
Professor of Pediatrics
Scott Rudolph University Professor
PHD University of Missouri Columbi 1989
Robert S Wilkinson, MA, PHD Prof Emeritus of Cell Biology/Physiol (primary appointment)  
MA University of Texas Austin 1970  
PHD University of Texas Austin 1974  

Denise Michelle Willers, MD Associate Professor of Obstetrics and Gynecology (primary appointment)  
MD Southern Illinois University 2000  
BS Drake University 1996  

Kristine G Williams, MD, MPH Assistant Professor of Pediatrics (primary appointment)  
MD Georgetown University 1994  
MPH Saint Louis University 2001  

Nancy J Williams Instructor in Clinical Medicine (primary appointment)  
BA Dartmouth College 1982  

Timothy John Williams, MD Instructor in Medicine (primary appointment)  
BA McKendree College 2008  
MD University of Cincinnati 2012  

George A Williams III, MD, MA Assistant Professor of Clinical Medicine (primary appointment)  
MD Univ of Wisconsin Madison 1972  
MA Columbia University 1968  
BA University of Notre Dame 1967  

R. Jerome Williams Jr Associate Professor of Clinical Medicine (primary appointment)  
BA Harvard University 1973  

Jeffrey F Williamson Professor of Radiation Oncology (Pending Executive Faculty Approval) (primary appointment)  

Marcia Christine Willing, MS, MD, D SC Professor of Pediatrics (primary appointment)  
BS Goucher College 1973  
MS University of Michigan 1976  
MD University of Virginia 1982  
D SC George Washington University 1981  

David B Wilson, PHD Professor of Pediatrics (primary appointment)  
Professor of Developmental Biology  
PHD Washington Univ in St. Louis 1986  
Matthew Stewart Wilson Instructor in Clinical Psychiatry (primary appointment)  

Monita Elaine Wilson, MS, PHD Associate Professor of Medicine (primary appointment)  
MS Southern Illinois University 1984  
BS Southern Illinois University 1981  
PHD Brandeis University 1992  

Richard K Wilson, PHD Adjunct Professor of Genetics (primary appointment)  
BA Miami University 1981  
PHD University of Oklahoma 1986  

Patrick H Win Instructor in Clinical Medicine (primary appointment)  

David William Windus, MD Professor of Medicine (primary appointment)  
BS Iowa State University 1974  
MD Creighton University 1978  

Brooke Allison Winner, MD Assistant Professor of Obstetrics and Gynecology (primary appointment)  
MD University of Washington 2008  

Anke Christiane Winter, MD, MS Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
Karen Winters, MD  
Associate Professor of Medicine (primary appointment)  
Director of the Student and Employee Health Service - Medical Campus  
BS Illinois State University 1975  
MD Southern Illinois University 1983  

Franz J Wippold II, MD  
Professor of Radiology (primary appointment)  
BA Westminster College 1973  
MD Saint Louis University 1977  

Paul Edward Wise, MD  
Associate Professor of Surgery (General Surgery) (primary appointment)  
BS Georgetown University 1992  
MD John Hopkins University 1996  

Chad Alan Witt, MD  
Assistant Professor of Medicine (primary appointment)  
MD University of Texas Southwest 2005  
BS Texas Tech University 2001  

Eric Nicholas Wittrock, DOST  
Instructor in Psychiatry (Child) (primary appointment)  
DOST Kansas State University 2011  

Keith Frederic Woeltje, MD, PHD  
Professor of Medicine (primary appointment)  
MD Texas Southern University 1991  
PHD Texas Southern University 1991  
BS University of Dallas 1984  

Mary Kaye Wojczynski  
Assistant Professor of Genetics (primary appointment)  

Anna Wolaniuk, PHD, MD  
Instructor in Clinical Obstetrics and Gynecology (primary appointment)  
BS University of Lodz 1974  
PHD Medical Academy Lodz 1975  
MD Medical Academy Lodz 1979  

Loralee Jane Wold, MD  
Instructor in Clinical Pediatrics (primary appointment)  
MD Saint Louis University 1997  
BA Saint Louis University 1993  

Michael L Wolf, OD  
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)  
OD University of Missouri 1987  
BS University of Missouri 1979  

Timothy J Wolf  
Adjunct Assistant Professor of Occupational Therapy (primary appointment)  

Edward M Wolfe, MD  
Instructor in Clinical Medicine (Dermatology) (primary appointment)  
BA Hobart College 1956  
MD Washington Univ in St. Louis 1960  

Brett D Wolff, MD  
Associate Professor of Anesthesiology (primary appointment)  
BA Indiana University Bloomington 1981  
MD Indiana University Bloomington 1985  

Gerald Wolff, MD  
Assistant Professor of Clinical Medicine (primary appointment)  
MD Washington Univ in St. Louis 1961  
BA Harvard University 1955  

Patricia Ann Wolff, MD  
Professor of Clinical Pediatrics (primary appointment)  
MD University of Minnesota 1972  
BA University of Minnesota 1968  

Edwin D Wolfgram, MD  
Assistant Professor of Clinical Psychiatry (primary appointment)
BS Iowa State University 1954
MD University of Iowa 1959
Nathan E Wolins Assistant Professor of Medicine (primary appointment)

Fay Yeh Womer, MD Associate Professor of Psychiatry (primary appointment)
BS Washington Univ in St. Louis 1999
MD University of Connecticut 2003
Lily Wong, MD
BS Wellesley College 2006
MD University of Massachusetts 2012
Michael Wong, MD, PHD Allen P and Josephine B Green Professor of Pediatric Neurology (primary appointment)
Professor of Pediatrics
Professor of Neuroscience
MD University of Texas Southwest 1995
PHD University of Texas Southwest 1995
BA Princeton University 1987
Ming-Fong Agnes Wong, MD, PHD Adjunct Professor of Ophthalmology and Visual Sciences (primary appointment)
BA Boston University 1990
MD McGill University 1994
PHD University of Toronto 2001
Terrence N Wong, MD, PHD Instructor in Medicine (primary appointment)
MD Dartmouth College 2009
PHD University of Chicago 2007
Wing Kai Wong Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Neurology
John A Wood, MD Associate Professor of Clinical Medicine (primary appointment)
MD University of Oklahoma 1968
Matthew D Wood, MS, PHD Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
MS Washington Univ in St. Louis 2008
BS Saint Louis University 2005
BS Washington Univ in St. Louis 2009
PHD Washington Univ in St. Louis 2009
Pamela K Woodard, MD Professor of Radiology (primary appointment)
BA Duke University 1986
MD Duke University 1990
Terry A Woodford-Thomas, PHD, MS Adjunct Research Assistant Professor of Pathology and Immunology (primary appointment)
PHD Va Polytechnic Inst & State U 1982
BS Eastern Illinois University 1975
MS Purdue University 1977
Thomas A Woolsey, MD Prof Emeritus of Neurological Surgery (primary appointment)
BS Univ of Wisconsin Madison 1965
MD Johns Hopkins University Medic 1969
Parker H Word, MD Instr Emeritus In Clinical Ob & Gyn (primary appointment)
BS Virginia State University 1941
MD Howard University 1944
David F Wozniak, MA  Professor of Psychiatry (primary appointment)
Adjunct Associate Professor of Psychological & Brain Sciences
MA Connecticut College 1977

Megan Elizabeth Wren, MD  Associate Professor of Medicine (primary appointment)
BA Washington Univ in St. Louis 1981
MD Washington Univ in St. Louis 1985

Brenton Alan Wright, MD  Assistant Professor of Neurology (primary appointment)
BS University of Virginia 2004
MD University of Louisville 2008

Jeffrey M Wright, MD  Assistant Professor of Clinical Medicine (primary appointment)
Assistant Professor of Clinical Pediatrics
BS Vanderbilt University 1975
MD Washington Univ in St. Louis 1979

Neill Marshall Wright, MD  Herbert Lourie Professor of Neurological Surgery (primary appointment)
Professor of Orthopaedic Surgery
MD University of California 1993

Rick Wayne Wright, MD  Jerome J Gilden MD Distinguished Professor of Orthopaedic Surgery (primary appointment)
BS University of Missouri 1984
MD University of Missouri 1988

Stephanie Wrobel Goldberg, MD  Assistant Professor of Neurology (primary appointment)
MD University of Rio de Janeiro 2007

Gregory Frederick Wu, MD, PHD  Assistant Professor of Neurology (primary appointment)
Assistant Professor of Pathology and Immunology
MD University of Iowa 2001
BS Washington Univ in St. Louis 1993
PHD University of Iowa 2001

Xiaobo Wu, MD  Assistant Professor of Medicine (primary appointment)
MD Tongji University 1986

Heather E. Wuebker  Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA University of MO Kansas City 1996

Kathie R Wuellner  Associate Professor of Clinical Pediatrics (primary appointment)
BS University of Illinois 1973

Christopher Wuertz, MD  Assistant Professor of Clinical Psychiatry (primary appointment)
MD University of Illinois 1984

Hayley Wurzel, MD  Assistant Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1999
BS Brown University 1995

Kristine M Wylie, PHD  Assistant Professor of Pediatrics (primary appointment)
BA Southern Ill Univ Edwardsville 1996
PHD Saint Louis University 2009

Todd N Wylie  Assistant Professor of Pediatrics (primary appointment)
BS Southern Ill Univ Edwardsville 1995

Xiaoming Xia, PHD  Assistant Professor of Anesthesiology (primary appointment)
BS Fudan University 1984
PHD Vollum Institute OHSU 1998

Yan Xie, MD, MS  Instructor in Medicine (primary appointment)
MD Tongji University 1986
MS Hubei Medical University 1991
Chengjie Xiong, PHD, MS Professor of Biostatistics (primary appointment)
Professor of Neurology
Professor of Mathematics
PHD Kansas State University 1997
BS Xinjiang University 1983
MS Peking University 1989
Jinbin Xu, ME Instructor in Radiology (primary appointment)
BS Taiyuan University of Tech 1991
ME Taiyuan University of Tech 1994
Mai Xu, PHD, MS, MD Instructor in Medicine (primary appointment)
PHD China Medical University 1992
MS China Medical University 1983
MD China Medical University 1981
Dmitriy A Yablonskiy, D SC, PHD, MS Professor of Radiology (primary appointment)
Adjunct Professor of Physics
D SC Institute for Physics and Eng 1981
PHD Institute for Physics and Eng 1973
MS Kharkov State University 1970
Christina Marie Yadao Instructor in Clinical Pediatrics (primary appointment)
Tatyana Aleksandrovna Yakusheva, PHD, MS Assistant Professor of Otolaryngology (primary appointment)
PHD Russian U of Friendship of Ppl 2002
MS Saratov State University 1997
Naga M Yalla, MD Instructor in Medicine (primary appointment)
MD SRTR Medical College 2005
Ken Yamaguchi, MD, MS Professor of Orthopaedic Surgery (primary appointment)
MD George Washington University 1989
BA University of California 1983
MS University of California 1985
Heping Yan, MD, MS Assistant Professor of Radiation Oncology (primary appointment)
MD West China University 1979
MS West China University 1982
BS West China University 1979
Yan Yan, MHS, MD Professor of Surgery (Public Health Sciences) (primary appointment)
Professor of Biostatistics
MHS Johns Hopkins University 1995
MD Nanjing Medical University 1983
Deshan Yang, MS, PHD Associate Professor of Radiation Oncology (primary appointment)
MS Illinois Institute of Technol 2001
BS Tsinghua University, China 1992
PHD Univ of Wisconsin Madison 2005
Qin Yang, PHD, MD Associate Professor of Radiation Oncology (primary appointment)
PHD Heidelberg University 1997
MD West China University 1983
Hiroko Yano, PHD, MS Assistant Professor of Neurological Surgery (primary appointment)
Assistant Professor of Genetics
Assistant Professor of Neurology
PHD University of Tokyo 1996
MS University of Tokyo 1993
BS Science University of Tokyo 1991
Motoyo Yano, MD, PHD Assistant Professor of Radiology (primary appointment)
BS Tufts University 2000
MD University of Chicago 2007
PHD University of Chicago 2005
Mona Yasson, MD Instructor in Clinical Pediatrics (primary appointment)
MD School Not Listed 1979
William D Yates, MD Instructor in Clinical Surgery (General Surgery) (primary appointment)
MD Northwestern University 1985
BA Northwestern University 1983
Timothy Teng-Kay Yau, MD Assistant Professor of Medicine (primary appointment)
MD Saint Louis University 2005
Branden Edward Yee, MD Assistant Professor of Anesthesiology (primary appointment)
BS Tufts University 2004
MD Tufts University 2008
Xiaobin Yi, MD Associate Professor of Anesthesiology (primary appointment)
MD Hunan Medical University 1985
Yongjun Yin, PHD Instructor in Developmental Biology (primary appointment)
PHD Hebrew University 2004
Wayne M Yokoyama, MD Sam and Audrey Loew Levin Professor of Medicine (Rheumatology) (primary appointment)
Howard Hughes Medical Institute Investigator in Medicine
Professor of Pathology and Immunology
BA University of Rochester 1974
MD University of Hawaii 1978
Andrew Seungjo Yoo, PHD, MS Assistant Professor of Developmental Biology (primary appointment)
PHD Columbia University 2005
BS McGill University 1995
MS University of British Columbia 1997
Jun Yoshino, PHD, MD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Developmental Biology
PHD Keio University 2004
MD Keio University 2000
Mihoko Yoshino, PHD, MD Instructor in Medicine (primary appointment)
PHD Shimane Medical University 2006
MD Keio University 2000
Zhongsheng You, MS Associate Professor of Cell Biology and Physiology (primary appointment)
Associate Professor of Medicine
MS Shanghai Inst of Biochemistry 1997
BS Zhejiang Medical University 1994
Alexander H Young, MD Assistant Professor of Anesthesiology (primary appointment)
MD University of Arkansas 1990
BA University of Mississippi 1986
Anna Rebecca Young Assistant Professor of Anesthesiology (primary appointment)
Catherine A Young, JD  Instructor in Radiology (primary appointment)  
JD University of Texas Austin 1995
Julia Catherine Young  Instructor in Clinical Pediatrics (primary appointment)  
Omar M. Young, MD  Assistant Professor of Obstetrics and Gynecology (primary appointment)  
MD Columbia University 2008
Robert A Young, MD, MS, JD  Instructor in Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)  
MD Ohio State University 1978  
MS Ohio State University 1975  
BA University of Michigan 1973  
JD Saint Louis University 1997
Haifaa Tawifiq Younis, MD  Instructor in Clinical Obstetrics and Gynecology (primary appointment)  
MD Baghdad University 1984
Cecilia H Yu  Assistant Professor of Clinical Pediatrics (primary appointment)  
Simon Yu, MD  Instructor in Clinical Medicine (primary appointment)  
MD University of MO Columbia 1984
Liya Yuan, PHD, MS  Instructor in Neurological Surgery (primary appointment)  
PHD Tongji University 1994  
MS Tongji University 1987
Peng Yuan  Assistant Professor of Cell Biology and Physiology (primary appointment)  
Carla Marie Yuede, PHD  Assistant Professor of Neurology (primary appointment)  
PHD University of MO St Louis 2006
Roger D. Yusen, MPH, MD  Associate Professor of Medicine (primary appointment)  
BS University of Illinois 1986  
MPH Saint Louis University 2002  
MD University of Illinois 1990
Sean H Yutzy  Adjunct Professor of Psychiatry (primary appointment)  
Craig Mitchell Zaidman  Associate Professor of Neurology (primary appointment)  
Assistant Professor of Pediatrics  
Alan Zajarias, MD  Associate Professor of Medicine (primary appointment)  
Associate Professor of Surgery (Cardiothoracic Surgery)  
MD National Autonomous U of Mex 2000
Sandra G.H. Zakroff  Instructor in Clinical Obstetrics and Gynecology (primary appointment)  
John F. Zalewski  Instructor in Clinical Medicine (primary appointment)  
Paul Battista Zanaboni, PHD, MD  Associate Professor of Anesthesiology (primary appointment)  
PHD Saint Louis University 1990  
MD Saint Louis University 1992
Mohamed A Zayed, PHD, MD  Assistant Professor of Surgery (General Surgery) (primary appointment)  
BS University North Carolina 2002  
PHD University of North Carolina 2007  
MD University of North Carolina 2009
Allyson R Zazulia, MD  Professor of Neurology (primary appointment)  
Associate Dean for Continuing Medical Education  
Professor of Radiology  
BS University of Maryland 1990
MD Georgetown University 1994
Lukas P Zebala, MD Assistant Professor of Orthopaedic Surgery (primary appointment)
Assistant Professor of Neurological Surgery
BS Northwestern University 1998
MD University of Chicago 2004
John M Zempel, MD, PHD Associate Professor of Neurology (primary appointment)
Associate Professor of Pediatrics
MD Washington Univ in St. Louis 1995
PHD Washington Univ in St. Louis 1995
BS Univ of Wisconsin Madison 1985
Jessica Ann Zenga, MD Assistant Professor of Anesthesiology (primary appointment)
MD Saint Louis University 2006
Aurora Denise Zertuche-Sanchez Instructor in Clinical Pediatrics (primary appointment)
Bo Zhang Assistant Professor of Developmental Biology (primary appointment)
BS Inner Mongolia University 2004
Haixia Zhang, MD, PHD Assistant Professor of Cell Biology and Physiology (primary appointment)
MD Weifang Medical College 1998
PHD Chinese Academy of Med Science 2004
Tiezhi Zhang, MS, PHD Assistant Professor of Radiation Oncology (primary appointment)
BS Jilin Medical University 1994
MS Drexel University 1999
PHD Univ of Wisconsin Madison 2004
Yong Zhang, MD, PHD, MS Instructor in Medicine (primary appointment)
MD Anhui Medical University 1978
PHD Albert Ludwig University 1999
MS Sun Yat-Sen University 1983
Guoyan Zhao, PHD, MS Assistant Professor of Pathology and Immunology (primary appointment)
PHD Washington Univ in St. Louis 2003
BS School Not Listed 1995
MS School Not Listed 1998
Shiyiing Zhao, PHD, MME Adjunct Associate Professor of Radiology (primary appointment)
PHD University of South Carolina 1991
BA University of Science & Tech 1982
MME Shanghai jiao Tong University 1984
Tianyu Zhao Assistant Professor of Radiation Oncology (primary appointment)
Jie Zheng, PHD Associate Professor of Radiology (primary appointment)
PHD University of Cincinnati 1994
BS Beijing University 1986
Amy Wei Wei Zhou, MD Instructor in Medicine (primary appointment)
MD Wayne State University 2009
Dong Zhou, PHD, MS Instructor in Radiology (primary appointment)
BS1 Shandong University 1990
PHD Washington Univ in St. Louis 2004
MS1 Shandong University 1995
MS School Not Listed 1995
BS School Not Listed 1990
Li Zhou, MD Instructor in Medicine (primary appointment)
MD Vanderbilt University 2013
Yu Zhou, PHD, MS
Instructor in Anesthesiology (primary appointment)
PHD State Univ of NY Buffalo 2005
MS Zhejiang Medical University 1999
BS Wuhan University 1996
Jian Zhu, PHD
Instructor in Medicine (primary appointment)
PHD Oklahoma St University 2004
Lirong Zhu, MD, PHD
Assistant Professor of Clinical Neurology (primary appointment)
MD Fudan University 2000
PHD Baylor College of Medicine 2006
Robert E Ziegler, PHD, MD
Assistant Professor of Clinical Medicine (Dermatology) (primary appointment)
PHD Duke University 1980
MD Duke University 1980
BA University of Colorado Boulder 1972
Amy Christine Zimmermann, MD
Instructor in Clinical Pediatrics (primary appointment)
MD University of MO Columbia 2003
BS University of MO Columbia 1998
Darryl Thomas Zinck
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Bernd Heinrich Zinselmeyer, PHD
Assistant Professor of Pathology and Immunology (primary appointment)
PHD University of Strathclyde 2006
Gregory Joseph Zipfel, MD
Professor of Neurological Surgery (primary appointment)
Professor of Neurology
BS University of Illinois 1991
MD Northwestern University Med 1995
Imran Zoberi, MD
Professor of Radiation Oncology (primary appointment)
MD Washington Univ in St. Louis 1996
BS University of South Dakota 1992
Jacqueline Esthappan Zoberi, PHD
Associate Professor of Radiation Oncology (primary appointment)
PHD University of Chicago 2000
BA University of Chicago 1995
Bridget Bilyeu Zoeller, MD
Assistant Professor of Pediatrics (primary appointment)
MD Southern Illinois University 2007
BS University of Illinois 2003
Charles F Zorumski
Professor of Psychiatry
Head of the Department of Psychiatry
BA Saint Louis University 1974
Dequan Zou, D SC, MS, ME
Professor of Physical Therapy (primary appointment)
Professor of Radiology
BS Harbin Engineering University 1982
D SC Washington Univ in St. Louis 1993
MS Washington Univ in St. Louis 1991
ME Harbin Engineering University 1984
Wei Zou, MA
Assistant Professor of Pathology and Immunology (primary appointment)
MA Qingdao University 1994
Andrew C. Zuckerman
Instructor in Clinical Pediatrics (primary appointment)
Darryl Adam Zuckerman, MD Assistant Professor of Radiology (primary appointment)
Assistant Professor of Surgery (General Surgery)
MD State Univ of NY Syracuse 1983
BA New York University 1979
Gary R Zuckerman Assoc Prof Emeritus of Medicine (primary appointment)
Jorge Sergio Zwir, PHD, BSCS, MS Assistant Professor of Psychiatry (primary appointment)
PHD University of Granada 2001
BSCS Universidad del Buenos Aires 1991
MS Universidad del Buenos Aires 1995
No entries found

Medical Students

Alphabetical listing

Note: This may not be a complete listing. Some students may have elected to withhold directory information.

Search
by Last Name
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Program:
No entries found

Class Officers

Fourth-year class officers
President
Miriam Ben Abdallah

Medical Education Representative (MER)
Chad Donahue

Representative to the Organization of Student Representatives (OSR Rep)
Mikhail Roubakha

Representative to the Graduate Professional Council (GPC Rep)
Ashley Osborne

**Third-year class officers**

President
Jorge Zarate Rodriguez

Medical Education Representative (MER)
Jacob Groenendyk

Representative to the Organization of Student Representatives (OSR Rep)
Shamaita Majumdar

Representative to the Graduate Professional Council
Abby Rosenberg

**Second-year class officers**

President
Joshua Page

Medical Education Representative (MER)
Brian Cusworth
Representative to the Organization of Student Representatives (OSR Rep)
Nirbhay Jain

Representative to the Graduate Professional Council
Rina Amatya

**First-year class officers**

President
Averey Strong

Medical Education Representative (MER)
Katie Goodenberger

Representative to the Organization of Student Representatives (OSR Rep)
Natasha Kafai

Representative to the Graduate Professional Council
Linh Vuong

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**Summary of Students in the School of Medicine**

**2015-2016**

Doctor of Medicine (MD) (as of October 1, 2015)

Graduating Class Level: 73
Five-Year Research Program or equivalent: 8
Third-Year Class: 107
Second-Year Class: 101
First-Year Class: 104

Doctor of Medicine and Doctor of Philosophy (MD/PhD)

Graduating Class Level: 18
Clinical/Third-Year Class: 26
Ninth-Year Research: 1
Eighth-Year Research: 0
Seventh-Year Research: 0
Sixth-Year Research: 4
Fifth-Year Research: 9
Fourth-Year Research: 19
Third-Year Research: 25
Second-Year Research: 28
First-Year Research: 17
Second-Year Class: 21
First-Year Class: 19

Doctor of Medicine and Master of Arts (MD/MA)

Graduating Class Level: 1
First-Year/Early Level(s): 7

Doctor of Medicine and Master of Population Health Sciences (MD/MPHS)

Graduating Class Level: 5
First-Year/Early Level(s): 1

Doctor of Medicine and Master of Science in Clinical Investigation (MD/MSCI)
Graduating Class Level: 2
First-Year/Early Level(s): 2

**Doctor of Physical Therapy**

Graduating Class Level: 77
Second-Year Class: 80
First-Year Class: 84

**Doctor of Occupational Therapy**

Graduating Class Level: 13
Third-Year Class: 21
Second-Year Class: 28
First-Year Class: 25

**Doctor of Audiology**

Graduating Class Level: 14
Third-Year Class: 14
Second-Year Class: 15
First-Year Class: 12

**Master of Science in Occupational Therapy**

Graduating Class Level: 64
Second-Year Class: 61
First-Year Class: 64

**Master of Science in Population Health Sciences**

Second-Year Class: 13
First-Year Class: 5
Master of Science in Genetic Epidemiology
Certificate/SNCD: 4

Master of Science in Biostatistics
Second-Year Class: 22
First-Year Class: 13

Master of Science in Deaf Education
Graduating Class Level: 8
First-Year Class: 8

Master of Science in Clinical Investigation
Graduating Class Level: 6
Second-Year Class: 13
First-Year Class: 16
Certificate: 4
SNCD: 53

Master of Science in Applied Behavior Research
First-Year Class: 8
Certificate: 1
SNCD: 4

Med-School Total: 1,348
(598 MD of all types; 750 in Allied Health Programs)
Staff

For an online staff directory, visit the Washington University School of Medicine Directory.

Washington University Directories

For access to online directories for Washington University, Washington University Physicians and BJC HealthCare, please visit the Washington University School of Medicine website’s Directories page.
wet labs and offices on the 1st, 10th, 11th and 12th floors of McMillan Hospital Building. The Department of Biochemistry and Molecular Biophysics renovated research labs on half of the second floor of the McDonnell Sciences Medical Building and created a chemistry-intensive open laboratory on the 2nd floor of the Cancer Research Building. Renovations to the Clinical Sciences Research Building (CSRB) were done to create space for the Center for the Study of Itch. A world-class zebrafish facility was built in the basement of the McDonnell Sciences Medical Building. Half of the 8th floor of the McDonnell Sciences Medical Building was overhauled into modern, open laboratories to create additional space for Anatomy and Neurobiology and Internal Medicine.

A major renovation of the Maternity Hospital was completed for the Department of Obstetrics, floors two through six are completely renovated into new office space for Obstetrics faculty and administration. The recently acquired building at 4533 Clayton Ave. has been renovated into office space for the departments of Anesthesiology, Radiology and Obstetrics. The sixth floor of the Bernard Becker Library has been overhauled to make way for the Center for the History of Medicine. The Taylor Avenue Building was purchased and renovations and relocations for Public Health Sciences, the Institute of Public Health and the Department of Medicine have been made. Floors three through five have been renovated for administration space in the Wohl Clinic. A new Cyclotron has been installed in an expansion of the East Building.

In addition, major maintenance projects continue to be done to keep existing buildings in good functional shape.

Ongoing improvements to the campus infrastructure are being made through the Public Realm Project, which is focused on landscape, street lighting and streetscape enhancements.

Unprecedented growth has occurred at the medical center over the past 15 years. At the School of Medicine alone during the past five years, almost $270 million has been expended on capitalized infrastructure, renovation and new construction. Capital improvements and strategic purchases have added approximately 1.5 million square
feet of space to the medical school during this same period. In the most recent fiscal year, more than $150 million of capitalized expenditures were made at the School.

In the last 15 years, School of Medicine expansion has included the Genome Sequencing Center (GSC) Data Center; the Northwest Tower; the school’s first dedicated teaching facility, the Farrell Learning and Teaching Center; the Specialized Research Facility — East; the Southwest Tower/Charles F. Knight Emergency Center; the Center for Advanced Medicine; the McDonnell Pediatric Research Building; two parking garages; and the acquisition of the Central Institute for the Deaf buildings.

The **BJC Institute of Health at Washington University School of Medicine** (2009) was built to support the Washington University BioMed 21 initiative. Construction is now complete and consists of approximately 675,000 square feet. It is an eleven- and six-story building (the building is also structured to add an additional ten stories above the six story portion of the building). The top five floors, totaling 215,000 square feet, are wet labs to support the six research centers associated with BioMed 21 along with lab space for Pathology and Immunology, Obstetrics and Gynecology, and Pediatric Surgery. There is also a 30,000-square-foot vivarium in the lower level. BJC HealthCare occupies the first five floors, which houses dietary services, offices, pharmacy and clinical labs.

The **GSC Data Center** (2008) is a state-of-the art data center located across Newstead Avenue from its parent department in the 4444 Forest Park Building. A 14,000-square-foot building houses a 3,000-square-foot data room capable of populating 120 high-speed blade center racks and disk racks. This facility will allow the GSC to expand their research capability in the demanding world of sequencing grants and projects for years to come. A 16,500-square-foot expansion of this facility, supporting research, funded by an ARRA grant, was completed in 2012.

The eight-story **Northwest Tower** (2006) resides above the seven-level Children’s Hospital Garage. This new 190,000-square-foot building provides faculty office space.

**The Farrell Learning and Teaching Center** (2005), a 110,000-square-foot, six-story
facility, located at the corner of Scott and Euclid avenues, is the home for all of the School of Medicine teaching labs; ER, patient room and OR simulation training rooms; small-group and seminar rooms; and all individual student study areas. A lecture hall, case-study hall and café are on the first floor of the building.

The Specialized Research Facility — East (2004) is a 56,000-square-foot barrier facility supporting several research study programs.

The Center for Advanced Medicine (2001), at the corner of Euclid and Forest Park avenues, is a shared facility between the school and BJC. This building brings all of the medical center’s clinics together under one roof. The School of Medicine occupies 243,400 square feet in the Center for Advanced Medicine and 75,000 square feet on three floors in the new Southwest Tower. Located in the heart of the Center for Advanced Medicine is the 66,150-square-foot Alvin J. Siteman Cancer Center. The Siteman Cancer Center is the only NCI-designated comprehensive cancer center in the region.

The McDonnell Pediatric Research Building (2000) added 230,000 square feet of state-of-the-art research facilities — four and a half floors for the Department of Pediatrics, three floors for the Department of Molecular Microbiology, and one-half floor for the Department of Medicine — on the corner of Euclid Avenue and Children's Place. This building includes a Barnes & Noble bookstore with a coffee shop on the ground level.

The School of Medicine is divided into two segments. Clinical departments are predominantly located on the west side of the Medical Center, adjacent to hospital and patient areas. Preclinical departments are to the east. Research and instructional endeavors occupy the greater portion of the facilities, with more than 1.8 million gross square feet devoted to these activities. In the aggregate, the medical school occupies nearly 6 million gross square feet of space on this campus.

The focal point of the preclinical teaching activities is the McDonnell Medical Sciences Building, the center of activity for entering medical students. This building, with
300,000 square feet of research laboratories, was made possible by James Smith McDonnell III, a generous benefactor of Washington University. Rising nine floors above ground, it contains administrative offices and two lecture halls on the first floor. Three floors of wet lab space were completely renovated in the last five years. Offices and research laboratories for the seven basic science departments are located on the upper floors. Modern centralized animal quarters are housed in the basement.

The North and South Buildings, in which the work of several Nobel laureates has centered, have been renovated extensively. Along with the Cancer Research Building, they continue to provide space for laboratories, offices and some departmental facilities.

The East Building houses an MRI facility, a cyclotron, computer installations and other components of the Mallinckrodt Institute of Radiology. The East Building also houses several administrative office suites.

A network of pedestrian bridges provides the ability to move freely among the major facilities, enhancing the interaction of all medical center institutions and benefiting research and patient care.

Other facilities owned or operated by Washington University include:

The 45,160-gross-square-foot Eric P. Newman Education Center accommodates non-degree professional education for the medical center. The education center provides auditoriums, classrooms, meeting space and lecture halls to support and enhance a comprehensive education program.

The five-story Biotechnology Center supports laboratories for the departments of Psychiatry, Medicine, Neurology, and Mallinckrodt Institute of Radiology.

McMillan Hospital Building houses offices and research laboratories for the departments of Neurological Surgery, Neurology, Ophthalmology and Visual Sciences, and Otolaryngology.
The Edward Mallinckrodt Institute of Radiology (MIR) is internationally recognized for excellence in teaching, research and clinical services. Housed in its own 13-story building, MIR has satellite facilities in Barnes-Jewish Hospital, St. Louis Children's Hospital, the Clinical Sciences Research Building, the East Building, the Scott Avenue Imaging Center, the Center for Advanced Medicine, the Charles F. Knight Emergency Center and the South County Siteman Cancer Center. Services also are provided at Barnes-Jewish West County Hospital, Progress West Hospital, and Barnes-Jewish St. Peters Hospital and at the Washington University Orthopedics and Barnes-Jewish Hospital Outpatient Orthopedic Center.

With consolidation of psychiatric patient care services in the West Pavilion, the eight-story Renard Hospital provides additional office and laboratory space for the Department of Psychiatry.

Maternity Hospital provides offices for the departments of Obstetrics and Gynecology and Ophthalmology and Visual Sciences. A Perinatal Center and some Psychiatry clinical research are located in this building.

The West Building contains administrative offices and research laboratories for the Department of Pathology and Immunology and research labs for the Department of Medicine.

Wohl Hospital Building provides offices and laboratories for the Department of Medicine and the Department of Surgery.

Wohl Clinic The lower five floors contain the Chromalloy American Kidney Dialysis Center, space for translational research and faculty & administrative offices. The upper five floors are devoted to research facilities for several departments of the School of Medicine.

The 294,302-gross-square-foot building at 4444 Forest Park houses administrative offices of various medical school departments plus the Program in Physical Therapy, the Program in Occupational Therapy and the Genome Sequencing Center, including
the new Center for Genomics and Human Genetics.

The **4511 Forest Park Medical Building** houses administrative offices and research labs for the Department of Radiation Oncology. The third-floor clinic and office area has recently been renovated into wet lab research space.

The 136,977-gross-square-foot, seven-story **East McDonnell Specialized Research Facility** is a maximum-barrier research facility to accommodate higher brain function research and transgenic studies.

The 10-story **Clinical Sciences Research Building (CSRB)**, 357,768 gross square feet and **North Tower Research Addition**, 201,349 gross square feet, consolidates medical school specialized research into one structure. The top three floors of the addition house wet lab research space.

The new **4515 McKinley Research Building** (2015) 215,755 gross square feet accommodates the consolidated Department of Genetics as well as new recruitments for the Center for Genomic Science, the Department of Medicine, and Regenerative Medicine. A Cellular Imaging Core is located in the basement and will draw people from across the School of Medicine and Danforth campuses. The building was designed with an open concept to encourage collaborative and interdisciplinary communications among researchers.

The **4488 Forest Park Parkway Building** houses, among other things, the recently completed administrative offices, and research labs for the Washington University Knight Alzheimer’s Disease Research Center (ADRC). The ADRC is one of 29 centers funded or otherwise supported by the National Institute on Aging with the collective aim of facilitating advanced research on clinical, genetic, neuropathological, neuroanatomical, biomedical, psychosocial, and neuropsychological aspects of Alzheimer’s disease and related brain disorders.

The second floor of the **Taylor Avenue Building (TAB)** was renovated in 2012 to create office and teaching space for the Division of Public Health Sciences in the Department
of Surgery. This renovation adds ten teaching rooms, each named for a pioneer in public health sciences who opened new fields, paths to study, or applied research to improve population health. The largest teaching space holds fifty people, and many of the rooms are equipped with state-of-the-art video conference technology. The rooms are used to support exceptional population health sciences and clinical research training through the Master of Population Health Sciences (MPHS) degree program for clinicians, clinical doctorates, and medical/health services students. The space also accommodates professional meeting space for clinicians and researchers across Washington University campuses for groups including Siteman Cancer Center Prevention and Control, the Transdisciplinary Research on Energetics and Cancer Center (TREC@WUSTL), and for community partner events through the Program for the Elimination of Cancer Disparities (PECaD). Additional renovations were completed in 2015 to create space for Psychiatry research, including the Mindfulness Based Stress Reduction and Exercise projects. The space was designed to offer long-term flexibility for future research as priorities and grant funding changes.

The 2-story, 25,000 square foot 620 S. Taylor building was completed in 2015. The ACTU, Weight Management, Neurology and Infectious Disease clinics occupy this space.

Founded in 1911, the Bernard Becker Medical Library is one of the oldest and most comprehensive medical libraries west of the Mississippi. The library serves as an information hub for the Washington University Medical Center and extends its services and resources to the global health science community.

Becker Medical Library’s mission is to bring together resources, information and expertise to deliver innovative support for advancing discovery and improving human health. Among the resources it offers focusing on health and biological sciences are 6,783 full text e-journals; 21 specialized databases; and 41,028 e-books. Subject expertise and support comes from library divisions focusing on specific areas aligned with the school's mission.

The Translational Research Support Division of the library provides specialized
knowledge, customized programs and services, and unique information resources to support Washington University’s broader goals of connecting basic research to patient care. The division includes a science support program to provide instruction, consultation services and support for specialized software and databases for the genomic and basic science research community. Its community outreach and health communication program focuses on ways to foster health literacy and seeks opportunities to partner with the School of Medicine; and medical center groups to improve the communication skills of our clinicians and researchers and enhance the creation and delivery of reliable and credible health information. The division also includes a scholarly communications program to support authors and researchers on a wide range of issues including publishing options, public access mandates, copyright and author rights, assessment of research impact and dissemination of research findings.

The Health Information Services Division offers a broad range of biomedical resources and training services to faculty teaching the next generation of health care leaders, to students learning evidence-based medical skills and to clinicians on the front lines providing quality patient care. This division works closely with the school’s education programs in support of their curricula and the affiliated teaching hospitals to support evidence-based practice. Its librarians conduct complex literature reviews and collaborate closely with researchers on systematic reviews.

The Collection Management Services Division supports teaching, research and patient care by arranging access to the primary journals, databases and books which faculty require. Negotiating affordable contracts with a wide variety of publishers and making purchased resources discoverable through the library catalog and electronic portal ensure that basic information needs can be expediently fulfilled. Interlibrary loan services complement the library’s own collection when necessary by obtaining materials from other libraries.

Special Collections (Archives and Rare Books) is a unique and important unit of the library’s resources. The Archives preserve and make accessible 905 archival collections, comprising institutional records, manuscripts, visual items and oral histories that
document the medical center’s institutional history, ongoing progress and many significant contributions of its faculty. Among the manuscript collections are papers of William Beaumont, Joseph Erlanger, E.V. Cowdry, Evarts Graham and Carl Cori. There are nine distinct rare book collections containing 16,001 books available for scholarly use. These acclaimed collections include the Bernard Becker Collection in Ophthalmology and Optics, the CID-Max Goldstein Collection in Speech and Hearing, the H. Richard Tyler Collection in Neurology and the Robert E. Schlueter Paracelsus Collection of the St. Louis Medical Society.

The Bernard Becker Medical Library takes pride in providing the latest biomedical information and services to the Medical Center. For detailed information about the library’s programs and services, visit https://becker.wustl.edu.

The library is open to the general public Monday through Friday, 7:30 a.m. to 6 p.m. Library hours for faculty, students and staff affiliated with Medical Center:

Monday-Thursday: 7:30 a.m. – midnight
Friday: 7:30 a.m. – 10 p.m.
Saturday: 9 a.m. – 6 p.m.
Sunday: 11 a.m. – 11 p.m.

Telephone numbers:
Circulation Services: (314) 362-7080
Information Services: (314) 362-7085
Interlibrary Loan: (314) 747-0029
Archives and Rare Books: (314) 362-4236

Barnes-Jewish Hospital has a premier reputation in patient care, medical education, research and community service, and is the adult teaching hospital of Washington University School of Medicine, which is ranked among the top medical schools in the country. The 9,573 Barnes-Jewish team members include professional nurses, technicians, service and support personnel, plus more than 1,534 physicians and 829 residents, interns and fellows. Barnes-Jewish is licensed for 1,315 beds and in 2014
had 53,397 inpatient admissions, along with 80,136 emergency department visits. In 2003, Barnes-Jewish Hospital was the first adult hospital in Missouri to earn Magnet recognition, the highest award given by the American Nurses Credentialing Center, and was redesignated in 2008 and 2013. Barnes-Jewish Hospital has been consistently ranked on the “Honor Roll” of Best Hospitals by U.S. News & World Report since 1993.

For 135 years, St. Louis Children’s Hospital has been at the forefront of pediatric medicine, with physicians, nurses and staff who dedicate their lives to the care of children. The hospital provides a full range of services to children and their families throughout its 300-mile service area, as well as to children from all fifty states and 80 countries around the world. Children’s Hospital offers comprehensive services in every pediatric medical and surgical specialty, including newborn medicine, cardiology, orthopedic surgery, neurosurgery and one of the nation’s largest pediatric transplant programs. St. Louis Children’s Hospital-Washington University is currently ranked in all 10 specialties on the U.S. News 2016-75 list of America’s Best Children’s Hospitals. St. Louis Children’s Hospital is one of only 100 hospitals worldwide to be designated as a Magnet hospital for nursing excellence by the American Nurses Credentialing Center® (ANCC), and has had that unique distinction since 2005.

St. Louis Children’s Hospital provides an array of community outreach services, including three pediatric mobile health vans, injury prevention programs, educational classes on parenting and child development, as well as patient and parent support groups. The hospital also operates a Family Resource Center, which provides free child health information services, a physician referral phone line, a mobile phone app called Kid Care, and a parenting blog, www.childrensmomdocs.org. For more information on accessing these, or any hospital services, visit www.stlouischildrens.org.

BJC HealthCare is one of the largest nonprofit health care organizations in the United States, delivering services to residents primarily in the greater St. Louis, southern Illinois and mid-Missouri regions. BJC serves urban, suburban and rural communities and includes 12 hospitals and multiple community health locations. Services include inpatient and outpatient care, primary care, community health and wellness, workplace health, home health, community mental health, rehabilitation, long-term
care and hospice.

Through a collaboration among the Barnard Cancer Institute, Barnes-Jewish Hospital and Washington University, medically indigent patients with cancer or diseases of the skin receive care at no cost to them from Washington University physicians at the Alvin J. Siteman Cancer Center and Barnes-Jewish Hospital. **Barnard Hospital** also houses the Washington University Clinical Research Unit, part of the Institute for Clinical and Translational Sciences (ICTS) Center for Applied Research Sciences (CARS), a support center for Washington University clinical investigators.

**CID – Central Institute for the Deaf** is an internationally recognized center for deaf education that teaches children to listen, talk and read so they can attend general education schools in their communities with their hearing peers without the use of sign language. CID’s mission includes the continued professional development of teachers of the deaf, speech-language pathologists, audiologists and other professionals who help children acquire speech and spoken language.

CID’s acoustically enhanced “quiet school” features the Joanne Parrish Knight Family Center, serving children and their families from birth to 3. CID Anabeth and John Weil Early Childhood Center and Virginia J. Browning Primary School serve students ages 3 to 12. CID schoolchildren and their families have come from 48 U.S. states and 33 other countries.

CID services for professionals include continuing education e-courses and workshops, consulting services and in-service training for schools and school districts, and educational curricula that have been used to help children in all U.S. states and many countries throughout the world.

CID is financially independent from, but closely affiliated with, CID at Washington University School of Medicine, which continues to operate CID-developed adult clinic, research and academic programs that benefit children and adults with hearing loss. The university acquired these programs in September 2003 along with state-of-the-art facilities at the CID campus, 4560 Clayton Ave. with CID’s entrance at 825 S. Taylor. CID
continues to provide faculty and practicum sites for the university's graduate degree programs in deaf education and audiology. CID teachers and pediatric audiologists continue to work closely with its speech and hearing scientists in studies involving children who are deaf and hard of hearing.

The Alvin J. Siteman Cancer Center at Barnes-Jewish Hospital and Washington University School of Medicine is designated by the National Cancer Institute as a Comprehensive Cancer Center, the only such center in Missouri. Siteman is world-renowned for its basic science, translational, and prevention and control research. Siteman enhances, promotes and supports interactions among cancer research efforts throughout the campus and has provided an organizational focus and stimulus for researchers to continue to produce cutting-edge institutional research.

The center holds nearly $145 million in extramural funding for cancer research and supports seven research programs (Breast Cancer Research, Cell-to-Cell Communications in Cancer Hematopoietic Development and Malignancy, Oncologic Imaging, Prevention and Control, Solid Tumor Therapeutics Tumor Immunology). Siteman also provides 120 shared resource facilities to its more than 250 research members. Shared resource facilities include: Center for Biomedical Informatics (CMBI); Siteman Biostatistics Shared Resource (SBSR); Siteman Flow Cytometry Core (SFC); Imaging Response Assessment Core (IRAC); Genome Technology Access Core (GTAC); Biologic Therapy Core Facility (BTCF); Proteomics Shared Resource; Small Animal Cancer Imaging (SACI); Immunomonitoring Laboratory (IML); Genome Engineering and iPSC Center (GEiC); and Tissue Procurement Core (TPC).

Siteman is integrated with The McDonnell Genome Institute at Washington University, the Institute for Public Health and the Mallinckrodt Institute of Radiology. In partnership with the community, Siteman's Program for the Elimination of Cancer Disparities (PECaD), addresses racial, ethnic, socioeconomic and other disparities in cancer awareness, screening, treatment and research.

Siteman offers a wide range of educational and training opportunities in cancer research, including seminars, conferences, retreats, a summer student program and a
pre/postdoctoral training program in cancer biology research.

For more information regarding Siteman’s research programs, shared resources and educational opportunities, please visit www.siteman.wustl.edu/research.aspx.

A current listing of upcoming seminars is available at www.sitemanseminars.wustl.edu.

Other hospitals. The following hospitals and facilities also are associated with the School of Medicine, and Washington University physicians treat patients at these locations:

- Barnes-Jewish West County Hospital
- Barnes-Jewish St. Peters Hospital
- Christian Hospital Northeast
- Missouri Baptist Medical Center
- Veterans Administration Medical Center
- Shriners Hospital for Children
- Parkland Health Center
- Progress West HealthCare Center
- Phelps County Regional Medical Center
- Southeast Missouri Hospital

Research Activities
Grants and contracts totaling more than $531 million supported faculty research efforts at the School of Medicine during the fiscal year ending June 30, 2015. Substantial additional support was provided directly to faculty investigators by the Howard Hughes Medical Institute. Gifts and grants from private sources, including alumni, individuals, foundations, corporations and other organizations, totaled $157 million.

During the Washington University fiscal year ending June 30, 2015, the School of Medicine received $352.3 million from the National Institutes of Health. This amount includes direct-pay and pass-through awards.

The many firsts at the School of Medicine include:

- Served as a major contributor of genome sequence data to the Human Genome Project, providing the foundation for personalized medicine.
- Developed a genetic test that detects whether an individual will develop a form of thyroid cancer and would benefit from thyroid removal — the first surgical prevention of cancer based on genetic test results.
- Developed screening tests used worldwide to diagnose Alzheimer’s disease.
- Created the first positron emission tomography (PET) scanner, a device that images the brain at work.
- Helped pioneer the use of insulin to treat diabetes.
- Proposed the now-common practice of taking aspirin to help prevent heart attacks.
- Performed the world's first nerve transplant using nerve tissue from a cadaver donor.
- Developed a blood test that quickly and safely identifies whether a patient needs invasive treatment for a heart attack.
- Decoded the entire genome of a cancer patient and used the results to alter the course of treatment, which put the cancer into remission.
Demonstrated that severely malnourished children given antibiotics along with a therapeutic peanut butter based food are far more likely to recover and survive than children who only receive the therapeutic food.

Ongoing research includes:

- Participating in the National Children's Study, the largest U.S. study of child and human health ever conducted.
- Seeking new ways to diagnose and treat stroke as part of a national network of state-of-the-art stroke treatment centers.
- Decoding the genomes of hundreds of cancer patients and their tumors to understand the genetic roots of the disease and to find better treatments.
- Leading an international research collaboration to study inherited forms of Alzheimer's disease and one of the first clinical trials to evaluate whether the disease can be prevented before memory loss and dementia develop.
- Developing and using nanoparticles for molecular imaging and targeted drug delivery for cancer and heart, lung and vascular diseases.
- Mapping the major circuits in the human brain to understand normal brain function and connectivity errors involved in alcoholism, autism and schizophrenia.
- Exploring the links that connect obesity and malnutrition to the community of microbes that live in the gut.
- Searching for clues in the brain and spinal cord to help physicians diagnose Alzheimer's disease before symptoms develop.
- Leading research, teaching and community engagement to improve population health through Washington University's Institute for Public Health.
- Investigating changes to the brain in soldiers exposed to roadside blasts and athletes who have suffered repeated concussions to understand their long-term mental and physical consequences.
• Exploring the genetic influences at play in alcohol, smoking and drug addiction.
• Leading research to improve care for heart failure and cardiovascular disease, including clinical trials to evaluate mechanical assist devices and studies to look at the link between diabetes and aggressive heart disease.

BioMed 21

Launched in 2003, BioMed 21 creates a multidisciplinary and translational-research imperative for basic scientists and clinician-researchers from many medical disciplines.

BioMed 21 reorganizes the life sciences at Washington University to address the biggest questions about disease: their origins, how they affect us and how we can cure them. Its goal is to reshape the university culture to rapidly convert the knowledge of the genetic blueprint of human beings into effective, individualized treatments.

To successfully make those discoveries and develop those therapies, BioMed 21 advances on many fronts:

It aims to collect and dedicate resources, including NIH support and gifts from friends and supporters. Recent grants include:

• $50 million grant to enhance clinical and translational research
• $14 million in two grants for neuroscience research
• $16 million grant for nanomedicine research

It defines new spaces to house promising research and educational programs, including:

• 240,000 square feet of new research space in the new BJC Institute of Health at Washington University School of Medicine in the center of the medical campus
• the Farrell Learning and Teaching Center, an important teaching component of BioMed 21
• a 40,000-gross-square-foot facility designed to spur development of mouse models for human diseases

• a 16,000-square-foot data center to meet the massive computing needs of The Genome Center

• 15,000 square feet of space added to the previously established Center for Genome Sciences & Systems Biology to support new investigators

In addition to the Center for Sciences & Systems Biology, it establishes five new Interdisciplinary Research Centers (IRCs) housed in the BJC Institute of Health at Washington University School of Medicine. The IRCs are central in promoting scientific and educational innovations across school boundaries. IRCs have the primary goal of promoting innovative interdisciplinary, inter-departmental research and education in the biological and medical sciences. The mission of the IRCs is to assemble talented faculty and students to address key and emerging scientific problems, and to understand fundamental biological processes with broad implications for human health.

• The BRIGHT Institute (Bridging Research with Imaging, Genomics and High-Throughput)

• Center for the Investigation of Membrane Excitability Disorders — The EXCITE Center

• Center for Women’s Infectious Disease Research (cWIDR)  
  Diabetic Cardiovascular Disease Center (DCDC)

• Hope Center Program on Protein Aggregation and Neurodegeneration (HPAN)

See biomed21.wustl.edu to learn more.

Research training

The School of Medicine offers many degree programs focused on research training. Please visit the Programs section or the links below for more information.
Combined degrees

Doctor of Medicine/Doctor of Philosophy (MD/PhD)

Doctor of Medicine/Master of Arts (MD/MA)

Doctor of Medicine/Master of Science in Clinical Investigation (MD/MSCI)

Doctor of philosophy programs

Biomedical Sciences

Audiology and Communication Sciences

Occupational Therapy

Physical Therapy

Masters degree programs

Master of Science in Applied Health Behavior Research

Master of Population Health Sciences

Postdoctoral research training

Postdoctoral research fellowships

Medical student research opportunities

Summer Research Program

Year-long research activities
Medical Alumni and Development

Medical Alumni and Development Programs works with individuals and organizations to secure the human and financial resources necessary to help the School of Medicine achieve and maintain excellence in research, teaching and patient care.

Washington University Medical Center Alumni Association

The Washington University Medical Center Alumni Association WUMCAA was organized more than 60 years ago to foster a continuing spirit of fellowship among graduates, and to maintain and enhance the tradition of excellence of the School of Medicine. Membership is free and provided to graduates and former house staff of the medical center.

The association complements the goals and purposes of the School of Medicine through a variety of programs for its members and current students. Involvement in these activities also provides the opportunity to continue the relationships begun as students and to develop rewarding professional associations.

Student-alumni programs

The Office of Medical Alumni and Development Programs and the WUMC Alumni Association assist students in a variety of ways. The association makes a substantial financial commitment each year to support 16 Distinguished Alumni Scholars. These promising medical students receive full-tuition, four-year scholarships in honor of great teachers and mentors who were also alumni of the School of Medicine. The association also provides an activity fund for both the first- and second-year classes and sponsors a reception for the graduating class, their families and faculty.

In addition, the association provides financial support to a number of student-initiated
community service activities, including a variety of health-education programs in public schools and clinics.

Medical Alumni and Development coordinates an alumni resource bank that arranges more formal contacts between alumni and students. Alumni volunteers host students who wish to spend time with a practicing physician, provide information to help students choose a specialty, serve as preceptors for clerkships and electives, and provide overnight lodging to fourth-year students going on residency interviews.

**Reunions and other events**

The School of Medicine's Reunion is held in May for medical classes who return at five-year intervals, beginning with the class observing its 10th year following graduation and continuing through the class celebrating its 55th reunion and all emeritus alumni (all classes beyond their 55th reunion). The reunion schedule includes a scientific program, social events, tours of the medical center and the presentation of Alumni Achievement, Faculty Achievement, Resident/Fellow Alumni Achievement and Distinguished Service awards. Award recipients are chosen on the basis of personal accomplishment, professional achievement and/or service to the School of Medicine. Members of the graduating class are special guests at the awards banquet and are officially welcomed into the Alumni Association.

The Alumni Office sponsors special alumni activities in selected cities across the United States. Volunteers from each area assist in sponsoring these events, which help alumni stay abreast of the educational and research activities at the School of Medicine. The Alumni Office also compiles class newsletters for selected classes, including recent graduates and Emeritus alumni.

**Alumni support**

Supporting their school generously is a tradition for a large percentage of alumni of the medical school and the health professions programs. Each year alumni and friends make gifts to the Annual Fund, which supports the medical school's departments,
divisions and health care professional programs, as well as scholarships and low-interest loan programs for students. Alumni also designate gifts for special purposes within the medical school, including specific research, education and training programs.

During the 1977-78 school year, the Executive Council of the Washington University Medical Center Alumni Association voted to establish the Alumni Endowed Professorship Program. The first alumni professorship was awarded in 1982. Ten professorships have been created thus far.

**Schools of Washington University**

All schools are located on the Danforth Campus at One Brookings Drive, St. Louis, Mo., 63130, except the School of Medicine, which is at 660 S. Euclid Ave., St. Louis, Mo., 63110. A University-sponsored shuttle bus travels between the Danforth Campus and the Medical Center at regular intervals.

**Arts & Sciences**

- College of Arts & Sciences
- Graduate School of Arts & Sciences
- University College

**Sam Fox School of Design & Visual Arts**

- College of Architecture
- Graduate School of Architecture & Urban Design
• College of Art
• Graduate School of Art

Olin Business School

School of Engineering & Applied Science

School of Law

School of Medicine

George Warren Brown School of Social Work

Programs

Washington University offers some of the nation's finest degree programs in medicine, biomedical research, allied health and public health. An outstanding education from the School provides graduates with solid opportunities for highly sought-after residencies and fellowships, engaging and challenging research endeavors, and successful, rewarding careers in medicine and related fields.

The Bulletin of the School of Medicine provides an overview of the courses, curriculum and faculty of each degree program. For complete information, please visit the program websites, accessible via the links at left.
MD Programs

Washington University School of Medicine offers several programs and combined degree programs:

- Doctor of Medicine (four-year program)
- Doctor of Medicine (five-year program)
- Doctor of Medicine and Master of Arts
- Doctor of Medicine and Master of Science in Clinical Investigation
- Doctor of Medicine and Master of Population Health Sciences
- Doctor of Medicine and Master of Public Health
- Doctor of Medicine and Doctor of Philosophy (MSTP)

Doctor of medicine

By conferring the MD degree, the University certifies that the student is competent to undertake a career as a doctor of medicine. It certifies further that, in addition to medical knowledge and skills, the graduate possesses qualities of personality — compassion, emotional stability and a responsible attitude — essential to an effective professional life.

Four-year program

A course of medical education for the MD degree ordinarily consists of a minimum of four years of study. Students recommended for the Doctor of Medicine degree must be of good moral character, they must have completed an entire academic course of instruction as matriculated medical students, they must have passed all required subjects or the equivalent and have received satisfactory grades in the work of the full academic course, and they must have discharged all current indebtedness to the University. The School requires that students take the USMLE Step 1 and Step 2 (CS
and CK) examinations. All students must take and pass the School's Comprehensive Clinical Examination (CCX) prior to graduation.

At the end of the final academic year, students who have fulfilled these requirements will be eligible for the MD degree.

**Five-year program**

In addition to the regular four-year program leading to the MD degree and the MD/MA degree program, students are permitted to spend one additional year in an academic program in a medical or medically related field. In exceptional circumstances, a further additional year may be permitted. The student may receive a stipend but may not be considered an employee of the University. The program must be arranged with an academic adviser and is subject to the approval of the Associate Dean for Medical Student Research. The Student Research Opportunities brochure provides additional important information about participating in this program. Students enrolled in the five-year program must maintain coverage through Student Health while in St. Louis.

**Doctor of medicine and master of arts**

The objective of the MD/MA program is to provide one full year of individual, full-time, in-depth research experience for medical students in preparation for a career in academic medicine. Program participants absent themselves from medical school and spend 12 months working on basic biomedical research or hypothesis-driven clinical research in the lab of a faculty member. Degree requirements include a presentation before a research advisory committee, submission of a publication-quality manuscript and participation in a research ethics seminar.

No academic credit toward the MD degree will be given, but research may be continued as senior elective for credit. Fellowship stipends and other support are available through the Howard Hughes Medical Institute (basic science research), National Institute of Diabetes and Digestive and Kidney Diseases (GI, hepatology, endocrinology, nutrition, nephrology and hematology research), and the Clinical
Research Training Center – Predoctoral Program (clinical research). Students unable to qualify for one of these awards may also apply for Institutional Funding. Funding amounts may vary, and some of these sources have deadlines in early January. Please contact the MD/MA program administrator at (314) 362-7190 or visit the website at http://mamd.wustl.edu for details.

Doctor of medicine and master of science in clinical investigation

The School of Medicine offers a combined MD/MSCI program. Please visit the MSCI section of this site for more information.

Doctor of medicine and master of population health sciences

The School of Medicine offers a combined MD/MPHS program. Please visit MPHS section of the Bulletin for more information.

Doctor of medicine and master of public health

The School of Medicine offers a combined MD/MPH program. Please visit the MPH section of the Bulletin for more information.

Doctor of medicine and doctor of philosophy (MSTP)

Washington University offers a combined MD/PhD degree program that draws on the resources of the Graduate School of Arts & Sciences, the School of Engineering and the School of Medicine under the auspices of the Medical Scientist Training Program (MSTP). The purpose of the program is to train individuals in medicine and biomedical research to prepare them for careers as physician scientists. The program was inaugurated in 1969 and is one of the oldest and largest in the country. The program, normally completed in seven or eight years, has been highly successful; more than 80 percent of those who have completed postgraduate training are actively involved in research programs at leading institutions.
All students in the program receive financial support in the form of stipends (currently $29,500 per year), health coverage, disability and life insurance, and full tuition remission for both the MD and PhD phases of training.

Only students who have spent the equivalent of at least two years or four semesters in laboratory research should apply to the Medical Scientist Training Program. Applicants must meet the requirements for admission to both the School of Medicine and the graduate program of their choice. The Graduate Record Examination is not required. Students planning to concentrate in disciplines related to the chemical or physical sciences should have completed mathematics through calculus, physics and physical chemistry, and advanced organic chemistry. A course in differential equations also is recommended. For those students whose major interests are in the more biological aspects of medical science, the quantitative requirements for chemistry are less extensive, but a strong background in mathematics, chemistry and physics is still important. Although most individuals enter the program as first-year students, applications will be accepted from students in their first or second year at this medical school. The program matriculates approximately 25 new students each year, which represents one-fifth of the entering medical school class.

The program consists of three parts: 1) two years of an enhanced medical curriculum, 2) at least three years of original research toward a thesis to satisfy the requirements for the PhD degree, and 3) at least 15 months of clinical training based on a student's career goals. Both degrees are awarded upon the completion of the program.

While the Medical Scientist Training Program includes all medical courses required for the MD degree, it incorporates a high degree of flexibility for individuals through a wide range of electives and graduate courses, some of which may be taken during the first year of the medical curriculum. Every effort is made to individualize each student's curriculum based on previous background and current interests. The medical and PhD curricula are integrated, which permits students to take PhD course work in lieu of certain medical school course work. In this way, students may substantially meet the course work requirements of the PhD program during the first two medical school years.
The MSTP Committee monitors the performance of each student, and a high scholastic standing as well as a commitment to research is expected.

Students normally spend between three and five years in doctoral studies satisfying the following requirements:

1. Completion of required graduate course work;
2. Successful performance in qualifying examinations;
3. Execution of original research suitable for a dissertation;
4. Defense of the thesis; and
5. Completion of a teaching assistantship.

The PhD degree may be obtained in the Program in Biomedical Engineering, the Division of Biology and Biomedical Sciences or in other research-oriented departments such as Anthropology or Physics. The largest contingent of MSTP students is trained under the auspices of the Division of Biology and Biomedical Sciences. The division, now in its 44th year, is a leader in interdisciplinary biomedical education. Member departments of the division include all clinical and preclinical departments of the medical school, as well as the Departments of Biology and Chemistry. These departments jointly provide training in the following interdisciplinary programs:

- Biochemistry
- Computational and Molecular Biophysics
- Computational and Systems Biology
- Developmental, Regenerative and Stem Cell Biology
- Evolution, Ecology and Population Biology
- Human and Statistical Genetics
- Immunology
- Molecular Cell Biology
The MSTP also permits students to undertake doctoral studies in other disciplines, provided that the resulting thesis is a rigorous, hypothesis-based body of work that is medically relevant.

A series of weekly seminars featuring physician scientists is held for MD/PhD students. These seminars are aimed at stimulating student interest in clinical medicine, increasing awareness of major research problems in clinical medicine and exposing students to diverse career paths in academic medicine.

MD/PhD students attend an annual weekend retreat during which students present their research. The retreat also features discussions led by experts on topics selected by students.

To keep students in the PhD phase of training up to date on their clinical skills, monthly opportunities are offered for clinical interactions. Students are matched individually with a clinical mentor in the specialty of their choice. These interactions include going on rounds and attending conferences.

A two-week non-graded tutorial for MD/PhD students facilitates their transition into the clinical phase of training.

MSTP students are required to complete a minimum of 15 months of clinical training. Opportunities exist to meet part of the requirement while engaged in PhD training. Students may opt to extend clinical training up to 22 months. The intensive clinical training is the last formal requirement for the MD degree.

Application Procedure: Individuals interested in applying to the Medical Scientist...
Training Program must complete the MD-PhD section on the AMCAS and the Washington University School of Medicine secondary application. The MSTP requires letters of recommendation from the applicant's research mentor(s).

Individuals wishing additional information about the program may contact:

Medical Scientist Training Program
Washington University School of Medicine
Campus Box 8226
660 S. Euclid Ave.
St. Louis, MO 63110-1093
(800) 852-4625
www.mstp.wustl.edu

Learning Objectives

Washington University School of Medicine medical student competency-based learning objectives

Washington University School of Medicine provides students with a supportive, stimulating and challenging environment in which to acquire a thorough foundation in scientific medicine and develop skills and professional attitudes necessary for the practice of medicine at the highest possible level of excellence. In addition, the medical school fosters a commitment to collegiality, respect of individuality, community involvement and leadership through many extracurricular organizations and activities supported by the school. The educational program is designed to ensure that each student will demonstrate the following:
I. Medical knowledge

Medical students must demonstrate knowledge of core concepts and principles of human biology and genetics, the scientific foundations of medicine and the causations, epidemiology, diagnosis and treatment of diseases in individuals and diverse populations.

MK-1 Demonstrate knowledge of normal human structure and function at the molecular, genetic, cellular, tissue, organ-system and whole-body level in growth, development, and health maintenance.

MK-2 Describe the basic mechanisms involved in the causation and treatment of human disease and their influence on clinical presentation and therapy.

MK-3 Demonstrate knowledge of the epidemiology of common diseases.

MK-4 Demonstrate knowledge of the impact of ethnicity and culture, socioeconomic factors, and other social factors on health, disease, and individual patient approaches to health care.

MK-5 Describe the basic scientific and ethical principles of clinical and translational research.

II. Patient care

Medical students must demonstrate the ability to provide appropriate patient care in a multidisciplinary setting for the promotion of health and treatment of health problems across the human life span.

PC-1 Obtain appropriate medical histories that include psychosocial and behavioral factors that influence health.

PC-2 Perform accurate physical examinations.
PC-3 Perform basic procedures necessary for the practice of medicine.

PC-4 Apply the scientific method to the practice of medicine including the processes of problem identification, data collection, hypothesis formulation, and the application of deductive reasoning to problem solving, clinical reasoning, and decision-making.

PC-5 Integrate collected clinical information, including history, physical examination, and relevant laboratory, radiologic, and other studies, to develop and carry out with supervision, appropriate, individualized diagnostic and treatment plans for patients across the broad spectrum of acute and chronic conditions.

PC-6 Perform basic risk assessments and formulate plans to promote patient wellness across the human lifespan.

PC-7 Counsel and educate patients and their families based upon consideration of patient lifestyle, culture, concomitant medical conditions, psychosocial, and socioeconomic factors.

III. Interpersonal and communication skills

Medical students must demonstrate their ability to communicate effectively with members of the medical community and with patients and their families from all socioeconomic and cultural backgrounds. (ED-10)

ICS-1 Demonstrate respectful and effective verbal and non-verbal interpersonal communication skills with patients.

ICS-2 Discuss diagnostic and treatment options in a manner that will facilitate the participation of patients and their families in shared decision-making.

ICS-3 Communicate effectively with members, including both physician and non-physician professionals, of the health care team.

ICS-4 Maintain accurate and thorough medical records and written documents.
IV. Professionalism

Medical students must demonstrate a commitment to professional responsibilities, adherence to ethical behaviors, and sensitivity to patients of diverse backgrounds.

PROF-1  Maintain a professionally appropriate demeanor, exhibit high standards of professional integrity, and demonstrate an awareness of potential conflicts of interest.

PROF-2  Apply legal and ethical principles governing the physician-patient relationship to interactions with patients and their families.

PROF-3  Act in the patient’s best interest and serve as a patient advocate.

PROF-4  Work collaboratively and effectively in interprofessional teams.

PROF-5  Treat all patients and patients’ family members respectfully and compassionately with respect for privacy.

V. Systems-based practice

Medical students must demonstrate an awareness of the larger context and system of health care and its impact on patients and the practice of medicine.

SBP-1  Demonstrate a knowledge of the U.S. health care delivery system, including the impact of financing, health policy, and the regulatory structure on health care.

SBP-2  Describe how health care disparities impact access and delivery of medical care for individuals and describe strategies for addressing these disparities.

SBP-3  Recognize the need for cost awareness and the role of risk benefit analysis in patient and population-based care.

SBP-4  Define patient safety and quality improvement, and discuss strategies to maximize the safety and quality of patient care.
VI. Practice-based learning and improvement

Medical students must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve their patient care skills based on external feedback and self-evaluation.

PBLI-1 Demonstrate the skills needed for life-long learning including the ability to identify and address personal strengths and weaknesses to incorporate formative feedback, and to self-assess knowledge and performance to develop a self-improvement plan.

PBLI-2 Apply an evidence-based approach to medical practice through selecting, appraising, and utilizing evidence from scientific studies related to clinical questions and patients’ health problems.

PBLI-3 Participate in the education of peers and other members of the health care team.

PBLI-4 Identify and address biases (both personal and in others) that may impact health care delivery.

Curriculum

The curriculum is an evolving product of prolonged and continuing study, by both faculty and students, of the present and probable future course of medical science and medical practice, and of the ways in which medical education can be kept abreast of this course. Our students enter medical school with diverse backgrounds and interests and upon graduation undertake a wide variety of careers. The curriculum provides the basic knowledge and skills essential for their further professional
development. Modern medical education can no longer hope to be comprehensive; it must be selective. Yet students must develop facility in the understanding and use of several related technical languages: those of anatomy, chemistry, physiology and clinical medicine. They must share responsibility for the care of the patient. They also must learn how these areas of endeavor are interrelated, how the organization and needs of society influence the methods of providing medical care, and how new knowledge is acquired and old knowledge re-evaluated.

The curriculum includes a core experience based upon a sequence of courses that introduces students to the many domains and disciplines of medicine. The principles, methods of investigation, problems and opportunities in each of the major disciplines of medical science and medical practice are presented in such a way as to help students select the career best suited to their abilities and goals.

In the final year of the medical school curriculum, the required elective program helps students to decide where major interests lie. It also enables them to benefit from the wide range of specialized knowledge and skills found in the faculty and lays the foundation for lifelong learning and application of principles. The elective program permits students to select, according to their desires, the areas they wish to explore or to study in depth.

Visit Learning Objectives for information about the Competency-Based Learning Objectives of the medical degree program.

Description of undergraduate medical education program by year

First year
The first-year curriculum focuses on the acquisition of a core knowledge of human biology, as well as on an introduction to the essentials of good patient care. Diversity among matriculants in undergraduate background and in approaches to learning is recognized and fostered. The courses are graded Pass/Fail, and a variety of didactic
means are made available including lectures, small groups, extensive course syllabi, clinical correlations and an online learning management system. The Practice of Medicine I course uses regular patient interactions and integrative cases to teach students to skillfully interview and examine patients, as well as the fundamentals of bioethics, health promotion/disease prevention, biostatistics and epidemiology. An optional summer research program between the first and second year provides an opportunity for students to explore various areas of basic science or clinical research.

**Second year**

The second-year curriculum is focused on human pathophysiology and pathology. Through lectures, small group discussions, laboratory exercises and independent study, students acquire broad, detailed knowledge of mechanisms of disease pathogenesis, clinopathological relationships and fundamental principles of therapy. The Practice of Medicine II course continues students’ introduction to the fundamentals of patient care and emphasizes organizing and interpreting clinical information to form a problem list, differential diagnosis and treatment plan. Students also learn how to accurately document and concisely present clinical information. Supervised clinical experiences and small group discussions further engender development of the professional attitudes and high ethical standards required for the third-year clinical clerkships.

**Third year**

The overall goal of the third year is implementation of fundamental interactive clinical skills necessary for the practice of medicine at the highest possible level of excellence. Students achieve this goal by participating in intensive, closely supervised training experiences in the core clinical clerkships involving inpatient and ambulatory settings and interactions with patients who present a spectrum of emergent, urgent, routine and chronic clinical problems. Through these experiences, students exhibit growth and maturation in their abilities to take medical histories, perform complete physical examinations, synthesize findings into a diagnosis, formulate treatment plans and document and present information in a concise, logical and organized fashion. During
the clinical clerkships, students learn to use the biomedical literature and other educational resources in the service of their patients and in self-directed learning. Students also use their personal experiences and rapidly expanding knowledge of human behavior and ethnic, cultural, socioeconomic and other social factors to develop their own personal standards of compassionate, respectful and ethical behavior in the practice of medicine.

Fourth year

The overall goals of the fourth year are to consolidate, enhance and refine the basic clinical skills developed during the clinical clerkships and to explore specialty areas within the field of medicine. This is accomplished by providing each student with optimal preparation for selecting and pursuing graduate medical education opportunities in his/her chosen field of medical practice and/or research. Students may select from a broad array of clinical rotations and research experiences and may arrange extramural experiences. Fourth year is also an opportunity to synthesize the learning from third year in preparation for clinical residency. Towards this end, students are required to complete a Capstone course prior to graduation.

Courses and Course Directors

2016-17

First year

First-year courses are taught during the 39-week academic year.

M80 502 WU Medical Plunge
Will Ross, MD, MPH
M75 501 Physiology
Robert Mercer, PhD

M05 502A Histology and Cell Biology
Paul C. Bridgman, PhD

M05 501B The Human Body: Anatomy, Embryology, Imaging
Glenn C. Conroy, PhD

M30 523 Immunology
Andrey S. Shaw, MD

M30 511 Medical Genetics
Sabrina Nunez, PhD

M30 526 Microbes and Pathogenesis
Henry V. Huang, PhD
Scott J. Hultgren, PhD

M15 502 Molecular Foundations of Medicine
Linda J. Pike, PhD

M35 554 Neural Sciences
David C. Van Essen, PhD
Timothy E. Holy, PhD

M25 507 The Practice of Medicine I
Timothy Yau, MD
• Clinical Skills
Alan Glass, MD
• Ethics and Health Policy
First-year selectives

The Selective Program provides first-year medical students with opportunities for enrichment and in-depth focus on areas beyond the core curriculum. All first-year medical students are required to take and successfully complete at least four 10-hour Selective courses with a maximum number of six. Students must enroll in a minimum of one selective in humanities, one in the basic sciences, and one in a clinical area. They must also choose one additional selective from the clinical or basic science category.

Selective category descriptions:

**Basic:** Content or experience primarily deals with issues of cell biology, physiology, pathophysiology of diseases, and scientific and statistical methods.

**Clinical:** Content or experience primarily related to patient care in the inpatient or outpatient setting, communications, public or global health, palliative care or health care policy.

**Humanities:** Content or experience primarily deals with ethics, medicine as the subject of literature or the arts, or the history of medicine.
Examples of selective offerings from last year include:

- 598H Advanced Interdisciplinary Bioethics Seminar - Ethical Issues in Human Reproduction
- 582 Alzheimer’s Disease in the Clinic and the Lab
- 5881 Analysis of Clinical Data
- 520H Art and Medicine
- 587Z Beyond the Diagnosis: Social Perspectives on Mental Health
- 537 Cardiovascular Control Mechanisms
- 587V Clin Anat & Physio Sherlock Holmes’ Way
- 587X Clinical Challenges in Health Literacy & Health Communication
- 5017 Clinical Correlations in Neurosciences
- 5351 Complementary and Alternative Medicine
- 530 Contemporary Molecular Immunology
- 500C Developmental Biology and Disease
- 538H Doctors on Film
- 5302 Frontiers in Leukemia
- 586H Health and Human Rights
- 5885 Health Street: Hands-On Comm Based Res-I
- 587L International Health
- 5878 Introduction to Clinical Neurosurgery
- 587W Introduction to Dentistry and Oral Medicine
- 5013 Introduction to Emergency Medicine-I
- 5016 Introduction to Emergency Medicine-II
- 581H Introduction to Medical Anthropology
- 587S Introduction to Newborn Medicine
524H Major Religious Traditions
5009 Medical Spanish
5061 Medicine of Laughter
5667 Microcirculation
588H Music and Medicine
5875 Olin Grand Rounds
516H Patient, Physician and Drama
582H Philosophy of Medicine
587A Physician as Health Protector and Patient Advocate
587N Public Health
587U Saturday Neighborhood Clinic
587T SPOTS (Sun Protection Outreach Teaching by Medical Students)
587D Students Teaching AIDS to Students (STATS)
528H Terminal Illness and Death
580H The Healer’s Art
5876 Topics in Orthopaedic Surgery
533 Tropical Medicine
5863 Underserved Areas: Urban, Rural, Abroad

**Second year**

Second-year courses are taught during the 36-week academic year.

**Course no./course title**

M25 611B Cardiovascular Disease
Dana R. Abendschein, PhD
Justin Sadhu, MD

M25 614 Dermatology
David Sheinbein, MD

M35 632 Diseases of the Nervous System
Allyson Zazulia, MD

M55 660B Clinical Topics in Otolaryngology
Joseph Bradley, MD

M25 615A Endocrinology and Metabolism
William E. Clutter, MD

M25 620A Gastrointestinal and Liver Diseases/Nutrition
Deborah C. Rubin, MD

M25 625A Hematology and Oncology
Meagan Jacoby, MD, PhD
Eric Knoche, MD

M25 605A Infectious Diseases
Nigar Kirmani, MD
Steven Lawrence, MD

M45 635B Obstetrics/Gynecology
Kenan Omurtag, MD

M60 665 Pathology
Erika C. Crouch, PhD, MD

M65 640A Physicians, Patients & Society: Pediatrics
Amanda Emke, MD
Erika Hayes, MD

M25 607 The Practice of Medicine II
Megan Wren, MD

• Clinical Skills
Alan Glass, MD
• Ethics and Health Policy
Richard Brasington, MD
• Community and Public Health
Aimee S. James, PhD, MPH
• Interpreting Illness
Colleen Wallace, MD
• Medicine Patient Sessions
Alan Glass, MD
• Neurology Patient Sessions
Allyson Zazulia, MD
• Ophthalmology
Colin McClelland, MD
• Communication Skills
Dehra Glueck, MD
• Radiology
Catherine Appleton, MD
• Clinical Epidemiology & Evidence Based Medicine
Jay Piccirillo, MD

M85 676A Diseases of the Nervous System: Psychiatry
Marcie Garland, MD

M25 612B Pulmonary Diseases
Adrian Shifren, MD

M25 613B Renal and Genitourinary Diseases
Steven Cheng, MD

M25 606A Rheumatology
Richard D. Brasington, Jr., MD

Third year
Clinical clerkship (third) year is a 48-week academic year.

Course no./course title

Required Clerkships:

M95 790 Integrated Surgical Disciplines Clerkship (12 weeks)
John Kirby, MD
Eleanor Drew, MD

M25 710 Medicine Clerkship (12 weeks)
Thomas M. De Fer, MD

M35 720 Neurology Clerkship (4 weeks)
Robert Naismith, MD

M45 730 Obstetrics/Gynecology Clerkship (6 weeks)
Tammy Sonn, MD

M65 760 Pediatrics Clerkship (6 weeks)
Michele Marie Estabrook, MD
Colleen Wallace, MD

M25 707 The Practice of Medicine III
Timothy Yau, MD

M85 770 Psychiatry Clerkship (4 weeks)
Brendan O'Connor, MD

Selective clerkships: (choice of one block)

M25 714 Ambulatory: Emergency Medicine Clerkship (4 weeks)
Mark Levine, MD
M26 712 Ambulatory: Family Medicine Clerkship (4 weeks)
Kirsten Brandt, MD

M85 771 Ambulatory: Psychiatry for Generalists Clerkship (4 weeks)
Fay Y. Womer, MD

M90 701 General Radiology Clerkship (4 weeks)
Matthew Parsons, MD
Michael Friedman, MD

M25 740 Dermatology Clerkship (4 weeks)
Lynn Cornelius, MD

M25 750 Geriatrics Clerkship (4 weeks)
Ellen Binder, MD

M60 702 Laboratory Medicine Clerkship (4 weeks)
Mitchell Scott, MD

M25 730 Physical Medicine and Rehabilitation Clerkship (4 weeks)
Neringa Juknis, MD

M90 740 Radiation Oncology Clerkship (4 weeks)
Jeffrey Olson, MD, PhD

M60 750 Surgical Pathology Clerkship (4 weeks)
Samir El-Mofty, DMD, MS, PhD

Fourth year

Fourth year is a 44-week academic year.

M80 849 01 Capstone Course
Gina LaRossa, MD
To qualify for the Doctor of Medicine degree at Washington University School of Medicine, fourth-year students are required to participate in a minimum of 32 weeks of electives (full-time clinical or research courses) and a required four-week Capstone course. Twenty weeks of the minimum required time for the elective year must be taken exclusively in residence in the Washington University School of Medicine elective course program. A complete listing of fourth-year elective offerings at Washington University School of Medicine is available through the Office of the Associate Dean for Medical Student Education. Students may participate in clinical electives of four weeks duration. If a student takes a research elective, that elective must be of at least six weeks duration.

A maximum of 12 weeks of credit is allowed for full-time elective coursework taken at other academic institutions. These may be clinical or research electives. Students desiring credit for work to be done at other institutions must petition the Associate Dean for Medical Student Education. Absolutely no credit will be granted for electives undertaken prior to approval from the appropriate administrative committees.

Credit may be given for elective work done at any point in the standard four-year Doctor of Medicine degree program as long as participation conforms to current elective guidelines, and a) the student is a duly registered, full-time student for a minimum of three years and nine months, including scheduled vacation time, and tuition is paid for four complete academic years; or b) if transferring into the third-year class, the student is a duly registered, full-time student for a minimum of 22 months and tuition is paid for two complete academic years.

Students are encouraged to take lecture-seminar elective courses, but such offerings are optional. Clock hours for the year total 1,386 (36 weeks). Remuneration for work done while participating in electives for credit is prohibited.

**Course Descriptions by Department**

**Anesthesiology**
Biochemistry and Molecular Biophysics

Cell Biology and Physiology

Developmental Biology

Genetics

Medicine

Molecular Microbiology

Neurology

Neuroscience

Neurosurgery

Obstetrics and Gynecology

Ophthalmology and Visual Sciences

Orthopaedic Surgery

Otolaryngology

Pathology and Immunology

Pediatrics

Psychiatry

Radiation Oncology
Interdisciplinary and Capstone Courses

M80 899 Medical Student Education Special Study

Instructor(s): Michael Awad, MD, PhD, FACS  
Location: Office of Medical Student Education, Becker Medical Library  
Elective Contact: Melanie Smigielski, 314-747-3854, smigielskim@wusm.wustl.edu  
Other Information: Students should contact Melanie Smigielski to schedule this four-week Special Study Elective.

Enrollment limit per period: 1

This course is a student-designed project under the direction of the Associate Dean for Medical Student Education, Michael Awad, MD, PhD, FACS. It is intended for students who are interested in medical education as an aspect of their future career. The overarching goals are to introduce students to the principles of curriculum development. These principles will then be applied to the review and improvement of the current WUSM medical student curriculum.

Potential topics include: how students learn at WUSM, literature review of emerging technologies, collaborating with a course master for curriculum development and/or
syllabus review. The end product will depend on the nature of the project but potentially the development of a white paper or revised curriculum/course materials. All students will present their work in poster format during the annual spring Office of Medical Student Education’s Med Ed Day.

Student time distribution:
Major teaching responsibility: Michael Awad, MD, PhD, FACS
Patients seen/weekly: N/A
On call/weekend responsibility: N/A

M80 849 Fourth Year Capstone

Instructor(s): Gina LaRossa, MD.
Elective Contact: Gina LaRossa, MD.
Other Information: Additional details will be provided at a later date.
Enrollment limit per period: 65

Valid start weeks for this 4-week course are Weeks 33 and 37

The Fourth Year Capstone Course is highly structured and is schedule sensitive. In order to provide students with the absolute best experience possible, students are REQUIRED to attend ALL sessions. In general the morning sessions will start at 8:00 a.m. and run until approximately 12 noon. Afternoon sessions will generally run from 1:00 p.m. until about 5:00 p.m. The afternoons are hands-on activities which are faculty/staff intensive.

By the end of this four-week course, students should be able to demonstrate improved cognitive and clinical skills needed to enter the internship year of graduate medical training. The target group for this course is primarily students entering clinical residency training positions. As outlined in the course objectives, topics to be covered include acute clinical problems commonly faced on the inpatient service or emergency room, review of key diagnostic testing, basic procedural skills and patient and family communications regarding informed consent and end-of-life issues. Coursework will
be divided between self-study, didactic and small group discussions and “hands-on”
skills practice and simulation. Parts of the course will be tailored to individuals
entering internal medicine, pediatrics and surgical disciplines. Students will be
assessed by performance on simulation exercises and a written exam.

Learning Objectives:

By the end of this course:

1. The student will be able to respond to common acute patient problems as tested
   with simulation by rapidly assessing the patient, requesting relevant information
   from the patient, medical record, and nursing staff, generate a differential
   diagnosis and order appropriate diagnostic testing and initial treatment for the
   problem.

2. Demonstrate competence in a set of designated technical skills commonly
   needed in residency including basic suturing, chest tubes, central line,
   thoracentesis, and IV placement.

3. Demonstrate the ability to interpret diagnostic tests, such as chest- x-ray and
   EKG, commonly used for initial evaluation of acute medical problems.

4. Demonstrate and discuss the key elements of obtaining informed consent,
   dealing with difficult patient and family situations, end-of-life issues, and pain
   management.

Alternative clinical skills sessions will be offered on an ad hoc basis for students. These
will be available in March and April depending on demand and faculty availability.
These will not be “for credit”.

Student time distribution: N/A
Major teaching responsibility: N/A
Patients seen/weekly: N/A
On call/weekend responsibility: None.
M80 851 The Business of Medicine

Instructor(s): William A. Peck, MD, 314-935-9108; Daniel Moon, MD, MS, MBA; Joshua Saef, MD

Location: Washington University Center for Health Policy
Elective Contact: Connie Mushill, 314-935-9108, and Daniel Moon, MD, MS, MBA, moond@wudosis.wustl.edu
Other Information: Farrell Learning and Teaching Center, Room TBD
Enrollment limit per period: 60

This course will be offered in Weeks 41-42 only.

This two-week, interactive course enhances medical students’ “Healthcare System Literacy”, i.e. their understanding of how the healthcare system is structured, financed, operated, and regulated. They will learn how clinical decisions and options are tied to market forces, business structures, and health policy. From clinical practice management issues up to ‘big picture’ views of healthcare, the course modules help prepare students for the challenges they will face in their own practices as well as for leadership roles in improving patient care on a large scale. The course will be a blend of case-method sessions, targeted mini-lectures, expert panels, and field trips; all designed to invite student participation and engagement with representatives from a broad spectrum of the healthcare industry.

Course Objectives
The primary purpose of this course is to equip future physicians with a functional awareness of the market forces influencing patient care and to prepare them for an active role in healthcare delivery improvement.

By the end of the course, students should be able to:

- Understand the Healthcare System, outlining key institutions, corporations, and individual players.
- Analyze the basic ‘nuts & bolts’ of operating a medical practice across the most
prevalent models of practice organization, e.g., how physicians get paid, key cost drivers, and pros/cons of different models.

- Connect physicians’ clinical decisions to a hospital's financial bottom line.
- See healthcare insurance issues and reform from the patient perspective.
- Follow how emerging science and technology innovations progress from the bench to the bedside.
- Recognize how a medical degree can be utilized across a variety of career paths.
- Prepare for common personal finance challenges and milestones facing young physicians.

Grading & Evaluation

The course will be graded on a Pass/Fail basis. There is no final exam. The following criteria will be applied to the final grade:

- Participation during class discussion.
- Students are expected to have read cases and/or pre-reading in order to take advantage of the expert speakers and case protagonists in attendance.
- Assigned question formation and ‘warm calls’. Students will be assigned specific modules for which they are expected to prepare questions for the speaker and other modules where they will have a greater likelihood on being called upon to participate in the discussion.
- Self-assessment – At the end of the course, students will submit a piece describing personal takeaways and key learnings.
- Course evaluation – Student must complete a final survey on the course, rating specific modules and speakers.
- Attendance – Given the importance of class interaction, absences are excused only at the organizers’ discretion.

Student time distribution: Conferences/Lectures/Field Trips/Reading 100%
Major teaching responsibility: Coursemaster, course organizers and case protagonists
Patients seen/weekly: 0
On call/weekend responsibility: None

M04 582 01 Alzheimer’s Disease in the Clinic and in the Lab

Instructors: John C. Morris, MD, and other faculty affiliated with the Knight Alzheimer’s Disease Research Center, Department of Neurology. For information, contact Jennifer Phillips at 286-2882 or phillipsj@abraxas.wustl.edu.

Alzheimer’s disease (AD) affects more than 5 million Americans, and will increase substantially as our population ages. Of the top 10 causes of death in the United States, AD is the only disease without any way to prevent, cure or slow the progression. The cost of caring for AD patients has been estimated at over $172 billion annually, and the human toll on patients and family members can be devastating. Patients and families turn to primary care and specialist physicians (e.g., neurologists, psychiatrists, geriatricians) for answers to their plight. The good news for physicians is that research on AD is moving at a rapid pace. Exciting advances in our understanding of AD etiology, early diagnosis and treatment are changing the landscape of dementia care.

Students in this course are offered a dynamic and interactive overview of the most exciting areas of AD clinical and science research from one of the top Alzheimer’s disease research centers in the world. Find out how amyloid plaques and other AD-related abnormalities form in the brain and new discoveries about their possible reversal! The course includes lecture and student presentation components, plus opportunities to observe patients and families in an active neurology memory disorder clinic, participate in neuropathology evaluations of demented individuals, experience and administer psychometric evaluation tools and interact with investigators from the fields of molecular genetics, cell biology and neuropathology.

M35 851 Clinical Aspects of Aging and Dementia
Instructor(s): Joy Snider, MD, PhD, and John C. Morris, MD

Location: Knight Alzheimer’s Disease Research Center (ADRC), 4488 Forest Park Ave. (two-story brick building at intersection with Taylor)
Elective Contact: Jennifer Phillips, MPA (coordinator), 314-286-2882, phillipsj@wustl.edu.

Other Information: Please contact Jennifer Phillips to discuss what type of elective experience you would like to have.

Enrollment limit per period: 1

Valid start weeks for 4-week blocks are: Weeks 9, 13, 17, 21, 33, 37 and 41.

This elective provides the opportunity to learn about clinical research and clinical care in health brain aging and dementia. Students should contact Dr. Morris or Dr. Snider to discuss this, as this elective is customized based on student interests. This can be a two-week or four-week elective. Students can gain proficiency in interviewing techniques and in the neurologic examination of the geriatric patient, and be introduced to neuropsychology, neuropathology, biomarkers, neuroimaging, genetics, and other biomedical procedures important in the diagnostic evaluation of older adults. The Knight ADRC is an interdisciplinary group, so students have the opportunity to interact with physicians, nurse clinicians, psychologists, and social workers, and to explore the neuropsychology, neuropathology, biomarkers, neuroimaging, genetics, and other biomedical procedures used in the diagnosis of dementing disorders such as Alzheimer’s disease, dementia with Lewy bodies, frontotemporal dementias, cerebrovascular disorders, and affective disorders.

Student time distribution: Varies based on student interest: a typical distribution would be Research and Clinical Patient Evaluation 80%, Conferences/Lectures 20%, Subspecialty Care 100%

Major teaching responsibility: Attending neurologists, psychiatrists, and geriatricians involved in the evaluation of memory and aging

Patients seen/weekly: 6-12

On call/weekend responsibility: None
Course Evaluations

Systematic course evaluation is performed for each year of the curriculum by faculty peers, teaching faculty and students. This system permits problem identification, ensures timeliness of feedback, promotes discussion of new teaching methodologies, allows curriculum inventory, recommends changes in course offerings and provides better integration of the curriculum. These reviews are guided through the Preclinical Curriculum Committee and the Clinical Curriculum Committee.

The Office of Medical Student Education (OMSE) oversees the course evaluation system. The collected data are forwarded to the respective course masters, the Committee on Medical Education and the Academic Affairs Committee.

Program for Humanities in Medicine

The Program for Humanities in Medicine is a University-wide program directed by Dr. Colleen Wallace and dedicated to providing students with a broadened exposure to areas other than the biological sciences during their medical education. The mission of the program is to generate an appreciation of the relationship of human experience, culture, institutions and values to medicine and thereby help to educate professionals who will apply that understanding to their activities as practicing physicians, researchers, educators, and medical administrators. This program is an enhancement of an already strong curriculum to prepare medical students to pursue their
professional careers more effectively. It takes a major role in the Practice of Medicine course integrated over the first three years of medical school. In addition, all students take one to two Humanities Selectives during their first year, and several electives are offered during the fourth year for interested students as well.

**Courses**

M80 541 TOPICS IN MEDICINE/MEDICAL HUMANITIES  
Instructor: Colleen Wallace, MD, 454-6299

This is a required course for the first year of medical school. Students select topics of interest for in-depth study initiated by discussions in a small-group seminar format. Development of topics includes input from a broad range of disciplines, including sociology, philosophy, music, literature, ethics, history, and communications. Selectives are offered as a menu of mini-courses, each consisting of five 2-hour or six 1.5-hour sessions with a faculty member devoted to an individual subject. Each student must select one course from the menu, and may choose a second course if desired.

**MD Academic Calendar**

**2016**

**June**

17 Friday: Clinic orientation for new third-year students.

20 Monday: Academic year begins for third- and fourth-year classes.

24 Friday: Deadline for registration and initial payment of tuition for the third- and...
fourth-year classes.

**July**

3 Sunday: Independence Day holiday begins at 5 p.m.

4 Monday: Independence Day observance.

**August**

1 Monday: Orientation, registration, matriculation and initial fee payment for the first-year class.

2 Tuesday: Academic year begins for the first-year class.

15 Monday: Academic year begins for the second-year class.

19 Friday: Deadline for registration and initial payment of tuition for the second-year class.

**September**

4 Sunday: Labor Day holiday begins at 5 p.m.

5 Monday: Labor Day observance.

**November**

23 Wednesday: Thanksgiving Day holiday begins at 5 p.m.

24 Thursday: Thanksgiving Day observance.

25 Friday: Holiday for all classes.
December

16 Friday: Winter recess begins at 5 p.m. for all classes.

2017

January

3 Tuesday: Classes resume for all students.

6 Friday: Deadline for payment of the balance of tuition for all classes.

15 Sunday: Martin Luther King Jr. Day holiday begins at 5 p.m.

16 Monday: Martin Luther King Jr. Day observance.

March

24 Friday: Spring break begins at 5 p.m. for first- and second-year classes.

30 Thursday: Spring break begins at 5 p.m. for third- and fourth-year classes.

April

3 Monday: Classes resume for all students.

May

7 Sunday: Academic year ends at 5 p.m. for graduating students.

12 Friday: Academic year ends at 5 p.m. for the second-year class.

19 Friday: Commencement
Friday: Academic year ends at 5 p.m. for the first-year class.

Sunday: Memorial Day holiday begins at 5 p.m.

Monday: Memorial Day observance.

June

Friday: Academic year and clinical clerkships end at 5 p.m. for students in clinical clerkships.

Please note: Beginning and ending dates of each academic term will be published with individual class schedules.

Schedule of Clerkship and Elective Intervals 2016-2017

Final examinations for clinical clerkships are administered at the end of each clerkship. Exact date, time and location are announced by the course master.

Weeks/Dates

1-4: June 20, 2016 – July 17, 2016
5-8: July 18, 2016 – Aug. 14, 2016
(Winter recess 5 p.m. December 16, 2016 – January 2, 2017)


37-40: March 13, 2017 – April 9, 2017

41-44: April 10, 2017 – May 7, 2017

45-48: May 8, 2017 – June 2, 2017*

*Clinical clerkships end June 2, 2017.

Lectureships and Visiting Professorships

Several established lectureships enable the School to bring to the Medical Center each year distinguished guests who contribute significantly to the richness of student life.

**Ben T. Abelson Memorial Lectureship in Pediatrics.** Established by Mrs. Ben T. (Ann) Abelson, the first lecture was held on January 8, 1988.

**Dr. Adolfo & Fanny Rizzo Endowed Lectureship.** Established in 2015 by Dr. Adolfo and Fanny Rizzo to support child psychiatry.
Harry Alexander Visiting Professorship Endowment Fund. Established in 1964 by former house staff and friends of Dr. Harry Alexander to provide an annual visiting professor in the Department of Medicine.

Michael Beardslee Memorial Lectureship. Established in 2015 by friends and colleagues to honor Dr. Michael Beardslee and recognize his extraordinary impact on cardiology.

Dr. David C. Beebe Lectureship Endowment Fund. Established in 2015 by colleagues, students, and friends in memory of Dr. David Beebe, who held the Janet and Bernard Becker Professorship in Ophthalmology and Visual Sciences.

Daniel R. Biello Memorial Lectureship. Established in 1986 by friends, students and colleagues of Dr. Daniel R. Biello to provide an annual lectureship devoted to advances in radiology and nuclear medicine.

George H. and Ethel Ronzoni Bishop Fund and Lectureship. Supported by funds made available by friends interested in the advancement of neurology.

Bohigian Lectureship in Ophthalmic History and Visual Sciences. Established in 2010 by Dr. and Mrs. George Bohigian to focus on the history of ophthalmology and visual science.

Dr. John P. Boineau Memorial Lectureship. Established to honor one of the giants in the field of cardiac electrophysiology, Dr. John P. Boineau, who died in 2011. The lectureship was created to bring to Washington University internationally recognized speakers whose careers have been focused on either surgical or medical therapies related to the treatment of cardiac arrhythmias.

Dr. William “Grif” Bowen Endowed Lectureship. Established in 2014 through gifts from colleagues and friends to honor Dr. Bowen, a distinguished primary care physician and a faculty member in the Department of Internal Medicine.
Estelle Brodman Lectureship Fund. Established in 1981 by friends and colleagues of Dr. Brodman in honor of her distinguished contributions to the School of Medicine.

The James Barrett Brown Visiting Professorship. Created in 1969 by patients, friends, colleagues and former students to honor Dr. Brown.

Thomas Burford Lectureship. Founded in 1971 by friends of Dr. Burford.

H. Marvin Camel Annual Lecture in Gynecologic Oncology. Established in 1999 by family, friends and colleagues to honor Dr. H. Marvin Camel's retirement.

Glover H. Copher Research Fund. Founded in 1971 with endowment provided by Dr. Copher and friends.

Carl and Gerty Cori Visiting Professorship. Established in 1985 in honor of Nobel Laureates Carl and Gerty Cori by the Edward Mallinckrodt, Jr. Foundation, colleagues, faculty and former students.

Dr. William S. Coxe Memorial Lectureship Fund. Established by colleagues and friends in memory of Dr. William S. Coxe, a highly-esteemed Washington University neurosurgeon who died in 2012. The lectureship was created to bring to the School of Medicine internationally recognized speakers whose careers have been focused on neurological surgery.

Philip E. Cryer, MD Lectureship. Established in 2015 by colleagues, students, and friends to honor the career of Dr. Philip Cryer, Professor Emeritus and former Director of the Division of Endocrinology, Diabetes and Metabolism and the second Irene E. and Michael M. Karl Professor of Endocrinology and Metabolism in Medicine.

Philip R. Dodge, MD Visiting Lectureship. Established in 1987 by friends and colleagues to provide an annual lectureship in the Department of Pediatrics.

The Professor and Dean Jay M. Enoch and Rebekah Enoch Endowed Lecture on

Joseph Erlanger Lectureship. Established in 1989 by the Department of Cell Biology and Physiology to honor Dr. Erlanger.

I. Jerome Flance Endowed Visiting Professorship. Established in 1977 by former students and friends of Dr. Flance to provide annually a visiting professor in the Division of Pulmonary Diseases.

Julia Hudson Freund Oncology Lecture. Established in 1982 by S.E. Freund in memory of his wife to provide a visiting lectureship in clinical oncology in the Division of Oncology. This was endowed in 2002 by the Harry and Flora D. Freund Memorial Foundation.

Harvey A. and Dorismae Hacker Friedman Lecture on Aging. Established in 2001 to honor the Friedmans for their instrumental role in helping to create the Center for Aging and for their ongoing leadership and support.

Edwin F. Gildea, Jr. Endowed Lectureship Fund. Established in 1978 by friends, colleagues and former students of Dr. Gildea.

Joseph J. Gitt Visiting Professorship. Established in 1971 by his family and friends to honor Dr. Gitt.

Sidney Goldring Lectures. Established in 1992 upon the death of Dr. Sidney Goldring, who was the founder of the Division of Pediatric Cardiology.

Graham Colloquium. A gift from Mr. and Mrs. Evarts Graham, Jr., in 1963 to encourage opportunities for students to expand their views on social, philosophical, artistic and political topics.
Evarts A. Graham Lectureship. Established in 1985 by the Washington University Alumni of the Phi Beta Pi medical fraternity to honor the memory of Dr. Evarts A. Graham.

Samuel B. Guze Lectureship. Established in 1990 by friends and colleagues to honor Dr. Guze.

Carl Gayler Harford Lectureship. Established in 1977 by the family of one of Dr. Harford's patients in gratitude for his contributions to teaching clinical medicine and virology.

Alexis F. Hartmann, Sr. Lectureship Fund. Established in 1960 by friends interested in pediatrics to provide an annual lecture in Dr. Hartmann's honor.

Alex H. Kaplan Visiting Professorship/Lectureship. Established in 1986 by Dr. and Mrs. Alex H. Kaplan to support a visiting psychoanalyst.

Michael M. and Irene E. Karl Lectureship in General Internal Medicine. Created in 1983 by Mr. and Mrs. Meyer Kopolow to provide an annual lectureship in honor of Drs. Michael and Irene Karl.


The Charles Kilo, MD Lectureship. Established in 1998 by Mrs. Ola H. Blodgett to pay tribute to the expert and compassionate care provided by Dr. Charles Kilo.

David M. Kipnis Lectureship. Established in 1998 to provide an annual lecture in
honor of Dr. Kipnis.

**Rosalind Kornfeld Endowed Memorial Lectureship.** Established in memory of Dr. Rosalind Kornfeld, a faculty member for 35 years, who died in 2007. She was very involved in promoting the careers of women faculty and was a founding member and first president of the Women’s Academic Network. The fund was features lectures by outstanding women scientists.

**Korsmeyer, Stanley Memorial Lectureship.** Established by colleagues, family and friends in 2005 in memory of Dr. Stanley J. Korsmeyer, a renowned cancer cell researcher and former Washington University School of Medicine faculty member.


**Paul E. Lacy Lecture and Kilo Foundation Award.** Established in 1987 by The Kilo Diabetes and Vascular Research Foundation in honor of Dr. Lacy's many contributions to pathology and diabetes research, and to recognize his collaboration over the years with the co-founders of The Kilo Foundation.

**Landau Lectureship Fund.** This lectureship was established in 1995 by friends, family and colleagues of Dr. Landau.

**Irwin Levy Memorial Fund.** Supports the Dr. Irwin Levy Visiting Lectureship in Neurology, which was established in 1978 by Mr. and Mrs. Meyer Kopelow.

**Oliver H. Lowry Lectureship Fund.** Established in 1978 by friends, colleagues and former students of Dr. Lowry.

**H. Relton McCarroll Visiting Professorship in Orthopaedic Surgery Fund.** Created in 1972 by patients, friends, colleagues and former students in honor of Dr. McCarroll.

**Edward Massie Lectureship Fund.** Established in 1981 by Edward J. Simon, MD,
Bernard Shanker and other grateful colleagues and patients.

**G. Leland Melson II Lectureship Fund.** Established in 1993 in memory of Dr. Melson by his friends and colleagues.

**J. Neal and Lois Middelkamp Lectureship Fund.** Established in 2001 by Dr. J. Neal and Lois Middelkamp to support a pediatric lectureship in infectious diseases and advances in pediatric education for medical students, residents and pediatricians, all life-long interests of Dr. Middelkamp.

**Dr. and Mrs. William B. Mill, Jr. Lectureship.** Established in 2001 in the Department of Radiation Oncology by Dr. and Mrs. William B. Mill, Jr. This was given in recognition of the career accomplishments of Carlos A. Perez, MD, and the impact he had on the professional development of Dr. Mill.

**Carl V. Moore Lectureship in Medicine.** Established in 1973 by friends and patients of Dr. Carl V. Moore.

**Carl A. Moyer Visiting Professorship of Surgery.** Established in 1978 by The Harry Freund Memorial Foundation to support an annual lecture in honor of Dr. Moyer's contribution to surgery.

**National Kidney Foundation — Saulo Klahr, MD Lectureship.** Established in 1991 by the Kidney Foundation to honor Dr. Klahr, past president of the National Kidney Foundation and the John E. and Adaline Simon Professor and Vice Chair of the Department of Medicine at Washington University.

**Joseph H. Ogura Endowed Lectureship Fund.** Established in 1977 by friends and colleagues of Dr. Ogura as a tribute to his numerous scientific accomplishments and contributions to the School of Medicine and graduate medical education, and his commitment to patient care.

**Charles W. Parker Lecture in Allergy & Immunology.** Established in 2014 by friends
and colleagues of Dr. Parker to honor his legacy as a pioneer in the field of allergy and immunology and as a dedicated educator.

**Carlos A. Perez Endowed Lectureship in Oncology.** Established in 2002 in the Department of Radiation Oncology by Dr. Perez’s friends, colleagues and current and former trainees in grateful recognition for his inspiration, guidance and leadership.

**Petrie, Dr. Roy H. Lectureship.** Established in 2000 with gifts from various donors in memory of Roy H. Petrie, MD.

**Rose and Samuel Pollock Surgical Lectureship.** Established in 1976 by Dr. Joseph H. Pollock in memory of his parents.

**Probstein Oncology Visiting Lectureship.** Established in 1985 by Mr. and Mrs. Norman K. Probstein in appreciation of professional services provided by William Fair, MD, former head of the urology division of the Department of Surgery, and Carlos Perez, MD, professor emeritus of radiology and head of radiation oncology at the medical center’s Mallinckrodt Institute of Radiology.

**James A. Purdy Endowed Lectureship.** Established by Elekta Oncology Systems, Ltd. in 2002 to honor Dr. James Purdy for his contributions to the field of Radiation Oncology.

**Eli Robins Lectureship in Psychiatry.** Established in 1977 by friends, colleagues and former students of Dr. Robins.

**The Peggy Sansone Memorial Lectureship.** Created in 2002 by Anthony F. Sansone, Jr. and the Peggy Sansone Special Angel Foundation to promote the exchange of ideas and scientific information on the topic of depression and the role of spirituality in personality development, happiness and mental health. The lecture is a memorial to Mr. Sansone’s wife, Peggy Sansone.

**Julio V. Santiago Fund, Department of Pediatrics.** Established in 1999 by the Department of Pediatrics as a lasting tribute to Julio V. Santiago, MD, for his long-
standing contributions to the areas of diabetes, endocrinology and metabolism.

**Rena Schechter Memorial Lectureship in Cancer Research in the Department of Medicine.**Established in 1996 by Dr. Samuel E. Schechter to create a lectureship in cancer research in memory of his wife, Rena Schechter.

**Dr. Alexander & Helena Schonfeld Lectureship in Medicine Fund.** This lectureship was established in 1994 by Mrs. Helena Schonfeld, in honor of her son, Gustav Schonfeld, Professor of Medicine at Washington University School of Medicine.

**Henry G. Schwartz Lectureship Fund.** Created in 1983 by former residents and colleagues from the neurosurgery department to honor Dr. Schwartz.

**Wendell G. Scott Lectureship Fund.** Established in 1972 by friends and colleagues of Dr. Wendell G. Scott.

**Major G. Seelig Lectureship.** Established in 1948 in the field of surgery by friends of Dr. and Mrs. Seelig.

**Philip A. Shaffer Lecture Fund.** Founded in 1957 by friends of Dr. Shaffer in recognition of his accomplishments in biochemistry.

**Earl E. & Wilma Shepard Orthopedics/Otolaryngology Memorial Lecture Series.** Established in 1994 through a bequest by Dr. and Mrs. Shephard.

**Frank O. Shobe Lectureship.** Established in 1986 by friends of Dr. Shobe to honor him as a physician and teacher.

**Donald C. Shreffler Memorial Lectureship.** Established in 1995 by Mrs. Donald C. Shreffler as a memorial to her husband.

**Eduardo Slatopolsky Lectureship Fund.** Established in 1988 by Mr. and Mrs. William Wolff in honor of Dr. Slatopolsky's 25-year association with the School.
The Karl and Sue Smith Lecture in Pediatrics. Established in 2007 by Dr. Carl Smith, School of Medicine Professor of Pediatrics, with a focus on pediatric lab medicine.

Dr. Burton P. Sobel Memorial Lectureship. Established in 2013 through gifts from faculty and alumni of the Cardiovascular Division in memory of Dr. Sobel, past director of the division whose revolutionary work in the care of acute coronary syndromes laid the groundwork for ongoing discoveries and outstanding patient care.

Spector Lectureship Endowment. Established in 2015 by the Department of Otolaryngology and by colleagues and students as a tribute to Dr. J. Gershon Spector’s 44 years of service and the spirit of exploration and collaboration he exemplifies. The lecture will bring to campus internationally recognized speakers whose work focuses on the biology of the head and neck and oncologic research.

C. Ronald Stephen Lectureship and Clinical Research. Established in 1986 by former students, residents, faculty and friends in honor of Dr. Stephen, first Head of the Department of Anesthesiology.

The Sterling Visiting Professorship. Established in 1986 to honor Ernst Zander, MD, former medical director of Sterling Drug, Inc.

Arthur W. Stickle, MD Lectureship Fund. Established by Arthur and Emily Stickle in 1995 with their generous gift in recognition of Dr. Stickle’s medical training in the Department of Ophthalmology and Visual Sciences and his special professional contribution to the field of pediatric ophthalmology.

The Strunk Family Lectureship in Asthma. Established in 2005 by Dr. Robert C. Strunk and his family to provide lectures in the area of pediatric asthma.

Dr. Richard A. and Elizabeth Henby Sutter Visiting Professorship. Established in 1985 by Dr. and Mrs. Sutter to encourage opportunities for students, faculty, other physicians and the St. Louis community to expand the understanding and practice of occupational medicine.
Dr. Jessie L. Ternberg Pediatric Surgery Visiting Lectureship Fund. Made possible from a fund established in 1977 by Mr. Meyer Kopolow to honor Dr. Ternberg.

Robert J. Terry Endowment for the Advancement of an Appreciation of Gross Anatomy. Established by alumni and Charles S. Terry, his son, respectively, “for the purpose of fostering greater appreciation of the study of anatomy.”

Don L. Thurston Memorial Lectureship. Established in 1988 by his wife, Dr. Jean Holowach Thurston, and his colleagues and friends, the lectureship is devoted to the history of biomedical advances.

Leonard J. Tolmach Lectureship. Established in 1995, this lectureship was endowed by friends and colleagues to honor the legacy of Dr. Tolmach. The lecture theme is radiation biology in clinical radiation oncology.

Dr. Mildred Trotter Lectureship Fund. Established in 1975 by friends and former students of Mildred Trotter to bring a distinguished woman scientist to the School of Medicine each year.

Rudolph A. Tuteur Pulmonary Lectureship. This lectureship is endowed by family, friends, patients and colleagues of the Tuteur family to memorialize Rudolph A. Tuteur. The goal of this annual fall event is to promote further understanding of problems associated with chronic pulmonary disease from which he suffered.

Todd Wasserman Endowed Visiting Lectureship. Established in 2004 by Dr. Wasserman and funded by MedImmune, Inc. and friends and colleagues of Dr. Wasserman.
Primary Care Summer Preceptorships

Since 1996 the school has sponsored a primary care preceptorship program for students during the summer between their first and second years of classes. Students select a preceptor in internal medicine, pediatrics or family practice and spend up to eight weeks observing that physician's clinical practice. A stipend is provided to the student. Although many of the preceptors are in St. Louis, others, particularly alumni, are located in cities throughout the country.

Student Research Fellowships

Student research is an important part of the educational program. Fellowships in basic science or clinical areas will be awarded each year to selected students who undertake research projects under the direction of faculty members. Research allows students to discover firsthand the problems and rewards of obtaining and assessing new information, thus adding another dimension to their experience as investigators.

Most students take the opportunity for research during the summer after their first year of classes. All research must be conducted at the School of Medicine. Students will be awarded a fellowship for the 2.5-month program.

Inquiries should be made to:

Koong-Nah Chung, PhD
Associate Dean for Medical Student Research
Director of the Office of Medical Student Research
Washington University School of Medicine
Advising

Student academic advising occurs within two broad programs.

1. Advising: First-year students are assigned to academic societies upon matriculation. Each academic society has an Advisory Dean. This advisory dean meets with all 1st and 2nd year students individually in the 1st and 2nd year. In addition, advisory deans will meet with their students in small groups several times throughout the year. Advisory Deans meet and discuss with their students how to succeed in medical school, the opportunities and challenges they may face as a medical student, career paths and how to select among them.

2. Career Advisers: As they prepare for their final year of medical school, students have the opportunity to select a career adviser from a list of faculty in the field in which the student plans to seek a residency appointment. The career advisers have responsibility for reviewing the student’s choice for fourth-year electives and making appropriate recommendations for the structure and content of the elective year. In addition, at the beginning of their final year of medical school, students are required to meet with the Assistant Dean for Career Counseling in preparation for writing their Medical Student Performance Evaluation (MSPE or Dean’s Letter). At this meeting and throughout their final year, the assistant dean discusses the student’s long-term educational and career goals, helps choose residency programs that meet these goals, reviews their residency application
and personal statement, and supports construction of their program rank list. The Assistant Dean for Career Counseling is also available to students at any point in their medical school career to provide individual counseling in planning for choosing a specialty, as well as the residency application and match process. For more information visit the Career Counseling Office website and the Postgraduate Training section of the Bulletin.

In addition to the advising programs described, students seek informal advising from faculty with whom they have had contact, either through classroom work, research or clerkships. Students also have faculty contact through membership in the academic societies. Many of the specialty specific student interests groups and other student run programs provide opportunities for clinical shadowing and informal advising.

**Alpha Omega Alpha**

Alpha Omega Alpha is a national medical honor society. Members are selected by a standing AOA committee during the final year of medical school. Selection is based upon academic performance during the first three years, in addition to other qualities such as leadership. Approximately one-sixth of the class is elected to AOA.

Students elected to AOA are honored at an awards dinner during the final year and at a special AOA lecture.

**Awards and Prizes**
Washington University School of Medicine publicly recognizes and rewards at two annual events outstanding scholarship, research accomplishments and community service of individual students. In December, the Student Awards Luncheon acknowledges academic excellence earned during the first three years of study. As part of the festive commencement activities in May, graduates are recognized for meritorious research and clinical achievements accomplished during their medical school careers.

**Morris Alex, MD Prize.**Awarded each year to the medical student who is outstanding among his or her peers in the second-year Practice of Medicine course. The November 2015 recipient: Lindsay Burton

**Alpha Omega Alpha Book Prize.** Awarded to a member of the graduating class who has performed outstandingly for the entire medical course. The May 2016 recipient: Jeffrey Alan Gluckstein

**American Academy of Neurology Medical Student Prize for Excellence in Neurology.** Awarded to a member of the graduating class for excellence in clinical neurology and outstanding personal qualities of integrity, compassion and leadership. The May 2016 recipient: Jeffrey Alan Gluckstein.

**American College of Physicians Michael M. Karl, MD Book Award.** Presented annually to a member of the graduating class committed to a career in internal medicine, in recognition of highest achievement in the field of internal medicine. The May 2016 recipient: Ryan Brent Day.

**American College of Physicians Award for Excellence in Physical Diagnosis.** Given to a student annually for outstanding performance in the second-year Practice of Medicine course. The November 2015 recipient: Julia Lange.

**American College of Physicians Clerkship Award.** Established in 1992 to be awarded to a student completing the third year of study with meritorious achievement in the
Internal Medicine Clinical Clerkship. The November 2015 recipient: Sophia Li.

**American Medical Women’s Association Glasgow-Rubin Memorial Award.** Presented to the woman graduating first in her class.

**American Medical Women’s Association Glasgow-Rubin Memorial Achievement Citations.** Presented to women medical students graduating in the top 10 percent of their class. The May 2016 recipients: Caroline Rose Fischer, Brianna Rachel Fram, Celina Rose Jacobi, Johanna Rose Kaufman, Katherin Eliza Leckie, Cherise Meyerson, Gina Nicole Sacks, Ema Zubovic.

**The Ruth Bebermeyer Award.** Established in 2001 by the WUMCAA executive council to honor Ruth Bebermeyer for her many years of dedicated service to WUMCAA (1990-2000) and to the students of the School of Medicine. The award is given to “a student who has shown extraordinary kindness and sensitivity to the needs of others,” whether those others be fellow students, patients or just people in general. The November 2015 recipient: Bayan Jalalizadeh.

**Alexander Berg Prize.** Awarded to the student presenting the best results in research in molecular microbiology. The May 2016 recipients: Sarah Elizabeth Greene, Jane Wadsworth Symington.

**The James and Philip Brasington Memorial Prize.** Awarded to a medical school student who has demonstrated excellent preclinical and clinical academic performance in psychiatry and who has the potential to make significant contributions to the field. The May 2016 recipient: Celina Rose Jacobi.

**Jacques J. Bronfenbrenner Award.** Provided by Dr. Bronfenbrenner’s students in memory of his inspiration as a teacher and a scientist, and awarded to the member of the graduating class who, as judged by the Department of Medicine, has done the most outstanding work in infectious diseases or related fields. The May 2016 recipient: Punit Akshaya Vachharajani.

Dr. Harvey Butcher Prize in Surgery. Awarded annually in memory of Dr. Harvey Butcher to the members of the graduating class who, as judged by the Department of Surgery, show the greatest promise for general surgery. The May 2016 recipient: Katherine Carol Altheide Ott.


Class of 2001 Award. Established by the Class of 2001 as its gift to the medical school. Awards are to be given to third-year medical students in recognition of outstanding performance in the areas of community service and student group activities in the first two years of medical school. The November 2015 recipients: Harleen Grewal and Jessica Holttum.

Class of 2003 Award. Dedicated to the memory of three classmates who died in a car accident, and is awarded to a first-year student recognized by peers as being selfless, exceptionally kind to others and dedicated to the highest standards in medicine, traits for which these classmates will be remembered. The November 2015 recipients: Seren Gedallovich and Radhika Jain.

Carl F. and Gerty T. Cori Prize in Biochemistry. Awarded at the end of the first year to the class member who has demonstrated superior scholarship in Biochemistry. The November 2015 recipient: Lingling Huang.
Edmund V. Cowdry Prize in Histology. Established in 1969 to honor Dr. Cowdry; awarded to a medical student in the first-year class who has performed meritoriously in Microscopic Anatomy. The November 2015 recipient: Lingling Huang.

Antoinette Frances Dames Award in Cell Biology and Physiology. Awarded annually to members of the first-year class who have demonstrated superior scholarship in these fields. The November 2015 recipient: Lingling Huang.

Elisabeth L. Demonchaux Prize in Pediatrics. Established in 1985, the prize is awarded annually to a graduating student who has done outstanding work in pediatrics. The May 2016 recipient: Paul Edward George.

Steven Dresler Prize. Awarded to a graduating student who has demonstrated a commitment to promoting social good, civil rights and civil liberties through social action and volunteerism. The November 2015 recipient: Miriam Ben Abdallah.

Dr. William Ellis Award. Established in 1990 by Dr. Ellis and awarded to a senior student in recognition of meritorious research in ophthalmology. The May 2016 recipient: Michel Muzi Sun.

The Endocrine Society Medical Student Achievement Award. Recognizing a graduating medical student who has shown special achievement and interest in the general field of endocrinology. The May 2016 recipient: Sophia Mengting Li.

The Family Health Foundation of Missouri Scholarship Award. Awarded to the top graduating student entering the specialty of family medicine. The May 2016 recipient: Brian Andrew Bouchard.

George F. Gill Prize in Pediatrics. Awarded to a member of the graduating class who has demonstrated superior scholarship in pediatrics. The May 2016 recipient: Jane Wadsworth Symington.

Alfred Goldman Book Prize in Diseases of the Chest. Created in 1972 as an annual
award to be given to a student selected by the faculty for outstanding clinical work or research in diseases of the chest or pulmonary physiology. The May 2016 recipient: Lawrence Nathaniel Philip Benjamin.

**Max and Evelyn Grand Prize.** Established in 1985 by Dr. M. Gilbert Grand, the prize is awarded annually to a member of the graduating class for excellence in ophthalmic research or clinical ophthalmology. The May 2016 recipient: Owen Qi.

**Peter Halstead Hudgens Award.** Established by Dr. Richard W. Hudgens in memory of his son, this award recognizes a graduating student for excellence in research and clinical psychiatry. The May 2016 recipient: Emily Hunt Olfson.

**R. R. Hannas Award for Excellence in Emergency Medicine.** Offered annually by the Missouri Chapter of the American College of Emergency Physicians for exceptional performance in emergency medicine. The May 2016 recipient: Daniel Seth Greenstein.

**Nathan Edward Hellman, MD, PhD, Memorial Award.** Recognizes a second-year student selected through a vote of fellow classmates. The recipient is distinguished as a student with a strong track record of accomplishments and an interest in academic medicine, and whose humanism, collegiality, humor and compassion are an inspiration to members of the class. The November 2015 recipient: Michael Snavely.

**Herrmann Prize.** Created by Dr. Paul Herrmann (MD ’61) and his wife, Susan, to recognize a student who is considered a thoughtful and sensitive communicator in the clinical arena and whose listening and communication skills every patient hopes their physician will possess. The November 2015 recipient: Brian Bouchard.

**Dr. John Esben Kirk Scholastic Award.** Established in 1975 and awarded to a graduating student of high scholastic standing. The May 2016 recipient: Cherise Meyerson.

**Rosalind Kornfeld Student Leadership Award.** Presented to a woman or women in the graduating class who has or have demonstrated outstanding leadership in service
to or advancement of women in the community. The May 2016 recipient: Lauren Therese Josiah Martin.

**Louis and Dorothy Kovitz Senior Prize in Surgery.** Senior award in surgery recognizing members of the graduating class who have shown the most outstanding ability, zeal and interest in surgical problems. The May 2015 recipient: Robert Warren DesPain.

**Wallace Leibner Award.** Established in 1988 in memory of Dr. Leibner, the award is given to the member of the graduating class who has not only demonstrated excellence in diagnosis and therapeutics, but also an understanding of human nature and needs, and an active nurturing of both patient and family. The May 2016 recipient: Paul Joseph Scheel III.

**Irwin Levy Prize in Neurology and Neurological Surgery.** Established in 1980 by friends of Dr. Levy as a tribute to his commitment to clinical teaching. Provides a prize for the student who presents the best performance in the neurology and neurological surgery clerkships. The November 2015 recipient: Josiah Gerdts.

**Edward Massie Prize for Excellence in Cardiology.** Awarded to the member of the graduating class, selected by the director of the Division of Cardiovascular Disease in the Department of Medicine, who has done the most outstanding clinical or basic research work in the field of cardiovascular disease. The May 2016 recipient: Andrew Scott Perry.

**Howard A. McCordock Book Prize in Pathology.** Awarded at the end of the second year to a member of that class for general excellence in pathology. The November 2015 recipient: Rose Tang.

**McGraw-Hill/Lange Medical Student Book Award.** Awarded annually to medical students for high scholastic standing. The November 2015 recipients: Brianna Fram and Caroline Fischer.

**Medical Center Alumni Scholarship Fund Prize.** Given annually to students who have
shown excellence in their work during the preceding year. The November 2015 recipient: Johanna Kaufman.

**Medical Fund Society Prize in Medicine.** One prize awarded annually to a graduating student who has excelled in the study of internal medicine. The May 2016 recipient: Daniel Scott Feng.

**Medical Fund Society Prize in Surgery.** One prize awarded annually to a graduating student who has excelled in the study of surgery. The May 2014 recipient: Charles Robert Hong.

**Merck Academic Excellence Award.** Given to three graduating medical students for scholastic achievement in medical studies. The May 2016 recipients: George Olen Denny, Jonathan Randolph Weese, Johnny Zhao.

**Missouri State Medical Association Award.** Presented annually to honor School of Medicine graduates for outstanding achievement in the study of medicine. The May 2016 recipients: Johanna Rose Kaufman, Brianna Rachel Fram.

**The Missouri State Medical Association Student Scholarships.** Awarded annually to first-year medical students who graduated from Missouri high schools in recognition of their high undergraduate academic achievement. The November 2015 recipients: Radhika Jain, Nicholas Karlow, Shamaita Majumdar, Alexander Markov, Kunal Mathur, Michael Rizzo Jr., Derek Schloemann and Alec Wright.

**Dr. Helen E. Nash Academic Achievement Award.** Given annually to a student who has exhibited to an unusual degree the qualities of industry, perseverance, determination and enthusiasm. The prize is given in honor of Dr. Helen Nash, a pediatrician noted in the St. Louis community for her commitment to excellence, tireless advocacy on behalf of children and endless enthusiasm for the field of medicine. The November 2015 recipient: Lauren Martin.

**The Dr. Philip Needleman Pharmacology Prize.** Established by his family in 1989 to
honor Dr. Needleman, who was chairman of the Department of Pharmacology from 1976-89. This annual award is given to a member of the graduating class for outstanding research in pharmacology. The May 2015 Recipient: Kirk Kohwa Hou.

The Doctor James L. O'Leary Neuroscience Prize. Awarded annually to a student who demonstrates the best accomplishment in the Neuroscience course. The November 2015 recipient: Lauren Broestl.


The Richard and Mildred Poletsky Education Fund. Established in 1995 by the family of Mr. Richard Poletsky, an alumnus of Washington University. A prize is awarded annually to a professional student in the health sciences whose interest is in research on dementia and care of demented patients.

The Dr. Frank O. Richards Medical Student Scholarship Prizes. Provided by African-American alumni and friends of Washington University School of Medicine. The prizes embrace diversity efforts and are awarded in recognition of achievements in the first and second year of the curriculum. The November 2015 recipients: Abiye Ibibebele and Ana Rivera.

Dr. Philip Rosenblatt Award in Pathology. Given to a senior medical student for distinguished performance during an elective in pathology or laboratory medicine. The May 2016 recipient: Cherise Meyerson.

Dr. William A. Rubenstein Award in Medicine. Awarded to a fourth year student who shows a serious interest in pursuing a career in internal medicine and who demonstrates the exceptional qualities of a gifted physician, including compassion, caring, and the pursuit of scientific knowledge. The November 2015 recipient: David Qualls.
St. Louis Pediatric Society Senior Prize. Presented to the senior student showing the greatest promise in clinical pediatrics. The May 2016 recipient: Johanna Rose Kaufman.

David F. Silbert Outstanding Teaching Assistant Award. Established in memory of Dr. David Silbert, it is awarded to a teaching assistant in a medical school course in recognition of a commitment to teaching. The November 2015 recipient: Damien Abreu.

John R. Smith Memorial Fund Award. Created in 1982, it is awarded to a medical student who has done meritorious clinical and/or research work in the Division of Cardiovascular Disease within the Department of Medicine. The May 2016 recipient: Natalia Brito Rivera.

Dr. Margaret G. Smith Award. Given to a woman medical student for outstanding achievement in the first two years of medical school. The November 2015 recipient: Alyssa Kronen.

Society for Academic Emergency Medicine Excellence in Emergency Medicine Award. Based on demonstrated excellence in the specialty of emergency medicine, it is awarded to a senior medical student at Commencement. The May 2016 recipient: Daniel Saul Brenner.

Samuel D. Soule Award in Obstetrics and Gynecology. Presented to a member of the fourth-year class for meritorious achievement in either basic or clinical investigation in obstetrics and gynecology. The May 2016 recipient: Ann Catherine Frisse.

Jessie L. Ternberg Award. Presented to a woman graduating from the School of Medicine who best exemplifies Dr. Ternberg's indomitable spirit of determination, perseverance and dedication to her patients. The November 2015 recipient: Lindsey Moses.

Washington University Internal Medicine Club Research Award. Awarded to the
member of the graduating class who has done the most significant research in any area of internal medicine. The May 2016 recipient: Matthew James Crisp.

**Washington University Summer Research Prize.** The award recognizes students for meritorious research in the Summer Research Fellowship Program at Washington University School of Medicine. The November 2015 recipients: Joshua Page and Aaron Zuckerman.

**Samson F. Wennerman Prize in Surgery.** Donated by his wife, Zelda E. Wennerman, and awarded annually to the fourth-year student who has demonstrated promise in the field of surgery. The May 2015 recipient: Faye Hwa-Young Yu.

**Doris P. and Harry I. Wexler Fund.** Established in 1998 by a bequest from Mrs. Wexler, the prize is awarded annually for research in multiple sclerosis and in alternate years research in eye disease. The May 2014 recipient: Cynthia Lee Montana.

**The Park J. White, MD Prize.** Created in 1992 in honor of the centennial of the birth of Dr. White, who was a distinguished pediatrician, social activist and pioneer teacher of medical ethics. He introduced the first course on medical ethics to students in 1927. The prize is awarded to students for outstanding performance in the ethics elective offered by the Program for the Humanities in Medicine. The May 2016 recipient: Brian Andrew Bouchard.

**Hugh M. Wilson Award in Radiology.** Given annually to a graduating medical student in recognition of outstanding work in radiology-related subjects, either clinical or basic science. The May 2016 recipient: Francis Deng.

**The Wynder Prize in Preventive Medicine.** An annual prize established in 1994 and awarded to senior medical students who have done the best research in preventive medicine. The May 2016 recipient: Paul Edward George.

**James Henry Yalem Prize in Dermatology.** Established by Charles Yalem in memory of his son and awarded annually to members of the fourth-year class for outstanding
Liability Insurance

Washington University provides general liability insurance for all students or practicums while participating in required clinical experiences. In addition, Washington University voluntarily provides a defense and indemnification benefit for matriculated students who are candidates for the MD degree at the School of Medicine (WUSM).

The benefit is provided to WUSM students for defense and indemnification of claims arising out of activities which are part of academic programs and only while a student is acting in his or her capacity as a medical student enrolled in the undergraduate medical program at the School of Medicine. This policy is subject to terms, conditions, limitations and exclusions, and each request for defense/indemnification will be decided on a case-by-case basis at the sole discretion of the university.

Defense/indemnification will not be provided for any criminal acts, acts committed while under the influence, acts in violation of law, or where the injury or damage resulted from intentional malicious conduct or wrongdoing, or in the event that the action or proceeding is brought by or on behalf of Washington University. This indemnification does not cover any liability which is insured elsewhere, but it may be in excess of any amount payable under any other such insurance.

Reporting an incident

Any incident, either actual or alleged involving patient injury which could lead to a claim, which you have knowledge of must be reported immediately to the Risk Management Office of the School of Medicine, (314) 362-6956.
Student Constitution and Bylaws

Article I:
Name, Purpose, and Membership

A. The name of this organization shall be the Medical Student Government of The Washington University School of Medicine.

B. The purpose of the Medical Student Government shall be the advancement of student interests and welfare to achieve excellence in academic pursuits and professional interactions.

C. The Medical Student Government shall represent all students pursuing a medical degree who are in good standing with the University.

Article II:
Class Officers

A. Offices: Each Class shall elect the following officers: President, Medical Education Representative (MER), Representative to the Organization of Student Representatives (OSR Rep) of the Association of American Medical Colleges (AAMC), Representative to the Graduate-Professional Council (GPC Rep), and a Social Chair/Committee.
B. Duties: Each class officer shall have specific responsibilities:

1. President: Each class shall elect one President. This person shall serve as the official spokesperson for the class in dealings with the Student Government and with the University. The President shall disseminate information regarding medical student affairs and activities. The President shall have oversight and approve of all moneys spent by the Social Chair/Committee. The President shall perform any and all duties that are unique to the class represented.

2. MER: The MER shall represent the class at all meetings of the MERs and Curriculum Evaluation Committee and serve as a liaison between students and faculty on curricular matters. The MER shall poll the class as needed regarding course evaluations and selection of recipients for the various Faculty Awards presented each year.

3. OSR Rep: The OSR Rep shall keep class members up to date with news from the OSR and from the AAMC. The OSR Rep shall represent the University at regional and national meetings of the OSR under an agreement with the University.

4. GPC Rep: The GPC representatives shall represent the School of Medicine at GPC meetings and shall inform the GPC of issues affecting the School of Medicine, learn about issues affecting other schools, discuss and find solutions to problems affecting the whole graduate and professional student population, and plan and advertise social activities that foster communication between all graduate and professional students. The Reps shall be the liaison to the other programs within the School of Medicine, as well as to the rest of the University community. In addition, the four Reps will divide the responsibilities of serving on the Professional and Graduate Students Coordinating Committee (ProGrads), the Medical Campus Committee (temporarily named), and other inter-school/division committees as needed. Specifically in regards to the Health Professional Student Leadership Council
(HPSLC), two of the four GPC representatives will serve as voting members on HPSLC. One of these voting members must be the 1st or 2nd year GPC representative. The selection of MSG’s voting members on HPSLC must be made before the end of the sixth week of first-semester classes in the academic year.

5. Social Chair/Committee: The Social Chair/Committee shall organize social functions for class members and interact with other Social Chairs/Committees to organize social functions with other classes and within the University community. The Social Chair/Committee shall consult and obtain approval from the class President for all moneys spent on such functions.

C. Elections: An Election Official designated by the Student Government shall be responsible for the organization and execution of all elections held for offices specified under the Constitution, including President, MER, OSR, GPC, and social chair. Elections shall be held for each of the class officer positions according to the following format:

1. Voting Eligibility: All students who will be a member of the class during the term for which the elected officers will serve will be eligible to vote in the election. Efforts should be made by the appointed election official to extend the opportunity to vote to students who will be entering their respective classes in the upcoming year, including but not limited to the large number of MD/PhD students returning for their clinical clerkships.

   a. First and second year offices: A member of the class will be considered to be an individual who is currently planning on taking the MD course of study for the upcoming year.

   b. Third and fourth year offices: A member of the class will be considered to be an individual who is planning on taking the MD course of study anytime during the upcoming two years, including any individual planning to pursue an MA degree for one year after either the second or third year of medical school.
2. Nominations: Nominations for each office shall be held starting at least one week prior to the election and ending no later than three days prior to the election. Nominations shall be submitted in writing to the Election Official. Any student eligible to run for office may nominate him/herself or another medical student in good standing. Candidates must have the firm intention of carrying out all the duties and obligations of the office for the entire term.

3. Candidate Eligibility: All students who will be a member of the class during the term for which the elected officers will serve, as defined in Article II.C.1, will be eligible to be nominated for election except as described below:

   a. President: The class president does not need to be taking the same course of study as the classmates he or she represents. Any individual who meets the criteria defined in Article II.C.1 will be eligible to serve.

   b. MER

      i. Third year MER: Due to the duties of the third year MER, it is essential that the third year MER be an individual who is currently taking the MD course of study with the rest of his or her classmates.

      ii. Fourth year MER: The fourth year MER rep does not need to be taking the same course of study as the classmates he or she represents. Any individual who meets the criteria defined in Article II.C.1 will be eligible to serve.

   c. OSR Rep: An OSR rep does not need to be taking the same course of study as the classmates he or she represents. Any individual who meets the criteria defined in Article II.C.1 will be eligible to serve.

   d. GPC Rep: A GPC rep does not need to be taking the same course of study as the classmates he or she represents. Any individual who
meets the criteria defined in Article II.C.1 will be eligible to serve.

e. Off-Campus Students: Students who have chosen to pursue a
course of study that results in his or her not being in Saint Louis will
not be eligible to retain or be nominated for a position. This exclusion
does not apply to students who will off-site temporarily for an away
rotation.

4. Elections and Terms: All terms shall begin upon election. Regular elections
shall be held according to the following schedule:

a. First Year: Elections shall be held within three to six weeks of the
beginning of the first-semester classes. Each position carries a term of
one academic year.

b. Second Year: Elections shall be held within six weeks prior to the
completion of the first academic year. Each position carries a term of
one academic year.

c. Third and Fourth Year: Elections shall be held within six weeks prior
to the completion of the second academic year. Each position carries a
term of two academic years.

5. Class Officer Balloting: To be elected a candidate must receive a simple
majority (greater than 50 percent) of the votes cast for that particular office by
at least a quorum of one-half of the eligible voters. Write-in candidates shall
be allowed on this ballot. Absentee ballots shall be allowed if they are given in
writing to the Election Official prior to the day of election. Ballot counting shall
be the responsibility of the Election Official under the observation of a witness
agreeable to all candidates.

6. Class Officer Runoff Procedures: If no candidate receives a simple majority
for a particular position, a runoff between the top two candidates shall be
held within three days of the initial election. Write-in candidates will not be allowed on this ballot. To be elected a candidate must receive the most votes cast for that particular office by at least a quorum of one-half of the eligible voters.

7. Social Chair Election Procedure: Social chair elections will be conducted in conjunction with MSG class officer elections. A maximum of four social chairs can be elected into office. Candidates do not have to receive a majority of votes to be elected into office. All other MSG election procedures apply.

8. Appeals: All decisions are made by the Election Official during the election period. Appeals may be made by a candidate in writing to the Chair of the Medical Student Government and will be reviewed and ruled on by a group consisting of the current President, MER, OSR, and GPC from each of the four classes; the decisions of this group will be considered final.

9. Vacant Offices: If any office is vacated before its set term, an election will be held for that office using the procedures outlined above within three weeks of the vacancy. If a current class officer runs for the vacated office, that officer must vacate the post he/she occupies.

10. Removal from Office: In the unfortunate event that a class officer is not fulfilling his/her obligations and duties, MSG by a two-thirds majority of a quorum of one-half may vote to recommend that an officer be removed from office to the class that elected the officer. A vote of recall shall then be held within one week. If a three-fourths majority of a quorum of two-thirds of a class votes to recall the officer, the officer shall be removed from office. An election for vacant office shall then be held.

D. MD/PhD Research Students: There shall be two Representatives of the MD/PhD students who are outside the core medical curriculum. These Representatives shall be selected by a method chosen by the Medical Scientist Training Program (MSTP.) In addition, these individuals shall be full voting members of the MSG. Each
Representative shall serve a two-year term, with elections for one Representative each summer, so the terms of the two Representatives overlap by one year.

E. Technology Liaison: The responsibilities of the class appointed Technology Liaison include serving as the representative to the administration regarding the availability and utilization of technology and addressing related class concerns. In addition, the Technology Liaison will work with Instructional Technologies and Library Systems (ITLS) to provide new services and assist the MER with technology-related education initiatives. One Technology Liaison will be appointed for each medical school class after the class-wide elections have taken place. After a call for applications from the class, the four (4) elected MSG members of that class review each application and select the Technology Liaison by consensus. The term of the Technology Liaison will be the same as the elected officials of that class.

Article III:

The Medical Student Government

A. Membership: The Student Government shall consist of the President, the MER, the OSR Rep, and the GPC Rep from each of the four classes, as well as two representatives of MD/PhD Students.

1. Additional voting members: Any student who has served on MSG for a minimum of two years and is no longer eligible to serve as a class representative due to departure from the traditional four-year MD curriculum may be remain on MSG as a voting member in an advisory role. All students will only be eligible to serve as a voting member for up to five total years.

2. Non-voting members: In addition, the Student Government may offer a non-voting position to a duly elected representative of any student group which is recognized nationally, regionally or within the Medical School so long as such a group is open to all medical students without discrimination and that such a group is not in conflict with the goals of the Student Government.
B. Purpose and Responsibilities: The Student Government shall carry out the business of the Student Government pursuant to the goals stated in Article I. The purpose of the Student Government shall be to represent and promote the interests and concerns of the medical student body through activities including but not limited to:

1. Forming and representing official student body opinions for interaction with the University, its Administration and other groups associated with medical education.

2. Serving as a forum for interaction between student groups.

3. Serving as a forum for student-initiated curricular review and reform in the pursuit of academic excellence.

4. Promoting interaction among the School of Medicine students, faculty and administration, and with the wider University community.

5. Establishing a funding mechanism and budget with the associated collection and disbursements of funds for activities pursuant to goals stated in Article I.

6. Organizing elections for class officers and any other official representative of the student body at large.

7. Exercising any such additional authority as may be granted to it by the School of Medicine or by other organizations, so long as such authority is consistent with the purposes stated in Article I.

8. Posting agenda of all meetings for public reference. Formulating all rules and bylaws necessary for the Student Government to carry out the responsibilities and powers granted through this constitution. Such rules and bylaws shall require a simple majority of a quorum of two-thirds of the voting Student Government members.
9. The Student Government shall meet regularly and at intervals of no more than six weeks.

10. Representatives from the various student groups sitting on the Student Government shall keep the Student Government informed of all activities associated with their posts in the form of a written brief to be presented at the Student Government meeting as appropriate for their group’s activities.

C. Student Government Offices: There shall be a Student Government Chair and Vice-Chair elected from the voting members of the Student Government. Election shall require a simple majority of the voting Student Government. The election shall be held within six weeks prior to the completion of the academic year. The terms of these offices shall be one academic year.

1. Student Government Chair: The Student Government Chair shall preside at all meetings of the Student Government and have specific responsibilities:

2. The Chair shall serve as official representative and spokesperson for the Student Government to the University, its Administration, and to other groups associated with medical education.

3. The Chair shall be responsible to ensure the duties of the Student Government are carried out efficiently and in a timely manner.

4. The Chair shall report the names of the Class Officers to the Dean, and post such a list for public reference.

5. The Chair shall be responsible for overseeing and maintaining records and to set the agenda for such meetings in written form for distribution to Student Government members prior to each meeting.

6. The MSG shall be responsible for overseeing and maintaining records of all financial transactions of the Student Government. The second-year class
president shall regularly update the Student Government on its financial standing, and must make all financial records available to any medical student, member of the Administration, or to any official of the University. All transactions shall require the signatures of the Chair and the Vice-Chair.

7. The Chair shall be empowered to call for standing and ad hoc committees to evaluate and make recommendations about specific areas of concern to the Student Government, the School of Medicine and its students. MSG shall appoint these committees.

8. The Chair shall be empowered to designate another Student Government member to take on one or more of his/her duties.

Article IV:

Ratification and Amendments

A. In 1993 this Constitution was ratified by a 2/3 majority of a quorum of one-half of the student body pursuing a medical degree.

B. This Constitution can be amended by either a 2/3 majority of a quorum of one-half of the students in their first, second, and third years, or by a unanimous vote of the elected members of the Medical Student Government.

Applied Health Behavior Research

The Master of Science in Applied Health Behavior Research (MS AHBR) addresses the science of health behavior and applies it to the development and evaluation of programs and research studies in clinical and community settings. The AHBR graduate
programs are offered through the Washington University School of Medicine and sponsored by the Clinical Research Training Center and the Institute of Clinical and Translational Sciences.

The MS is a 33-unit, multidisciplinary program that focuses on the applied skills required for the development, management and evaluation of health behavior programs and research studies in academic, clinical, and community settings. Students choose one of two concentrations:

1) Health Education, Program Planning and Evaluation – designed for individuals to develop, manage, and evaluate health programs in clinical or community settings; coursework focuses on health behavior theory, program planning, program evaluation, health education and program management

2) Health Behavior Research – designed for individuals to develop theoretical knowledge and gain practical research experience in order to pursue careers in a variety of health related fields and/or manage research studies in clinical settings; coursework focuses on health behavior theory, research methodology, analytic methods, and research project management.

Health Behavior Research, 1-Year/Research Intensive Option – designed to be completed in three semesters and includes nine credit hours of mentored research; provides hands-on training for pre-health students interested in medical and health-related fields; offers practical experience for students planning a gap year prior to medical school as well as opportunities to fulfill specific medical school core competencies and enhance medical school applications.

The MS AHBR degree can be pursued on a part-time or full-time basis. All courses are held during the late afternoon or evening to accommodate working professionals. Applications are reviewed on a rolling basis and coursework is typically completed in two to three years.

The Graduate Certificate in Health Behavior Planning and Evaluation is also offered. This 15-unit program features a curriculum focused on key applied and theoretical
concepts in health behavior, as well as the processes needed for managing program development and evaluation activities in clinical and community settings.

**Admissions information**

Please visit the [Applied Health Behavior Research](#) website for complete admissions information.

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**Applied Health Behavior Research Faculty**

**Director**

Amy McQueen, PhD  
University of Houston, 2002 (Research Assistant Professor, Division of General Medical Sciences)

**Program manager**

Pamela G. Struttmann, MA  
Webster University, 1989 (Clinical Research Training Center, Division of General Medical Sciences)

**Instructors**

Patricia A. Cavazos-Rehg, PhD  
State University of New York, Buffalo, 2004 (Research Instructor, Department of Psychiatry)
Melissa Chapnick, RD, MS, MPH
Saint Louis University, 2015 (Clinical Research Study Assistant, Department of Obstetrics & Gynecology, Division of Clinical Research)

Robert C. Culverhouse, PhD
Washington University, 1998 (Research Assistant Professor of Biostatistics, Department of Internal Medicine)

Michael Elliott, PhD
Ohio State University School of Public Health, 2001 (Assistant Professor, College of Public Health and Social Justice, Saint Louis University)

Donna B. Jeffe, PhD
Washington University, 1993 (Research Assistant Professor, Division of General Medical Sciences, Departments of Internal Medicine and Pediatrics)

Amy McQueen, PhD
University of Houston, 2002 (Research Assistant Professor, Division of General Medical Sciences)

Maria Perez, MA
University of Missouri, 2004 (Research Patient Coordinator, Division of General Medical Sciences)

Donald R. Rickert, PhD
Saint Louis University, 1984 (Professor, St. Louis College of Pharmacy)

Enbal Shacham, PhD
Indiana University, 2006 (Assistant Professor, College of Public Health and Social Justice, Saint Louis University)
The Program in Audiology and Communication Sciences (PACS) provides training and graduate programs in the fields of clinical audiology, deaf education, and speech and hearing sciences. Established at Central Institute for the Deaf (CID) in 1914, the training programs are now a member of a consortium of programs known as CID at Washington University School of Medicine, which also includes affiliated clinical services and research programs operated by the Department of Otolaryngology.

**Doctor of audiology (AuD)**

The Doctor of Audiology (AuD) program is a four-year course of study that prepares students as independent clinical audiologists. Established in 1947, the program is among the oldest and most prestigious of its kind. Today, its curriculum serves as a national model, immersing students in academic course work, clinical experiences and research opportunities. A Pediatric Audiology Specialization is available to qualified students admitted to the program.

The audiology program is accredited by the American Speech-Language-Hearing Association (ASHA) and the Accreditation Commission for Audiology Education (ACAE). Graduates are eligible for national certification by ASHA.

**Master of science in deaf education (MSDE)**

The Master of Science in Deaf Education (MSDE) program is a two-year course of study that prepares students as teachers of the deaf and hard of hearing. With its origins going back to 1914, the program is recognized internationally as one of the most prestigious of its kind in the world. The program's intensive curriculum, emphasis on immersion in practice teaching and experienced faculty attract students nationally from a wide variety of backgrounds.
The deaf education program is accredited by the State of Missouri’s Department of Elementary and Secondary Education (DESE) and the Council on Education of the Deaf (CED). Graduates of the program are eligible for teacher certification in the State of Missouri (Deaf/Hearing Impaired, Birth-Grade 12) and for national certification by CED.

**Doctor of philosophy (PhD) in speech and hearing sciences**

The PhD program prepares students for academic and research careers in speech and hearing sciences. Established in 1947, the program is dedicated to fostering scientific inquiry in speech and hearing sciences and related disciplines. The program is administered through the Graduate School at Washington University in St. Louis.

**Minor in speech and hearing sciences**

The Minor in Speech and Hearing Sciences is designed for current undergraduate students interested in exploring topics related to human communication. Course work provides an overview of the fields of hearing, deafness, language and speech, with opportunities to explore related topics in more depth. This minor is especially valuable for students in fields such as psychology, education, philosophy-neuroscience-psychology (PNP) and linguistics, but has broad applicability for many fields of study. Course work completed as part of this minor can also be used to fulfill prerequisites for graduate studies in audiology, deaf education and speech-language pathology.

**Further information**

Further information, including complete admissions details and full program descriptions, may be obtained by contacting:

Washington University School of Medicine  
Program in Audiology and Communication Sciences  
Campus Box 8042  
660 S. Euclid Ave.  
St. Louis, MO 63110
Audiology and Communication Sciences Faculty

Professors (joint)

Craig A. Buchman, MD
University of Florida, 1990

Richard A. Chole, MD, PhD
University of Minnesota, 1977

William W. Clark, PhD
Program Director
University of Michigan, 1975

Jill B. Firszt, PhD
University of Illinois, 1998

Nancy Tye Murray, PhD
University of Iowa, 1984

Michael Valente, PhD
University of Illinois, 1975
Mark E. Warchol, PhD  
Northwestern University, 1989

**Associate professors (joint)**

Lisa S. Davidson, PhD  
Washington University, 2003

Heather J. Hayes, PhD  
Director of Deaf Education Studies  
Washington University, 2009

Keiko Hirose, MD  
Harvard Medical School, 1993

Johanna G. Nicholas, PhD  
Washington University, 1990

Kevin K. Ohlemiller, PhD  
Northwestern University, 1990

L. Maureen Valente, PhD  
*Director of Audiology Studies*  
Washington University, 2005

**Assistant professors (joint)**

Brian T. Faddis, PhD  
University of California-Davis, 1994

Roanne K. Karzon, PhD  
Washington University, 1982

Lisa G. Potts, PhD
Washington University, 2006

Rosalie M. Uchanski, PhD
Massachusetts Institute of Technology, 1988

Instructors

Lynda C. Berkowitz, MSSH
Washington University, 1983

Carl D. Bohl, DSc
University of Cincinnati, 1973

Christine M. Clark, MAEd
Maryville University, 1999

Christine H. Gustus, MSSH
Washington University, 1975

E. Tracy Mishler, AuD
Arizona School of Health Sciences, 2007

Mary A. Shortal, MAEd
Washington University, 1976

Karen S. Stein, MAEd
Washington University, 1974

Lecturers

Carol E. Bergmann, AuD
Arizona School of Health Sciences, 2003

Amy L. Birath, AuD
University of Memphis, 2007

Greta M. Bohnenkamp, MS
Vanderbilt University, 2005

Jamie H. Cadieux, AuD
Washington University, 2006

Amanda L. Dunaway, MSDE
Washington University, 2006

Elizabeth A. Elliott, MAT
Webster University, 2004

Lauren Felton, AuD
Washington University, 2006

Dave A. Harris, PhD
University of Cincinnati, 2005

Dorina Kallogjeri, MD
Tirana University School of Medicine, 1997

Christina M. Koehler, MSSH
Washington University, 2000

Barbara A. Lanfer, MAEd
University of Missouri-St. Louis, 1998

Kenneth E. Marciniak, AuD
University of Iowa, 2010

Robert J. Mareing, AuD
Professor emeritus
Biology and Biomedical Sciences

The Division of Biology and Biomedical Sciences (DBBS), organized in 1973, is a consortium of university departments that together provide interdisciplinary training for full-time doctoral students. This unique organization was formed because of the realization that research and training in modern biology transcend the limits of departmental structure. The faculty consists of members of seven preclinical departments in the School of Medicine: Anatomy and Neurobiology, Biochemistry and Molecular Biophysics, Cell Biology and Physiology, Genetics, Molecular Microbiology, Pathology and Immunology, and Developmental Biology; 11 clinical departments: Anesthesiology, Medicine, Neurological Surgery, Neurology, Obstetrics and Gynecology, Ophthalmology and Visual Sciences, Orthopaedic Surgery, Otolaryngology, Pediatrics, Psychiatry, Radiation Oncology, Radiology and Surgery; the Department of Biology; the Departments of Chemistry and Psychology in the School of Arts & Sciences; and the Departments of Computer Science and Biomedical Engineering in the School of Engineering & Applied Science. More than 450 faculty are affiliated with one or more of 12 broad training programs: Biochemistry; Computational and Molecular Biophysics; Computational and Systems Biology; Developmental, Regenerative and Stem Cell Biology; Evolution, Ecology and Population Biology; Human and Statistical Genetics; Immunology; Molecular Cell Biology; Molecular Genetics and Genomics; Molecular Microbiology and Microbial Pathogenesis; Neurosciences; and Microbial Biosciences. Faculty in these programs take responsibility for all divisional activities, including recruiting, admissions, advising and research training. In addition, many divisional courses and seminars are offered by the participating faculty.
Currently, more than 650 graduate students are enrolled in the division, including approximately 200 students pursuing both the PhD and the MD through the Medical Scientist Training Program (see Degree Programs area of Admissions and Educational Programs section.) Requirements for the PhD include a series of courses tailored to a student's background and interests, qualifying examinations, execution of laboratory research and defense of a dissertation generated through original scientific investigation. Although students enter the division through an affiliation with one of the 12 programs, it is possible for a student to transfer to another program as interests evolve. During the first year, advisers are appointed to assist students in selecting courses and seminars, as well as to help them in choosing three laboratory rotations in which they will spend several months becoming acquainted with a particular area of scientific research. Most students choose a research adviser by the end of the first year.

Applications for admission to the PhD programs of the division are due December 1 for matriculation the following fall. Admission is based on demonstrated ability, future promise and the number of positions currently available. Applicants should have completed rigorous undergraduate training in biology, chemistry, physics, psychology, computer science, engineering or related fields at a high level of scholastic achievement. It is required that each applicant take the aptitude test of the Graduate Record Examination (GRE). Additional information and application for admission to the PhD programs may be obtained from our website at dbbs.wustl.edu or by writing to the Director of Admissions, Washington University School of Medicine, Campus Box 8226, 660 S. Euclid Ave., St. Louis, MO 63110-1093 (email: dbbsphdadmissions@wusm.wustl.edu). Students who wish to pursue both the PhD and MD degrees must apply to the Medical Scientist Training Program (see Degree Programs area of Admissions and Educational Programs section of this website.)

Students admitted to the graduate programs are guaranteed full stipend and tuition support contingent upon satisfactory performance. The stipend for the 2016-17 academic year will be $29,500 annually. Tuition remission is provided to all students, and life, disability and health care also is provided by the Medical Center Student
Health Service. The division provides support for its PhD students from several sources, including federally funded training grants provided by the National Institutes of Health.

Admissions information

Please visit the Division of Biology and Biomedical Sciences website for admissions information.

Biology and Biomedical Sciences Courses

The following graduate courses are offered by the Division of Biology and Biomedical Sciences, and they are available both to PhD and MD students who meet the prerequisites for the appropriate course. Those courses particularly relevant to a given department are cross-listed under the department in this Bulletin.

L41 (BIO) 501 THE HUMAN BODY: ANATOMY, EMBRYOLOGY, AND IMAGING
For full description, see Department of Anatomy and Neurobiology's M05 501A Human Anatomy and Development.

L41 (BIO) 5011 ETHICS AND RESEARCH SCIENCE
Instructors: Staff, Division of Biology and Biomedical Sciences, 362-3365

Exploration of ethical issues which research scientists encounter in their professional activities. Topics will include, but are not limited to: student-mentor relationships, allegations of fraud, collaborators' rights and responsibilities, conflicts of interest, confidentiality, publications. Case study and scenario presentations will provide focus for discussions. Prereq, open to DBBS graduate students engaged in research. Six 90
minute sessions. Credit: 1 unit.

L41 (BIO) 5014 BIOTECH INDUSTRY INNOVATORS
Instructor: Erwin H. Peters, PhD, 862-4867
The Basics of Bio-Entrepreneurship, investigates issues and choices that inventors / scientists encounter when they are considering the applications and commercialization of early stage scientific discoveries. This course is intended for anyone interested in working in the biotechnology, pharmaceutical, medical device, or life-sciences industries as a founder, scientist, entrepreneur, manager, consultant, or investor. It focuses, through case studies and lectures, on the issues and decision processes that researchers and their business partners typically face when considering how a discovery might best be moved from academia to successful commercialization. Credit: 3 units. Same as B63 MGT 500U.

L41 (BIO) 502 GENERAL PHYSIOLOGY
Instructor: Robert Mercer, PhD, 362-6924
This course applies the fundamental physiological mechanisms of cell biology to the functions of the major organ systems of the body, namely, the cardiovascular, renal, respiratory, gastrointestinal and endocrine systems. The course is intended primarily for first-year medical students. The Physiology and Microscopic Anatomy courses are closely coordinated within the same schedule. Course continues into the spring semester with a different schedule. Prerequisites: Bio 5061 or the equivalent and permission of course director. Credit: 6 units.

L41 (BIO) 5053 IMMUNOBIOLOGY I
Instructor: Takeshi Egawa, 314-747-2516
Immunobiology I and II are a series of two courses taught by the faculty members of the Immunology Program. These courses cover in-depth modern immunology and are based on Janeway's Immunobiology 8th Edition textbook. In Immunobiology I, the topics include: basic concepts in immunology, innate immunity: the first lines of defense, the induce responses of innate immunity, antigen recognition by B-cell and T-cell receptors, the generation of lymphocyte antigen receptors, antigen presentation to T lymphocytes and signaling through immune system receptors. In Immunobiology II
the topics include: the development and survival of lymphocytes, T cell-mediated immunity, the humoral immune response, dynamics of adaptive immunity, the mucosal immune system, failures of host defense mechanisms, allergy and allergic diseases, autoimmunity and transplantation, and manipulation of the immune response. These courses are open to graduate students. Advanced undergraduate students may take these courses upon permission of the coursemaster. Prerequisite: DBBS students and advanced undergraduates with permission. Credit 4 units.

L41 (BIO) 5054 IMMUNOBIOLOGY II
Instructor: Chyi-Song Hsieh, MD,PhD, 485-4485; Eugene Oltz, PhD, 362-5515
Immunobiology is a continuation of Immunobiology I (Bio 5053) taught by the faculty members of the Immunology Program and consists of two sections. In the first section, selected topics are covered in depth that were introduced in Immunobiology I. These include cytokine signaling, DC subsets, tumor immunology, evolution of the immune response, Fc Receptors, alloreactivity, mucosal immunity, inhibitory receptors, vaccines, lymphoorganogenesis and immunopathogenesis. The second section involves Molecular mechanisms of disease (formerly Bio 5261) and will cover human diseases that appear to have an immunological basis. In addition to lectures and evaluation of recent clinical and relevant basic immunology literature, an emphasis will be placed on direct encounters with patients and pathologic material when feasible, providing students with a human aspect to discussions of immune pathogenesis. Diseases covered will include rheumatoid arthritis, allergy, lupus, multiple sclerosis, diabetes, immunodeficiencies, complement diseases and hemophagocytic lymphohistiocytosis. Prereq: DBBS students and Immunobiology I. Credit: 4 units.

L41 (BIO) 5068 FUNDAMENTALS OF MOLECULAR CELL BIOLOGY
Instructor: Robert Mercer, PhD, 362-6924
This is a core course for incoming graduate students in Cell and Molecular Biology programs to learn about research and experimental strategies used to dissect molecular mechanisms that underlie cell structure and function, including techniques of protein biochemistry. Enrolling students should have backgrounds in cell biology and biochemistry, such as courses comparable to L41 BIO 334 and L41 BIO 4501. The
format is two lectures and one small group discussion section per week. Discussion section focuses on original research articles. Same as M15 5068 and M04 5068. Same as E62 BME 5068. Credit: 4 units.

L41 (BIO) 5075 FUNDAMENTALS OF BIOSTATISTICS FOR GRADUATE STUDENTS
Instructor: Zachary Pincus, PhD, 747-5520
This course is designed for first-year DBBS students who have had little to no prior experience in programming or statistics. The course will cover common statistical practices and concepts in the life sciences, such as error bars, summary statistics, probability and distributions, and hypothesis testing. The class will also teach students basic programming skills for statistical computation, enabling them to retrieve and analyze small and large data sets from online databases and other sources. Credit: 1 unit.

L41 (Bio) 5077 PHARMACEUTICAL RESEARCH AND DEVELOPMENT: CASE STUDIES
Instructor: Kinch, 262-9805
The course will provide an overview of the history of pharmaceutical research and development activities, with emphasis upon understanding a blend of the scientific, public health, regulatory and business decisions that have shaped the pharmaceutical industry over the past eight decades. Particular emphasis will be placed on understanding how past trends have raised questions about the sustainability of the enterprise. Although no prerequisites are formally required, the course will blend basic understanding of scientific and medical terminology with an understanding of the commercial and policy decision-making processes that govern the pharmaceutical and biotechnology enterprises. Credit: 2 units.

L41 (BIO) 5084 MOLECULAR MOTORS AND SINGLE MOLECULE TECHNIQUES
Instructor: Michael Greenberg, PhD, 362-8670
Molecular motors in the cell harness chemical energy to generate mechanical work in a host of processes including cell motility, DNA replication and repair, cell division, transcriptional regulation, and intracellular transport. The purpose of this course is to discuss recent advances in the field of molecular motors. Special emphasis will be placed on understanding and critically evaluating single molecule studies. The course
will consist of both journal club presentations and small group discussions. Credit: 2 units.

L41 (BIO) 5123 EXPERIMENTAL HEMATOPOIESIS JOURNAL CLUB
Instructor: Daniel C. Link, MD, 362-8771
Journal club in which papers that describe significant advances in the field of experimental hematopoiesis are discussed. Students are expected to present one paper per semester and attend the weekly (1 hour) session. No prerequisites. Credit: 1 unit.

L41 (BIO) 5128 CELL BIOLOGY OF EXTRACELLULAR MATRIX JOURNAL CLUB
Instructor: Jeff Miner, PhD, 362-8235
This journal club covers a broad range of topics current interest, including the fields of biochemistry, molecular biology, cell biology and developmental biology. Speakers give a brief background to introduce the topic and then focus on one-two papers from the current literature. Presentations are given by students, faculty and postdoctorates. Students receive one credit for regular participation and for making one presentation. Credit: 1 unit.

L41 (BIO) 5137 ION CHANNELS JOURNAL CLUB
Instructor: Colin G. Nichols, PhD, 362-6630
Weekly presentations of recent papers on mechanisms of ion channel function and membrane excitability, as well as the role of channel defects in human and model diseases, with lively group discussions the norm! Once per semester, each participant will choose a paper and present it to the group. Credit: 1 unit.

L41 (BIO) 5138 JOURNAL CLUB FOR THE MOLECULAR MECHANISM OF AGING
Instructor: Shin-ichiro Imai, MD, PhD, 362-7228
Why do we age? What causes aging? How is our life span determined? This journal club will address such fundamental but challenging questions of aging and longevity. Recent studies on aging and longevity are now unveiling regulatory mechanisms of the complex biological phenomenon. We'll cover the latest progress in this exciting field and stimulate discussions on a variety of topics including aging-related diseases. One
hour of paper presentation or research talk and discussion per every two weeks.
Prerequisite: Basic knowledge of molecular biology and genetics of model organisms, such as yeast, C. elegans, Drosophila and mouse. Registered students are expected to have at least one presentation for 1 unit credit. Credit: 1 unit.

L41 (BIO) 5139 SEMINAR IN IMAGING SCIENCE AND ENGINEERING
Instructor: Joseph O'Sullivan, PhD, 935-4173
This seminar course consists of a series of tutorial lectures on Imaging Science and Engineering with emphasis on applications of imaging technology. Students are exposed to a variety of imaging applications that vary depending on the semester, but may include multispectral remote sensing, astronomical imaging, microscopic imaging, ultrasound imaging and tomographic imaging. Guest lecturers come from several parts of the university. This course is required of all students in the Imaging Science and Engineering program; the only requirement is attendance. This course is graded Pass/Fail. Prerequisite: Admission to Imaging Science and Engineering Program. Same as E35 ESE 596. Credit: 1

L41 (BIO) 5146 PRINCIPLES AND APPLICATIONS OF BIOLOGICAL IMAGING
Instructors: Adam Bauer, 362-6942; David Reichert, PhD, 362-9940, Joshua Shimony, PhD, 362-5950
Principles and Applications of Biological Imaging will introduce the interdisciplinary nature of the imaging sciences and conduct a comprehensive survey of the array of interrelated topics that define biological imaging. The course will cover the basics of the optical, magnetic resonance, CT, SPECT and PET imaging modalities, and microscopy, while focusing on applications of imaging to different disease states, such as oncology, neurology, cardiology and pulmonary diseases. Prereqs. One year each of Biology, Chemistry, Physics and Calculus. Credit: 3 units.

L41 (BIO) 5148 METABOLISM JOURNAL CLUB
Instructors: Daniel Ory, MD, 362-8737, Jean Schaffer, MD, 362-8717
The purpose of the Metabolism Journal Club is to introduce the graduate students to advanced topics spanning the biochemistry, cell biology and genetics of cellular and whole body metabolism. Under the guidance of the course directors (Drs. Ory and
students will select recent topical articles for discussion in the weekly journal club. Students will be expected to provide a succinct introduction to the topic and lead discussion of the data presented in the journal article. Students will be evaluated on the basis of their presentation and their participation in the seminar throughout the semester. Prereqs: Successful completion of Fundamentals of Molecular Cell Biology (Bio 5068) and Nucleic Acids and Protein Biosynthesis (Bio 548). Credit: 1 unit.

L41 (BIO) 5151 RNA BIOLOGY JOURNAL CLUB
Instructors: Daniel Ory, MD, 362-8737, Jean Schaffer, MD, 362-8717
The purpose of the RNA Biology Journal Club is to introduce the graduate students to advanced topics spanning the bioinformatics, biochemistry, cell biology and genetics of RNA biology. Under the guidance of the course directors (Drs. Ory and Schaffer), students will select recent topical articles for discussion in the weekly journal club. Students will be expected to provide a succinct introduction to the topic and lead discussion of the data presented in the journal article. Students will be evaluated on the basis of their presentation and their participation in the seminar throughout the semester. Prerequisites: Successful completion of Fundamentals of Molecular Cell Biology (Bio 5068) and Nucleic Acids and Protein Biosynthesis (Bio 548) or permission of instructors. Credit: 1 unit.

L41 (BIO) 5152 DEVELOPMENT, REGENERATION AND STEM CELL BIOLOGY JOURNAL CLUB
Instructor: Craig Micchelli, PhD, 362-7036
Focuses on developing a dialog around current topics in developmental and regenerative biology at the molecular, cellular and systems levels. Credit: 1 unit.

L41 (BIO) 5171 MEDICAL IMMUNOLOGY
Instructor: Andrey S. Shaw, MD, 362-4614
An introduction to basic concepts in immunology and immunopathology. Lectures focus on antigen-antibody interactions, immunoglobulin structure and genetics, the cellular basis of the immune response and immune regulation, T cell effector mechanisms, the inflammatory response, complement, the positive and negative roles of hypersensitivity, and immune deficiency. Prerequisite: some background in
biochemistry and genetics helpful. Restricted to medical students only except in unusual circumstances, with permission of coursemaster. Offered during the first half of the second medical semester. Three-four lecture hours a week, two (2) two-hour lab periods, four (4) one-hour clinical discussion groups. Credit: variable, maximum 3 units.

L41 (BIO) 5191 PATHO BIOLOGY OF HUMAN DISEASE STATES
Instructors: Audrey Odom, MD, PhD, 747-2370; Thomas Fehniger, MD, PhD, 747-1385
Three human disease states will be discussed in detail. Topics will include background clinical and epidemiological information, followed by a detailed examination of the molecular and cellular events that underlie the disease state. Examples of pertinent topics include Alzheimer's disease, AIDS, leukemia, cystic fibrosis, sickle cell anemia, diabetes, etc. Prerequisite: Must be a Markey Pathway student and have HIPAA training. Credit: 2 units.

L41 (BIO) 5192 CANCER BIOLOGY JOURNAL CLUB
Instructor: Ron Bose, PhD, 747-9308
This journal club covers current papers in molecular oncology, cancer genetics and contemporary molecular biology. Presentations will be given by students, post-docs and faculty, then discussed. Credit: 1 unit.

L41 (BIO) 5196 SPECIAL EMPHASIS PATHWAY IN CANCER BIOLOGY
Instructor: David Wilson, MD, PhD, 286-2834
This course is designed to present pre- and postdoctoral trainees with an organized educational format to explore major contemporary topics in cancer biology. The elective will provide an integrated view of cancer research including basic science, translational science, and clinical investigation. Approximately 60 minutes will be devoted to a didactic presentation by a faculty member with interaction by the participants. The remaining 30 minutes will be used to discuss a pivotal research paper from this field, preselected by the faculty member. Outside reading (30-60 min/week) will be required. Credit: 2 unit.

L41 (BIO) 5217 SPECIAL TOPICS IN MICROBIAL PATHOGENESIS
Instructors: Michael Caparon, PhD, 362-1485, Tamara Doering, MD, PhD, 747-5597, Amanda Lewis, MD, PhD, 286-0016

Primarily for graduate and MSTP students, this course is centered on critical evaluation of current scientific literature, which is used as a basis for discussion and grant writing, supplemented with sessions on experimental methodology. Paper discussions will involve oral presentation and discussion of current research articles on pathogenic microorganisms (bacteria, fungi, parasites, and viruses) and the cellular and molecular basis of host-pathogen interactions. Emphasis will be placed on understanding methods, critical evaluation of data, and design of future experiments for the articles covered. Students are expected to prepare all articles, to participate actively in all discussions, and to lead one or more discussions during the semester. The grant writing aspect of the course will focus on defining identifying key unanswered questions from the literature, formulating hypotheses for testing, defining Specific Aims, and developing a research plan. Students will submit specific aims based on current literature, receive critiques from faculty members, and develop a NIH-style proposal to investigate them. Students will participate in class discussions and a mock study section to evaluate proposals. Prereq, completion of the MMMP advanced elective, Bio 5392 Molecular Microbiology & Pathogenesis or permission of the coursemaster. Class meets twice per week for 1.5 hours each. Credit 2 units.

L41 (BIO) 5224 MOLECULAR, CELL AND ORGAN SYSTEMS
Instructor: Kendall Blumer, PhD, 362-1668

This course will introduce PhD and MSTP students to fundamental problems in cell and molecular biology at the systems level. The course is divided into five themes: 1) microbial systems; 2) organ development and repair; 3) cardiovascular system and disease; 4) tumor and host systems; and 5) metabolic systems and disease. Topics within each theme highlight current research concepts, questions, approaches and findings at the molecular, cellular and physiological levels. Students will write an original research grant proposal on a topic of their choosing in one of the five themes. Students will critique proposals anonymously in an NIH-like study section. Prerequisites: Fundamentals of Molecular Cell Biology and Nucleic Acids and Protein Synthesis. Credit: 3 units.
L41 (BIO) 5235 GENETICS JOURNAL CLUB
Instructor: Heather Lawson, PhD, 362-7269
This journal club will be focused on the Genetics Department seminar series. Students will present one or a few recent papers by the seminar speaker scheduled for that week. Students will provide a brief written evaluation (on a form that will be provided) of their peers’ presentations, and the faculty advisors will meet with each student after the presentation to provide feedback. Credit: 1 unit.

L41 (BIO) 5255 EXPERIMENTAL SKELETAL BIOLOGY JOURNAL CLUB
Instructor: Steven Teitelbaum, MD, 454-8463
The journal club, which meets weekly, focuses on cellular and molecular biology of the skeleton. Emphasis is placed on gaining insights into normal skeletal homeostasis as well as systemic disorders of bone. Papers presented for review are selected from the most competitive journals. Participants are encouraged to “think outside of the box” and discuss novel molecular discoveries that may impact bone cell function. Prerequisite: Permission of instructor. Credit: 1 unit.

L41 (BIO) 5272 ADVANCED TOPICS IN IMMUNOLOGY
Instructors: Paul Allen, PhD, 362-8758; Eugene Oltz, PhD, 362-5515
This course uses a journal club format to discuss contemporary issues in the cell and molecular biology of the immune system. Discussions focus on the use of current approaches to analyze the cellular and molecular basis of immunity. Topics include mechanisms of antigenic specificity, diversity, cell communication, differentiation, activation and effector activity. Prerequisite: L41 (Bio) 5051 and permission of instructor. Credit: 2 units. This is referenced in the Department of Pathology and Immunology.

L41 (BIO) 5284 CURRENT RESEARCH IN CHROMATIN, EPGENETICS AND NUCLEAR ORGANIZATION
Instructors: Douglas L. Chalker, PhD, 935-8838; Sarah Elgin, PhD, 935-5348
This journal club considers papers from the current literature on chromatin structure and function, with an emphasis on regulation of transcription, epigenetics and genomics. Presentations are given by students, postdocs and faculty, with discussion
by all. Students enrolled for credit are expected to attend regularly, and to present a minimum of one paper during the term, with consultation and critique from the faculty. Credit 1 unit.

L41 (BIO) 5285 FUNDAMENTALS OF MAMMALIAN GENETICS
Instructor: Patrick Jay, MD, PhD, 362-2174
This course aims to provide both biologists and those with mathematical backgrounds with a basis in mammalian genetics. The course will include the following modules: Nucleic acid biochemistry; Gene and chromosome organization; Intro to Human Genetics; Mutations and DNA repair; Cancer Genetics; Genomic methodologies; Biochemical genetics; Murine Genetics; Epigenetics; Neurodegenerative diseases; Mitochondrial disorders; Pharmacogenetics; Intro to human population genetics; Applications of modern human genetics; Intro to web-based informatics tools for molecular genetics. One of the required courses in the Quantitative Human Statistical Genetics graduate program. Credit: 3 units.

L41 (BIO) 5303 PROTEIN NMR JOURNAL CLUB
Instructor: TBA-362-3364
This journal club covers the recent literature on protein NMR with a focus on using NMR to study protein function, NMR dynamics, and novel methods that expand the range of systems accessible to solution NMR studies. Students, postdocs and faculty discuss a recent paper and present background information on the relevant technical aspects of NMR. Students receive 1 credit for participation and presenting one paper. Credit: 1 unit.

L41 (BIO) 5311 DYNAMICS IN MESOSCOPIC MOLECULAR SYSTEMS
Instructor: Elliot Elson, PhD, 362-3346
This course will provide a background in the theory of the dynamics of mesoscopic systems and introduction to methods for measuring the dynamics of these systems. It will include measurement methods, some of which are in common use and others that have only recently been introduced. This course would be useful for biophysics students and others that are interested in molecular processes and mechanisms in small systems such as cells. Prerequisite: Physical Chemistry. Credit: 3 units.
L41 (BIO) 5312 MACROMOLECULAR INTERACTIONS
Instructor: Timothy M. Lohman, PhD, 362-4393
This course will cover equilibria, kinetics and mechanisms of macromolecular interactions from a quantitative perspective. Thermodynamics, multiple binding equilibria (binding polynomials), linkage phenomena, cooperativity, allostery, macromolecular assembly, enzyme catalysis and mechanism, steady-state and pre-steady state kinetics, and isotope effects. Modern methods of computer analysis using nonlinear least squares fitting and simulation to analyze binding isotherms and full kinetic time courses is emphasized. Prerequisite: Physical Chemistry, Biochemistry, Calculus and Organic Chemistry. Three class hours per week. Credit: 3 units.

L41 (BIO) 5314 MOLECULAR BIOPHYSICS GRADUATE SEMINAR
Instructor: Kathleen B. Hall, PhD, 362-4196
Student presentation of molecular biophysics topic. Second-year students present from literature; senior students give formal research seminar. Attendance required for all molecular biophysics students. Credit: 1 unit.

L41 (BIO) 5319 MOLECULAR FOUNDATIONS OF MEDICINE
Instructor: Linda J. Pike, PhD, 362-9502
This course will cover fundamental aspects of biochemistry and cell biology from a medical perspective. The course begins with a treatment of protein structure and the function of proteins in the cytoskeleton and cell motility. The principles of enzyme kinetics and regulation are then discussed and basic pathways for the synthesis and metabolism of carbohydrates and lipids are introduced. This leads into a discussion of membrane structure and the function of cellular organelles in biological processes including energy production, protein degradation and protein trafficking. Prereq: Two semesters of organic chemistry. Coursemaster approval is required. Please note: This course is given on the medical school schedule and so it begins 8 days before the graduate school schedule. Credit: 3 units.

L41 (BIO) 5328 STRUCTURAL BIOLOGY JOURNAL CLUB
Instructor: Thomas Brett, PhD, 747-0018
Multi-laboratory research colloquia for DBBS graduate students focused on structural
biology and complementary biophysical techniques. Course credit requires student presentation for credit. Credit: 1 unit.

**L41 5336 BIOLCOMPUTATIONAL BIOPHYSICS JOURNAL CLUB**  
Instructor: Gregory Bowman, PhD, 362-7433  
This course covers a combination of classic and recent publications on computational methods for studying biomolecules. Students participating for credit will be required to present at least once. Credit: 1 unit.

**L41 (BIO) 5352 DEVELOPMENTAL BIOLOGY**  
Instructor: Kerry Kornfeld, MD, PhD, 747-1480  
Analysis of a selected set of key processes in development, such as pattern formation, cell-cell signaling, morphogenesis, etc. The focus is on molecular approaches applied to important model systems, but framed in classical concepts. The discussion section provides instruction in presenting a journal club and writing a research proposal. Prereqs, Molecular Cell Biology (Bio 5068) and Nucleic Acids (548). Credit: 3 units.

**L41 (BIO) 5357 CHEMISTRY AND PHYSICS OF BIOMOLECULES**  
Instructor: Paul Schlesinger, MD, PhD, 362-2223  
This course covers three major types of biomolecular structure: proteins, nucleic acids and membranes. Basic structural chemistry is presented, as well as biophysical techniques used to probe each type of structure. Selected topics include: protein folding, protein design, X-ray crystallography, NMR spectroscopy, nucleic acid bending and supercoiling, nucleic acid:protein interactions, RNA folding, membrane organization, fluidity, permeability and transport, and membrane channels. Weekly discussion section will cover problem sets and present current research papers. One of the required courses for the Biochemistry and for the Molecular Biophysics graduate programs. Prerequisites: prior coursework in Biochemistry and in Physical Chemistry is recommended, but not required. Credit: 3 units.

**L41 (BIO) 5358 BIOCHEMICAL AND BIOPHYSICAL INVESTIGATIONS OF INFECTIOUS DISEASES JOURNAL CLUB**  
Instructor: Jeffrey Henderson, MD PhD, 747-0240
Biochemical and biophysical approaches continue to advance as powerful approaches to understand human disease processes. This journal club covers recent papers in which these approaches address aspects of infectious diseases or inflammation. Students enrolling for credit will be expected to participate in weekly presentations and to present 1-2 papers along with accompanying background. Prereqs: Graduate standing in DBBS; prior introductory coursework in biochemistry, physical chemistry, or Chemistry and Physics of Biomolecules (Bio 5357); coursework in microbiology or immunology is not required. Credit: 1 unit.

L41 (BIO) 5392 MOLECULAR MICROBIOLOGY AND PATHOGENESIS
Instructor: Joseph Vogel, PhD, 747-1029
Course is devoted to studying microorganisms, particularly those that cause disease, with an emphasis on the molecular interactions between pathogens and hosts. First third of the course focuses on virology, second third on bacteriology and the last third on eukaryotic pathogens. Prereq, first semester core curriculum for Programs in Cell and Molecular Biology. Credit: 3 units. This is referenced in the Department of Molecular Microbiology.

L41 (BIO) 5397 CURRENT LITERATURE IN MICROBIOLOGY
Instructor: David Sibley, PhD, 362-8839
Presentations by students on a broad range of topics of current interest in microbiology. The course will emphasize presentations and discussion skills. Credit requires attendance and participation at all sessions and one presentation. Credit 1 unit.

L41 (BIO) 5412 TROPICAL AND MOLECULAR PARASITOLOGY
Instructor: L. David Sibley, PhD, 362-8873
Graduate-level seminar course focusing on current scientific literature in molecular parasitology. The journal club will meet biweekly during the Fall and Spring semesters. Students will attend both semesters in order to receive one credit. The seminar series will run jointly with a research conference in Tropical and Molecular Parasitology. Outside speakers will be invited for the seminar series to emphasize important developments in tropical medicine and molecular parasitology. In advance of the
invited speakers, topics will focus on their previous research publications. Prerequisite: L41 (BIO) 5392 Molecular Microbiology and Pathogenesis. Credit 0.5 unit.

L41 (BIO) 5417 HEMATOLOGY/ONCOLOGY JOURNAL CLUB
Instructor: Monita Wilson, PhD, 362-8839
This journal club covers a broad range of topics of current interest, including the fields of biochemistry, molecular biology, cell biology, developmental biology and immunology. Speakers usually give a brief background to introduce the topic and then focus on one or two papers from the current literature. Presentations are given by graduate students, post-doctorates and faculty. Each attendee presents two to three times per year. Participants are expected to attend all the sessions. This journal club was formed in 1966. Credit: 1 unit.

L41 (BIO) 5425 IMMUNOLOGY OF INFECTIOUS DISEASES JOURNAL CLUB
Instructor: Shabaana Khader, PhD, 286-1590
The goal of this Journal Club (JC) is to provide 2nd year students in MMMP program a platform to discuss new and emerging concepts on mechanisms by which host immune responses mediate protection against infectious diseases. This exercise will also enable the student who attend the fundamental Immunology course to apply their knowledge to understand the basis for immunology of infectious diseases. The format will include faculty who will select cutting-edge papers and head the discussion during the JC session. Credit: 1 unit.

L41 (BIO) 5426 ID GATEWAY: TRANSLATIONAL AND PUBLIC HEALTH ASPECTS OF BASIC INFECTIOUS DISEASE RESEARCH
Instructors: S. Celeste Morley, MD,PhD, 286-2136; Robyn Klein, MD, PhD, 286-2140
This course provides an opportunity for students, postdoctoral fellows, infectious disease fellows and faculty to explore issues at the interface between patient care, public health and basic research in the area of microbial pathogenesis. Prerequisites: Application and L41 (BIO) 5392 or M30 526, or permission of instructor. Credit: 2 units.

L41 (BIO) 5445 DNA METABOLISM JOURNAL CLUB
Instructor: Roberto Galletto, PHD, 362-4368
Presentation of current research papers in DNA replication, DNA repair and DNA recombination, with an emphasis on basic biochemical and biophysical approaches. Credit: 1 unit.

L41 (BIO) 5466 CURRENT TOPICS IN BIOCHEMISTRY
Instructor: Kathleen B. Hall, PhD, 362-4196
Special topics course offered every other week involving the discussion of research papers covering a broad range of topics in the field of biochemistry. Papers selected from the primary literature will be presented and discussed by students with guidance from the instructor. Emphasis will be placed on papers that illustrate the application of chemical approaches to important biological processes. Designed primarily for first- and second-year graduate students in the Biochemistry Ph.D. program. Prereqs: coursemaster permission. Credit: 0.5 unit.

L41 (BIO) 5468 CARDIOVASCULAR BIOPHYSICS JOURNAL CLUB
Instructor: Sándor J. Kovács, PhD, MD, 454-7660
This journal club is intended for beginning graduate students, advanced undergraduates and MSTP students with a background in the quantitative sciences (engineering, physics, math, chemistry, etc.). The subjects covered are inherently multidisciplinary. We will review landmark and recent publications in quantitative cardiovascular physiology, mathematical modeling of physiologic systems and related topics such as chaos theory and nonlinear dynamics of biological systems. Familiarity with calculus, differential equations and basic engineering/thermodynamic principles is assumed. Knowledge of anatomy/physiology is optional. Same as E72 BME 5911. Credit: 1 unit.

L41 (BIO) 548 NUCLEIC ACIDS AND PROTEIN BIOSYNTHESIS
Instructor: Eric Galburt, PhD, 362-5201
Fundamental aspects of structure, biosynthesis and function of nucleic acids and the biosynthesis of proteins. Emphasis on mechanisms involved in the biosynthetic processes and the regulation thereof. Prerequisite: L41 (Bio) 3371, 451, Chem 481 or equivalent or permission of instructor. This is referenced in the Department of Biochemistry and Molecular Biophysics. Credit: 3 units.
L41 (BIO) 5483 HUMAN LINKAGE AND ASSOCIATION ANALYSIS
Instructor: John P. Rice, PhD, 286-2572
Basic Genetic concepts: meiosis, inheritance, Hardy-Weinberg Equilibrium, Linkage, segregation analysis; Linkage analysis: definition, crossing over, map functions, phase, LOD scores, penetrance, phenocopies, liability classes, multi-point analysis, non-parametric analysis (sibpairs and pedigrees), quantitative trait analysis, determination of power for mendelian and complex trait analysis; Linkage Disequilibrium analyses: allelic association (case control designs and family bases studies), QQ and Manhattan plots, whole genome association analysis; population stratification; Quantitative Trait Analysis: measured genotypes and variance components. Hands-on computer lab experience doing parametric linkage analysis with the program LINKAGE, model free linkage analyses with Genehunter and Merlin, power computations with SLINK, quantitative trait analyses with SOLAR, LD computations with Haploview and WGAViewer, and family-based and case-control association analyses with PLINK and SAS. The methods and exercises are coordinated with the lectures and students are expected to understand underlying assumptions and limitations and the basic calculations performed by these computer programs. Auditors will not have access to the computer lab sessions. Prereq: M21-515 Fundamentals of Genetic Epidemiology. For details, to register and to receive the required permission of the Coursemaster contact the GEMS Program Manager (pa@wubios.wustl.edu or telephone 362-1052). Credit: 2 units. Same as M21 GEMS 5483.

L41 (BIO) 5484 GENETICS AND DEVELOPMENT OF C. ELEGANS JOURNAL CLUB
Instructor: Tim Schedl, PhD, 362-6162
Students will present a research paper (or present their current thesis research) and the appropriate background material. Credit: 1 unit.

L41 (BIO) 5487 GENETICS AND GENOMICS OF DISEASE
Instructor: Tim Schedl, PhD, 362-6162, Christina Gurnett, MD, PhD, 286-2789, John Welch, MD, PhD, 362-2626
The course will cover the use of genomic and genetic information in the diagnosis and treatment of disease, with an emphasis on current practice and existing gaps to be
filled to achieve precision medicine. Areas of discussion include: bioinformatics methods; assessment of pathogenicity; use and curation of disease variant databases; discovery of incidental findings; genomics applications in Mendelian disease, complex traits, cancer, pharmacogenomics, and infectious disease; design of clinical trials with genetic data; ethical and policy issues. Prerequisites: Genomics (Bio 5488), Advanced Genetics (Bio 5491), or Fundamentals of Mammalian Genetics (Bio 5285) or equivalent (permission from instructor). Credit: 2 unit.

L41 (BIO) 5488 GENOMICS
Instructors: Ting Wang, PhD, 286-0865; Donald Conrad, PhD, 362-4379
This course is designed for beginning students who want to become familiar with the basic concepts and applications of genomics. The course covers a wide range of topics including how genomes are mapped and sequenced as well as the latest computational and experimental techniques for predicting genes, splice sites, and promoter elements. High throughput techniques for ascribing function to DNA, RNA, and protein sequences including microarrays, mass spectrometry, interspecies genome comparisons and genome-wide knock-out collections will also be discussed. Finally, the use of genomic techniques and resources for studies of human disease will be discussed. A heavy emphasis will be put on students acquiring the basic skills needed to navigate databases that archive sequence data, expression data and other types of genome-wide data. Through problem sets the students will learn to manipulate and analyze the large data sets that accompany genomic analyses by writing simple computer scripts. While students will become sophisticated users of computational tools and databases, programming and the theory behind it are covered elsewhere, in Michael Brent's class, Bio 5495 Computational Molecular Biology. Because of limited space in our teaching lab, enrollment for lab credit will be limited to 24 students. Priority will be given to students in the DBBS program. Others interested in the course may enroll for the lectures only. If you have previous experience in computer programming, we ask that you do not enroll for the laboratory credit. Prereqs, Molecular Cell Biology (Bio 5068), Nucleic Acids (Bio 548) or by permission of instructor. To enroll in just the lecture section, register for 3 credits. To enroll in both the lecture and lab sections, register for 4 credits. Credit: 3 or 4 units.
L41 (BIO) 5489 HUMAN GENETICS JOURNAL CLUB
Instructor: Nancy Saccone, PhD, 747-3263
In this biweekly journal club on Human Genetics we will present and discuss current cutting-edge papers in human and mammalian molecular genetics. Students learn presentation skills, how to critique a paper and how to interact with a very active and critical audience. Prerequisites: Any person interested in the current state of the art in Human Genetics may attend this course. It is a requirement that all students wishing to earn credit in this course must present a 1.5-hour journal club talk and must regularly attend and participate in the journal club throughout the year. Credit: 0.5 units

L41 (BIO) 5491 ADVANCED GENETICS
Instructor: Tim Schedl, PhD, 362-6162
Fundamental aspects of organismal genetics with emphasis on experimental studies that have contributed to the molecular analysis of complex biological problems. Examples drawn from bacteria, yeast, nematodes, fruit flies and mammalian systems. Prerequisite: graduate standing or permission of instructor. This is cross-listed in the Department of Genetics. Credit: 3 units.

L41(BIO) 5495 COMPUTATIONAL MOLECULAR BIOLOGY
Instructor: Michael Brent, PhD, 286-0210
This course is a survey of algorithms and mathematical methods in biological sequence analysis (with a strong emphasis on probabilistic methods) and systems biology. Sequence analysis topics include introduction to probability, probabilistic inference in missing data problems, hidden Markov models (HMMs), profile HMMs, sequence alignment, and identification of transcription-factor binding sites. Systems biology topics include discovery of gene regulatory networks, quantitative modeling of gene regulatory networks, synthetic biology, and (in some years) quantitative modeling of metabolism. Prereqs: CSE131 or CSE501N. Same as home course E81 CSE 587A. Credit: 3 units.

L41 (BIO) 5496 SEMINAR IN COMPUTATIONAL MOLECULAR BIOLOGY
Instructor: Jeremy Buhler, PhD, 935-6180, Gary D. Stormo, PhD, 747-5534
Students present current research papers and the appropriate background material in the field of computational biology. **Arts and Sciences students must take this course for credit; Engineering students must take this course Pass/Fail.** Same as E81 CSE 7801. Credit: 1 unit.

L41 (BIO) 5499 CANCER INFORMATICS JOURNAL CLUB
Instructor: Obi Griffith, PhD, 747-9248.
This journal club will explore current topics in cancer informatics. Current literature will be reviewed for advanced cancer genome analysis methods, statistics, algorithms, tools, databases, and other informatics resources. Credit: 1 unit.

L41 (BIO) 550 MEDICAL GENETICS
Instructor: Susan Dutcher, PhD, 362-2765
A significant portion of the first-year course in basic medical genetics devoted to human and clinical genetics, with emphasis on how genomic information will transform the practice of medicine. Topics covered include population genetics, molecular basis of mutations; human functional genomics; mouse models of human disease; pharmacogenomics; metabolic defects. Lectures, small group discussions, patient information session. Prerequisite: an introductory genetics course and permission of the instructor. This is cross-listed in the Department of Genetics as M30 511 Medical Genetics. Credit: 2 units.

L41 (BIO) 5501 THE BIOLOGY AND PATHOLOGY OF THE VISUAL SYSTEM
Instructor: Didier Hodzic, PhD, 362-7037
The purpose of the course is to provide a fascinating view of vertebrate eye development, anatomy, physiology and pathology. Topics to be covered include the molecules that control eye formation, ocular stem cells, the physiology of transparency, hereditary ocular diseases, phototransduction, the neurobiology of the retina and central visual pathways, age-related eye diseases, and many others. The course is open to all second year graduates students and above. Ophthalmology residents and postdocs with an interest in vision are strongly encouraged to attend. Credit: 3 units.
L41 (BIO) 5505 INDEPENDENT STUDY IN FUNDAMENTALS OF MOLECULAR AND MICROBIAL GENETICS
Instructor: James Skeath, PhD, 362-0535
This literature-based course will introduce students to seminal and current studies in molecular and microbial genetics. Students will read and present a minimum of 12 landmark papers that helped shape our understanding of molecular and microbial genetics. Emphasis will be placed on students’ ability to comprehend and explain these studies via chalk talks. All presentations will be given by students. Prereqs: L41 5491 Advanced Genetics and permission from instructor. Credit: 2 units.

L41 (BIO) 5507 GENOME ENGINEERING METHODS AND APPLICATIONS
Instructor: Jeffery Milbrandt, MD, PhD, 362-4651.
This course will cover the basic principles of genome engineering with emphasis on Cas9/CRISPR technology. It will consist of discussion sessions in which students will present assigned manuscripts followed by a general discussion of the topic directed by the instructor. The course will cover the mechanisms of genome editing using host DNA repair systems, the function of Cas9, and how Cas9 can be harnessed to introduce defined mutations into almost any genome. The use of Cas9 to activate or repress genes, alter chromatin modifications, and the application of these Cas9 systems to conducting genome-scale screens in mammalian cells as well as its use in studying cell fate will be highlighted. Finally, we will study how Cas9 methodologies can be used to introduce disease-associated variants into pluripotent stem cells (e.g. iPSCs) that can be differentiated into disease-relevant cell for use in functional genomic studies. 1 unit.

L41 (BIO) 5512 Diseases of Membrane Transport & Excitability
Instructor: Robert Mercer, PhD, 362-6924
Classes will consider the molecular basis of the disease as well as animal models and current clinical studies. Addressing studies from the level of basic biophysical and molecular properties of the underlying ion channels/transporters, to the cellular defects, to organ and animal outcomes and therapies, which will encourage and force students to develop their ability to integrate understanding at multiple levels. Students
will be introduced to emerging ideas in clinical diagnosis, management and treatment, when appropriate, clinical specialists will allow student participants to directly observe and participate in the clinical experience. Prerequisites: Bio 5068 Fundamentals of Molecular Cell Biology. Credit: 2 units.

L41 (BIO) 554 NEURAL SCIENCES
For full description, see the Department of Anatomy and Neurobiology, M35 554 Neural Sciences.

L41 (BIO) 5565 ORAL PRESENTATION OF SCIENTIFIC DATA
Instructor: Staff, Neurosciences Program, 362-7189
Practical course on how to prepare and present scientific data to an audience. Prerequisite: first-year neuroscience program courses. Meets once a week for 90 minutes. Credit: 1 unit.

L41 (BIO) 5571 CELLULAR NEUROBIOLOGY
Instructor: Paul Taghert, PhD, 362-3641
This course will present a fully integrated overview of nerve cell structure, function and development at the molecular and cellular level. Broad topics to be covered include gene structure and regulation in the nervous system, quantitative analysis of voltage- and chemically-gated ion channels, presynaptic and postsynaptic mechanisms of chemical neurotransmission, sensory transduction, neurogenesis and migration, axon guidance and synapse formation. Two lectures plus one hour of discussion per week for 14 weeks. There will be three exams, as well as homework problems and summaries of discussion papers. Prerequisite: graduate standing or permission of the instructor. Credit: 4 units.

L41 (BIO) 5619 ADVANCED COGNITIVE, COMPUTATIONAL AND SYSTEMS NEUROSCIENCE
Instructor: Todd Braver, PhD, 935-5143
This course will develop critical thinking and analysis skills with regard to topics in Cognitive, Computational and Systems Neuroscience. Course format will be a series of modules composed of intensive, faculty-led case studies on interdisciplinary topics at
the intersection of psychology, computation and neuroscience. The goal will be to highlight the benefits of integrative, interdisciplinary approaches, by delving into a small set of topics from a variety of perspectives, rather than providing a survey-level introduction to a broader set of topic areas. Modules will involve a combination of lectures and student-led discussion groups, with students further expected to complete a multidisciplinary integrative final review paper. Case-study topics will vary somewhat from year to year, but are likely to include some of the following: temporal coding as a mechanism for information processing, coordinate transformations in sensory-motor integration, mechanisms of cognitive control, motor control strategies including application to neural prosthetics, and memory systems in health and disease. Credit: 3 units. Same as L33 Psych 519.

L41 (BIO) 5622 COGNITIVE, COMPUTATIONAL AND SYSTEMS NEUROSCIENCE PROJECT BUILDING
Instructor: Deanne M. Barch, PhD, 935-8729
The goal of this course is to help students in the CCSN Pathway develop the critical thinking skills necessary to develop and implement high-quality, interdisciplinary research projects. Throughout the course of the semester, students will develop a research plan in their chosen area of interest. The plan will be developed in consultation with at least two faculty members (from at least two different subdisciplines within the pathway) as well as the other students and faculty participating in the course. The culmination of this course will be for each student to produce an NIH-style grant proposal on the research project of their choosing. For most students, this will serve either as their thesis proposal or a solid precursor to the thesis proposal. The course will be designed to help facilitate the development of such a research plan through didactic work, class presentations, class discussion, and constructive feedback on written work. The course will begin with a review of written examples of outstanding research proposals, primarily in the form of grant submissions similar to those that the students are expected to develop (i.e., NRSA style proposals, R03 proposals). Review of these proposals will serve as a stimulus to promote discussion about the critical elements of good research proposals and designs in different areas. Each student will be expected to give three presentations
throughout the semester that will provide opportunities to receive constructive feedback on the development and implementation of research aims. The first presentation (toward the beginning of the semester) will involve presentation of the student’s general topic of interest and preliminary formulation of research questions. Feedback will emphasize ways to focus and develop the research hypotheses into well-formulated questions and experiments. The second presentation will involve a more detailed presentation of specific research questions (along the lines of NIH-style Specific Aims) and an initial outline of research methods. The final presentation will involve a fuller presentation of research questions and proposed methods. Feedback, didactic work and group discussion throughout the semester will include guidance on critical components of the development of a research plan, including how to perform literature searches, formulate testable hypotheses, write critical literature summaries and design experiments and analyses. The course will meet once a week, with faculty members from different tracks within the pathway present at each meeting. This will allow students to receive feedback from several perspectives. Prerequisite: Member of CCSN Pathway, permission of instructor. Credit: 3 units. Same as L33 Psych 5191.

L41 (BIO) 5646 NEUROSCIENCES PROGRAM 1ST YEAR FUNDAMENTALS
Instructors: Paul Shaw, PhD, 362-2703; Lawrence Snyder, MD, PhD, 747-3530; John Pruett, MD, PhD, 747-6751
This course will provide a two-part introduction to Neuroscience Research fundamentals. Namely, it will introduce elementary statistical analysis for Neuroscience research and an introduction for grant-writing to support Neuroscience-related research. Prereq, limited to first year neuroscience students. Credit: 0.5 units.

L41 (BIO) 5651 NEURAL SYSTEMS
Instructor: Lawrence Snyder, MD, PhD, 747-3530
The course will consist of lectures and discussions of the sensory, motor and integrative systems of the brain and spinal cord, together with a weekly lab. The lectures will present aspects of most neural systems and will be given by faculty members who have specific expertise on each topic. The discussions will include faculty-led group discussions and papers presented and discussed by students. The
labs will include human brain dissections, examination of histological slides, physiological recordings, behavioral methods, computational modeling and functional neural imaging. Credit: 6 units.

L41 (BIO) 5657 BIOLOGICAL NEURAL COMPUTATION
Instructor: Baranidharan Raman, PhD, 935-8538
This course will consider the computations performed by the biological nervous system with a particular focus on neural circuits and population-level encoding/decoding. Topics include, Hodgkin-Huxley equations, phase-plane analysis, reduction of Hodgkin-Huxley equations, models of neural circuits, plasticity and learning, and pattern recognition & machine learning algorithms for analyzing neural data. Note: Graduate students in psychology or neuroscience who are in the Cognitive, Computational, and Systems Neuroscience curriculum pathway may register in L41 5657 for three credits. For non-BME majors, conceptual understanding, and selection/application of right neural data analysis technique will be stressed. Hence homework assignments/examinations for the two sections will be different, however all students are required to participate in a semester long independent project as part of the course. Calculus, Differential Equations, Basic Probability and Linear Algebra. Undergraduates need permission of the instructor. Prerequisites: Permission from the instructor. Credit: 3 units. Same as E62 BME 572.

L41 (BIO) 5663 NEUROBIOLOGY OF DISEASE
Instructor: Conrad Weihl, MD, PhD, 362-6981
This is an advanced graduate course on the pathology of nervous system disorders. This course is primarily intended to acquaint Neuroscience graduate students with a spectrum of neurological diseases, and to consider how advanced neuroscientific approaches may be applied to promoting recovery in the brain. Topics will be presented by Washington University faculty members and include: neurooncology, stroke, retinal disease, perinatal brain injury, neurodegenerative disorders, neuroinflammation, epilepsy, and psychiatric disorders. The class will meet for 2 hours each week. Each session will be led by a faculty guest with expertise in a specific neurological or psychiatric disease. In the first hour, the speaker will discuss clinical
manifestations and pathophysiology. Where possible, the clinical presentation will be supplemented with a patient demonstration or videotape. After a 30-minute break for pizza and soda, the second hour will follow a journal club format. Two or three students will review current papers assigned by the speaker or course director. This course is offered in alternate years. Prereq: Introductory neuroscience course at the graduate or medical school level. Credit: 2 units.

L41 (BIO) 5678 CLOCKSCLUB
Instructors: Erik Herzog, PhD, 935-8635; Paul Taghert, PhD, 362-3641
Clocksclub focuses on recent advances in the study of biological timing including sleep and circadian rhythms. Participants discuss new publications and data on the molecules, cells and circuits underlying daily rhythms and their synchronization to the local environment. Students registered for this journal club will lead a discussion once during the semester. Prereqs: BIO 2970 or permission of instructor. Credit: 1 unit.

L41 (BIO 5702 CURRENT APPROACHES IN PLANT RESEARCH
Instructor: Plant Biology Program; 362-3364
This course is designed to introduce graduate students to contemporary approaches and paradigms in plant biology. The course includes lectures, in-class discussions of primary literature and hands-on exploration of computational genomic and phylogenetic tools. Evaluations include short papers, quizzes, and oral presentations. Over the semester, each student works on conceptualizing and writing a short NIH-format research proposal. Particular emphasis is given to the articulation of specific aims and the design of experiments. Students provide feedback to their classmates on their oral presentations and on their specific aims in a review panel. Prereq: Bio 5703 or permission of the instructor. Credit: 4 units.

L41 (BIO) 5703 EXPERIMENTAL DESIGN AND ANALYSIS IN BIOLOGICAL RESEARCH
Instructor: Plant Biology Program; 362-3364
In-depth exploration of landmark and current papers in genetics, molecular and cell biology, with an emphasis on prokaryotes and eukaryotic microbes. Class discussions will center on such key discoveries as the chemical nature of genetic material, the genetic code, oxygen producing light-spectrum, cell-cell signaling, transcriptional
regulation, the random nature of mutation, and cell cycle regulation. Emphasis will be placed on what makes a good question or hypothesis, expedient ways to address scientific problems, and creative thinking. The last third of the course will consist of student-run seminars on selected topics to increase proficiency in the synthesis of new material and public presentation skills. Credit: 2 units.

L41 (BIO) 5723 SEMINAR IN PLANT AND MICROBIAL BIOSCIENCE
Instructor: Staff, Plant Biology Program, 362-3364
This course emphasizing presentation skill and critical analysis counts towards the PMB Graduate Program's journal club course requirement. Students will be responsible for dividing and presenting 30 current research publications selected by the course masters. In addition to assembling brief PowerPoint presentations providing background and significance for their assigned articles, students are expected to provide classmates with a 1 page primer and short list of relevant references 2 units.

L41 (BIO) 580 SEMINAR IN POPULATION BIOLOGY
Instructor: Staff, Evolution, Ecology and Population Biology, 362-3364
This weekly seminar, covering different topics each semester, should be taken by graduate students in the program. Prerequisite: graduate standing or permission of the instructors. Credit: variable; 2 or 3 units.

L41 (BIO) 582 ETHNOBIOLOGY JOURNAL CLUB
Instructors: Gayle Fritz, PhD, 935-8588; Jan Slick, PhD, 577-5165
Students in this journal club will meet weekly with ethnobotanists, ethnozoologists and ecologists from various St. Louis institutions (including Washington University, University of Missouri-St. Louis, Saint Louis University and the Missouri Botanical Garden) to discuss recent publications and ongoing research. Enrolled students will attend the journal club every week, and once per semester will choose a paper and lead the discussion. Credit: 1 unit. Same as home course L48 Anthro 560.

L41 (BIO) 585 SEMINAR IN FLORISTIC TAXONOMY
Instructor: Peter Hoch, PhD, 577-5175
This weekly seminar provides an introduction to/overview of Plants, each semester progressively covering orders and families in a sequence derived from the Angiosperm Phylogeny Website (http://www.mobot.org/MOBOT/Research/APweb/welcome.html); in Spring 2014, the seminar will finish the monocots and begin the eudicots. Weekly presentations include a summary of all relevant information (molecular, chemical, anatomical, embryological, morphological, ecological, geographical, historical/paleontological, etc.) about the plant group under consideration, review of the classification/phylogeny of the group, examination of fresh and/or preserved specimens, and discussion of relationships, human uses, and other relevant aspects of the biology of that group. Credit will be contingent on one (or two) seminar presentation(s) per student, regular attendance and active participation in group discussions. Credit: 1 unit.

L41 (BIO) 5862 SEMINAR ON PROFESSIONAL DEVELOPMENT FOR GRADUATE STUDENTS IN ECOLOGY, EVOLUTION & POPULATION BIOLOGY
Instructor: Eleanor Pardini, PhD, 935-4884
This is a weekly discussion seminar course in which advanced graduate students and postdocs in STEM will discuss the practices of scientific teaching and basic professional development skills. Topics covered will include scientific teaching, active learning, assessment driven instruction, creation inclusive classrooms, preparing for job interviews, preparing grant proposals, and balancing family and work. There will be several panel discussions with invited speakers on a range of potential career options to STEM PhDs. Students will prepare or revise their professional portfolio materials over the course of the semester. The course is open to all DBBS graduate students and is required for GAANN fellows. Prereq: Graduate student status in the DBBS or permission of instructor. Credit: 1 unit.

L41 (BIO) 590 RESEARCH
Instructors: Staff, Division of Biology and Biomedical Sciences, 362-3365
Credit to be arranged. Research is listed as 900-level course in each department.

L41 (BIO) 5902 INTRO TO THE SCHOLARSHIP OF TEACHING AND LEARNING
Instructor: Denise Leonard, 935-6142;
In this course, students will be introduced to the fundamentals of the Scholarship of Teaching and Learning (SoTL), including the practice of developing, reflecting on, and evaluating teaching methods to improve student learning. The scholarship of teaching and learning incorporates knowledge from educational and cognitive-psychology research, and it leads to the dissemination of new knowledge to a broad audience of educators. Students will learn to articulate questions about classroom teaching that can be addressed in a SoTL research project. Working from these questions, students will develop research hypotheses; design an evaluative plan; describe specific research methods (including the type of data to be collected); write an IRB application; understand how to analyze the data relative to the hypotheses. By the end of this course, students will have designed a research plan for a SoTL project. Same as U29 Bio 4902. Credit: 1 unit. Same as U29 Bio 4902.

L41 (BIO) 5911 SEMINAR IN BIOLOGY AND BIOMEDICAL SCIENCES
Instructors: Staff, Division of Biology and Biomedical Sciences, 362-3365
These seminars cover the recent literature in various areas not included in other courses, or in more depth than other courses. Credit to be arranged.

L41 (BIO) 5913 BIOLOGICAL SYSTEMS ENGINEERING
Instructor: Kristen Naegle, PhD, 935-7665
This project-based (MATLAB) class will introduce several current techniques for systems-level measurement of molecules and a set of computational techniques for inferring biological meaning from such experiments. Several molecular types and measurement techniques will be covered. How to determine the quality of measurements will lay the groundwork for understanding a new measurement technique. From there, computational topics will include dimensionality reduction techniques, correlations between measurements and outcomes, and network modeling and inference. A working knowledge of molecular biology, differential equations, linear algebra, and statistics is required. Credits: 3 units.

L41 (BIO) 5915 TEACHING PRACTICE IN BIOLOGY AND BIOMEDICAL SCIENCES
Instructor: John H. Russell, PhD, 362-2558
Students serve as teaching assistants for undergraduate and graduate-level courses.
Faculty-supervised activities include lecture preparation and presentation, leading discussion and problem-solving sessions and laboratory instruction. Prerequisite: restricted to graduate students in the Division of Biology and Biomedical Sciences. Credit: 1 unit.

L41 (BIO) 5922 ENTERING MENTORING
Instructor: Kathryn Miller, PhD, 935-7305
This course is a series of facilitated discussions aimed at developing and improving mentoring skills for those involved in supervising undergraduate research experiences. It is designed for postdocs and graduate students who are or will be ‘bench mentors’ for undergraduates doing Bio 500 and/or Summer Research. Participants will receive “Entering Mentoring” materials, including articles and worksheets to facilitate mentoring interactions with their mentee, plus several resource books relevant to mentoring. They will develop a mentoring philosophy statement, work on specific assignments designed to improve their relationship with their mentee and share their present and past experiences as mentors and mentees. Bench mentors will be eligible for a travel award to help defray expenses for attending a meeting with their mentee, if that student wins one of the HHMI SURF travel awards (4-5 awarded annually) or is otherwise being supported to present at a scientific meeting. Prereq: open to graduate students and postdocs, with priority for those who plan to mentor undergraduates in summer research experiences. Graduate students and postdocs do NOT need to be mentoring a student at the time of the course; it is open to all with an interest in mentoring now or in the future. Note: The sessions will be held either at the beginning of the day or the end of the day at the Danforth campus. Once registration closes, an email will be sent to those registered to poll for the best days & times. Credit: 1 unit. Same as U29 Bio 492.

Biomedical Engineering
Modern biomedical engineers face a far different world than those trained even two decades ago.

Explosive advances in our ability to probe and understand molecular and cellular processes and their interconnections now make it imperative that the powers of engineering be brought to bear at ever smaller as well as at system wide levels. This will not only produce new discoveries at the most fundamental levels but also accelerate the translation of these discoveries into practical applications.

Our vision is that future leaders and lasting impact will arise from successfully integrating engineering concepts and approaches across molecular to whole body levels. Moreover, those also trained to integrate the analytical, modeling and systems approaches of engineering to the complex and, sometimes overwhelming, descriptive details of biology will be uniquely positioned to address new and exciting opportunities. We are committed to educating and training the next generation of biomedical engineers with this vision in mind.

At Washington University, world-class biological, engineering and medical research — along with top-notch, state-of-the-art health care — are closely intertwined. For more than 50 years, collaborations between the School of Medicine and the School of Engineering & Applied Science have led to major advances in many areas including: positron emission tomography, medical applications of ultrasound, application of computers to hearing research and development of heart valve flow simulators. Since the establishment of the Department of Biomedical Engineering in 1997, this atmosphere of collaboration and collegiality between the two schools has been further strengthened and expanded, leading to an exceptional degree of synergy that is one of our hallmarks. All of our core faculty have been hired since 1997 and comprise a young, dynamic and still-expanding group.

The core faculty, together with over 70 affiliated faculty from other departments form a network of mentors dedicated to training the next generation of biomedical engineers. Our goal is to educate students in an interdisciplinary manner so that they can effectively collaborate with physicians, biologists and other life scientists to build
their careers. Students can elect to perform their research with any member of the network. The commitment and diverse talent of these faculty provide a vast array of choices to enable students to refine their unique quantitative and analytical engineering skills and apply them to relevant biomedical problems. As a result, our graduates are well-equipped to work in multidisciplinary teams tackling cutting-edge and high impact problems of modern biomedical engineering.

Admissions Information

Please visit the Biomedical Engineering website for admissions information.

Biomedical Engineering Courses

BME 471 Bioelectric Phenomena
BME 4904 Interfaces and Attachments in Natural and Engineered Structures
BME 501 Graduate Seminar
BME 503A Cell and Organ Systems Biology
BME 506 Seminar in Imaging Science and Engineering
BME 507 Radiological Physics and Dosimetry
BME 524 Tissue Engineering
BME 530A Molecular Cell Biology for Engineers
BME 537 Computational Molecular Biology
BME 538 Cell Signal Transduction
BME 550 Numerical Methods for Computational Modeling in Biomedicine
BME 559 Intermediate Biomechanics
BME 5565 Mechanobiology of Cells and Matrices
BME 5610 Protein Structure and Dynamics
BME 564 Orthopaedic Biomechanics-Cartilage & Tendon
BME 565 Biosolid Mechanics
BME 568 Cardiovascular Dynamics
BME 572 Biological Neural Computation
BME 574 Quantitative Bioelectricity and Cardiac Excitation
BME 575 Molecular Basis of Bioelectrical Excitation
BME 5771 Biomedical Product Development
BME 5772 Biomedical Business Development
BME 589 Biological Imaging Technology
BME 5901 Integrative Cardiac Electrophysiology*
BME 5902 Cellular Neurophysiology
BME 5903 Physical Methods for Biomedical Scientists
BME 5907 Advanced Concepts in Image Science
BME 5911 Cardiovascular Biophysics Journal Club
BME 5913 Molecular Systems Biology: Computation & Measurements for Understanding Cell Physiology and Disease
BME 593 Computational Methods for Inverse Problems
BME 594 Ultrasound Imaging

For additional related courses, see the courses of the School of Engineering & Applied Science.

Department of Biomedical Engineering Faculty
Professor and chair of department

Steven C. George, MD, PhD
University of Missouri, Columbia (MD), 1991
University of Washington (PhD), 1995

Professor emeritis

Salvatore P. Sutera, PhD
California Institute of Technology, 1960

Full-time professors

Mark Anastasio, PhD
The University of Chicago, 2001

Jianmin Cui, PhD
State University of New York Stony Brook, 1992

Daniel W. Moran, PhD
Arizona State University, 1994

Rohit V. Pappu, PhD
Tufts University, 1996

Yoram Rudy, PhD
Case Western Reserve University, 1978

Lori A. Setton, PhD
Columbia University, 1993

Larry A. Taber, PhD
Stanford University, 1979
Frank Chi-Pong Yin, PhD, MD  
University of California, San Diego, 1970; MD, 1973

Quing Zhu, PhD  
University of Pennsylvania, 1992

**Full-time associate professors**

Dennis L. Barbour, MD, PhD  
The Johns Hopkins University, 2003

Vitaly Klyachko, PhD  
University of Wisconsin, 2002

Baranidharan Raman, PhD  
Texas A & M University, 2005

Jin-Yu Shao, PhD  
Duke University, 1997

Kurt A. Thoroughman, PhD  
The Johns Hopkins University, 1999

**Full-time assistant professors**

Jan Bieschke, PhD  
Max-Planck-Institute for Biophysical Chemistry, 2000

Hong Chen, PhD  
University of Washington – Seattle, 2011

Kristen Naegle, PhD  
Massachusetts Institute of Technology, 2009
Graduate group

Samuel Achilefu, PhD
University of Nancy, France, 1991

Hongyu An, DSc
Washington University in St. Louis, 2001

Beau Ances, MD, PhD
University of Pennsylvania, 2001

Maxim Artyomov, PhD
Massachusetts Institute of Technology, 2009

Martha Bagnall, PhD
University of California, San Diego, 2008

Deanna Barch, PhD
University of Illinois at Urbana-Champaign, 1993

Philip V. Bayly, PhD
Duke University, 1993

Gregory Bowman, PhD
Stanford University, 2010

Michael R. Brent, PhD
Massachusetts Institute of Technology, 1991

Paul C. Bridgman, PhD
Purdue University, 1980
David Brody, MD, PhD
Johns Hopkins School of Medicine, 2000

Michael Bruchas, PhD
Creighton University, 2004

Andreas H. Burkhalter, PhD
University of Zurich, 1977

Shantanu Chakrabartty, PhD
The Johns Hopkins University, 2004

Delphine Chen, MD, PhD
Washington University School of Medicine, 1999

ShiNung Ching, PhD
University of Michigan, 2009

Barak Cohen, PhD

Maurizio Corbetta, MD
University of Pavia School of Medicine, Italy, 1985

Joseph Culver, PhD
University of Pennsylvania, 1987

Gautam Dantas, PhD
University of Washington, 2005

Aaron DiAntonio, MD, PhD
Stanford University (MD/PhD), 1995

Anthony French, MD, PhD
University of Illinois, Urbana-Champaign, 1995; MD, 1996

Guy Genin, PhD
Harvard University, 1996

Michael Greenberg, PhD

Farshid Guilak, PhD
Columbia University, 1991

James Havranek, PhD
Stanford University, 2003

Tim Holy, PhD
Princeton University, 1997

James Huettner, PhD
Harvard University, 1987

Daniel Kerschensteiner, MD
Max-Planck Institute for Experimental Medicine, Göttingen, Germany, 2004

Sándor J. Kovács, PhD, MD
California Institute of Technology, 1977; MD, University of Miami, 1979

Spencer Lake, PhD
University of Pennsylvania, 2009

Gregory M. Lanza, PhD
University of Georgia, 1981

Jin-Moo Lee, MD, PhD
Cornell University Medical College, 1993
Eric Leuthardt, MD
University of Pennsylvania, 1999

Matthew Lew, PhD
Stanford University, 2015

H. Harold Li, PhD
Friedrich-Alexander-Universitat Erlangen-Nurnberg, 2001

Christopher Lingle, PhD
University of Oregon, 1979

Timothy Lohman, PhD
University of Wisconsin, Madison, 1977

Christopher A. Maher, PhD
Cold Spring Harbor Laboratory and Stony Brook University, 2006

Garland R. Marshall, PhD
Rockefeller University, 1966

Audrey McAlinden, PhD
University of London, Imperial College Medical School, 1998

Robert P. Mecham, PhD
Boston University, 1976

Gretchen Meyer, PhD
University of California, San Diego, 2011

Jeffrey Milbrandt, MD, PhD
Washington University in St. Louis, 1978; PhD University of Virginia, Charlottesville, 1983
Jeffrey Millman, PhD  
Massachusetts Institute of Technology, 2011  

Robi Mitra, PhD  
Massachusetts Institute of Technology, 2000  

Ilya Monosov, PhD  
Brown University, 2010  

Arye Nehorai, PhD  
Stanford University, 1983  

Jeanne Nerbonne, PhD  
Georgetown University, 1978  

Colin G. Nichols, PhD  
Leeds University, 1985  

Joseph A. O'Sullivan, PhD  
University of Notre Dame, 1986  

Camillo Padoa-Schioppa, PhD  
Massachusetts Institute of Technology, 2002  

Parag J. Parikh, MD  
Washington University, 2001  

Amit Pathak, PhD  
University of California, Santa Barbara, 2008  

Steven E. Petersen, PhD  
California Institute of Technology, 1982
Zachary Pincus, PhD
Stanford University, 2007

David Piston, PhD
University of Illinois, Urbana, 1989

Jay W. Ponder, PhD
Harvard University, 1984

Zachary Ray, MD
University of Iowa College of Medicine, 2004

Stacey Rentschler, MD, PhD
Mount Sinai School of Medicine, MD 2004, PhD 2002

Linda Sandell, PhD
Northwestern University, 1980

Vijay Sharma, PhD

Kooresh Isaac Shoghi
Univeristy of California, Los Angeles, 2005

Matthew J. Silva, PhD
Massachusetts Institute of Technology, 1996

Lawrence H. Snyder, MD, PhD
University of Rochester, 1992

Sheng-Kwei (Victor) Song, PhD
Washington University in St. Louis, 1990

S. Joshua Swamidass, MD/PhD
University of California, Irvine, 2009

Yuan-Chuan Tai, PhD
University of California, Los Angeles, 1998

Simon Tang, PhD
Rensselaer Polytechnic Institute, 2007

David C. Van Essen, PhD
Harvard University, 1971

Jessica Wagenseil, DSc
Washington University in St. Louis, 2003

Yong Wang, PhD
Washington University in St. Louis, 2009

Xiaowei Wang, PhD
Tufts University Medical School, 2000

Samuel A. Wickline, MD
University of Hawaii, 1980

Pamela Woodard, MD
Duke University School of Medicine, 1990

Hani Zaher, PhD
Simon Fraser University, 2007

Tiezhi Zhang, PhD
University of Wisconsin-Madison, 2004

Jie Zheng
Supporting faculty

R. Martin Arthur, PhD
University of Pennsylvania, 1968

Thomas Conturo, MD, PhD
Vanderbilt University, 1989

Elliot L. Elson, PhD
Stanford University, 1966

William A. Frazier III, PhD
Washington University, 1973

Eric Galburt, PhD
University of Washington, 2002

Robert J. Gropler, MD
University of Cincinnati, 1981

Dennis Hallahan, MD
Rush University, 1984

Joseph W. Klaesner, PhD
Vanderbilt University, 1995

Michael K. Pasque, MD
University of Oklahoma, 1978

William D. Richard, PhD
University of Missouri-Rolla, 1988
Richard Scheussler, PhD
Clemson University, 1977

Lilianna (Lila) Solnica-Krezel, PhD
University of Wisconsin-Madison, 1991

Alan R. Templeton, PhD
University of Michigan, 1972

M. Victor Wickerhauser, PhD
Yale University, 1985

Biostatistics

The Division of Biostatistics engages in research, biostatistical consultation and training activities. Interested students may pursue intensive studies through the Master of Science in Biostatistics, a Master of Science in Genetic Epidemiology (for Post-Docs only), a Certificate in Genetic Epidemiology, or individual courses offered by the division. Research activities include several independent lines of research as well as numerous collaborative projects with various departments of the medical school. Biostatistical consultation represents an important activity of the division, providing expertise in both theoretical and applied areas. The Division participates actively in a post-doctoral training through a T32 Post-Doctoral training grant in Genetic Epidemiology.

Research activities of the Division span a wide range of topics dealing with a number of disease areas and provide research opportunities at both theoretical and applied levels. Several research projects involve close interaction and collaboration with a
number of research groups at the Washington University Medical Center. Independent research programs of the Division deal with genetic epidemiology of cardiovascular and metabolic diseases, bioinformatics and statistical issues in imaging sciences and Alzheimer’s disease. A number of theoretical and applied problems are addressed, including nature-nurture resolution and identification of the genetic basis of risk factor domains such as lipids, obesity, blood pressure and hypertension, and insulin resistance and diabetes; exploration of gene-gene and gene-environment interactions; and multivariate associations among multiple risk factors.

Current and recent collaborative research projects include: a coordinating center for a multicenter study to assess the genetic basis of response to exercise training (HERITAGE); a coordinating center for a multicenter study on the effectiveness of a weight loss treatment implemented in primary care; a coordinating center for a multicenter NETWORK study on the genetics of hypertension (HyperGEN), and the Family Blood Pressure Program (FBPP); coordinating centers for a multicenter study to assess the genetic basis of response to intervention through incorporation of gene-environment interactions (Gensalt); the coordinating center for the PRIDE program with the goal of mentoring junior faculty in underrepresented minorities and/or faculty with disabilities into independent research careers in biomedical sciences; the coordinating center for the Data Analysis and Coordinating Center (DACC) which tracks the education and careers of people who have participated in the NHGRI Diversity Action Plan (DAP) and NHGRI T-32s that concentrate on genomics and genetics; important collaborative studies through support roles as biostatistics cores on the Washington University Institute of Clinical and Translational Sciences, the Alzheimer’s Disease Research Center, the Adult Children’s Study, Healthy Aging and Senile Dementia (HASD), The Dominantly Inherited Alzheimer Network (DIAN), the Alvin J. Siteman Cancer Center, the Silent Infarct Transfusion Study, the Optimization of Chemotherapy for Control and Elimination of Onchocerciasis, the Washington University Spotrias Center, the Washington University Intellectual & Developmental Disabilities Research Center and Childhood Obesity Treatment. We also have a significant role on studies that focus on lung transplants, asthma, COPD, pediatric heart and ischemic heart disease and on several epidemiological research projects.
developing methods for increasing public awareness and utilization of measures that are known to decrease the likelihood of developing heart disease and for encouraging behaviors that will improve prognosis following a heart attack.

The Division provides consultation through the Washington University Institute of Clinical and Translational Sciences (ICTS), the Washington University Intellectual & Developmental Disabilities Research Center, and the Biostatistics Consulting Service in a wide range of areas including the statistical design of experiments and clinical trials, protocol development, database management, analysis of data and interpretation of results. Some of the areas of special strength and expertise include cardiovascular biostatistics, computing and statistical packages. The Division is well-equipped to provide assistance at the stage of preparing grant applications, including careful discussions of study design, sample size calculations, randomization schemes, computer resources and data analysis.

One of the Division's specialties is statistical genetics/genetic epidemiology. We host and participate in a postdoctoral T32 training grant in this area. Statistical genetics is the scientific discipline that deals with an analysis of the familial distribution of traits, with a view to understanding any possible genetic basis. However, one cannot study genes except as they are expressed in people living in certain environments, and one cannot study environmental factors except as they affect people who have certain genotypes. Statistical genetics is a unique interdisciplinary field that seeks to understand both the genetic and environmental factors and how they interact to produce various diseases and traits in humans. These studies are carried out in relatively large samples of participants in relevant populations, thus, the population history and dynamics often come into play. Population dynamics alter the frequency and distribution of both genetic and environmental factors, and thus, their net effect on the phenotype of interest. Some population characteristics also can be exploited for the purposes of gene discovery and mapping because the history has affected the genomic structure in a way that specific genotypes associated with disease can be identified.

Human diseases have been the focal point of these studies, and recent efforts are
directed toward complex disorders such as coronary heart disease, hypertension, diabetes, obesity, cancer, atopy and allergies, and neurological and psychiatric disorders, to name a few. It is commonly thought that an understanding of the genetic underpinnings of such disorders will revolutionize medicine in the 21st century, enabling better preventive measures, diagnosis, prognosis and novel treatments. Given progress in the Human Genome Project, in computing power and in the creation of powerful statistical methods of analysis, we are poised to shepherd this revolution. It is an exciting time in science, and opportunities for careers in statistical genetics/genetic epidemiology abound.

**NIH sponsored training programs**

The PRIDE Summer Institute in Cardiovascular Genetics and Epidemiology (CGE) with a focus on Cardiovascular and other Heart, Lung, Blood and Sleep Disorders: An all-expense-paid summer institute continues in the summer of 2017 with funding from the NHLBI. The goal is to mentor junior faculty in underrepresented minorities and/or faculty with disabilities into independent research careers in biomedical sciences. For further information, visit the website at [http://www.biostat.wustl.edu/pridege/](http://www.biostat.wustl.edu/pridege/) or contact the program administrator at biostat-pride-cge@email.wustl.edu

The Division holds a Post-Doctoral T32 training grant in cardiovascular genetic epidemiology from the NIH. This training grant is available to PhDs and MDs with a background in quantitative sciences, cardiovascular sciences or experience in statistical genetics and genetic epidemiology. Candidates must be a US citizen or permanent resident to be eligible. For more information see our website at [https://biostatistics.wustl.edu/training/pages/post-doctoral-training-grant.aspx](https://biostatistics.wustl.edu/training/pages/post-doctoral-training-grant.aspx), contact the Program Administrator at (314) 362-3697 or send email to post-doc-search@wubios.wustl.edu

**Graduate studies**

The Division of Biostatistics sponsors a Master of Science in Biostatistics (MSIBS), a Master of Science in Genetic Epidemiology (GEMS; for Post-Doctoral students only)
and a Certificate in Genetic Epidemiology. The Division had sponsored the GEMS program from 2002 – 2012. In 2012 the GEMS program was streamlined as a Post-Doctoral degree program in addition to integrating some of the curriculum into the MSIBS program. Masters students who wish to have the GEMS type of training should look into the Statistical Genetic pathway of the MSIBS program.

**Master of Science in Biostatistics (MSIBS)**

This 18-month program offers excellent training in biostatistics and statistical genetics for students who earned undergraduate or higher degrees with majors in mathematics, statistics, computer science, biomedical engineering or other related major. It prepares graduates for rewarding employment in academia and industry and for further graduate studies.

**Academic calendar**

The MSIBS program begins approximately July 1 each year with preparatory workshops, followed by intensive summer semester courses. For the fall and spring courses, the MSIBS program follows the calendar of the College of Arts & Sciences. See the current MSIBS calendar at [https://biostatistics.wustl.edu](https://biostatistics.wustl.edu).

**Location**

The Program is currently located in the Division of Biostatistics, on the third floor of Shriners Building (706 S. Euclid Ave. at Clayton Road), Rooms 3301-3312. At the end of January 2017, the Division of Biostatistics, including the Program, will be moving to the Bernard Becker Library 5th floor (660 S. Euclid Ave.).

**Further information**

See our web site, [https://biostatistics.wustl.edu](https://biostatistics.wustl.edu), contact the Program Manager at (314) 362-1384, send email to biostat-msibs@email.wustl.edu or write to:

MSIBS Program
Biostatistics Courses

M21 503 STATISTICAL COMPUTING WITH SAS®
Department: Division of Biostatistics
Course masters: Karen Schwander
Credit hours: 2 units
Frequency: Every summer

Intensive hands-on summer training in SAS® during nine full weekdays. Students will learn how to use the SAS® system for handling, managing and analyzing data. Instruction is provided in the use of the SAS® programming language, procedures, macros and SAS® SQL. The course will include exercises using existing programs written by SAS® experts. Instruction manual and computer lab will be provided. This course meets the prerequisite for M21 560 Biostatistics I offered in fall. The registration/grade option of “Audit” is not available. Participants are required to participate in the Computing/Unix Workshop offered free of charge immediately prior to this course in early July.

For details, to register and to obtain the required permission of the course master, contact the MSIBS Program Manager: biostat-msibs@email.wustl.edu or (314) 362-1384.
M21 506 R PRIMER
Department: Division of Biostatistics
Course master: Yun Ju Sung
Credit hours: 2 units
Frequency: Every summer
This is an introduction to the R Statistical Environment for new users. R is “a freely available language and environment for statistical computing and graphics which provides a wide variety of statistical and graphical techniques: linear and nonlinear modeling, statistical tests, time series analysis, classification, clustering, etc. The goal is to give students a set of tools to perform statistical analysis in medicine, biology, or epidemiology. At the conclusion of this primer, students will: be able to manipulate and analyze data, write basic models, understand the R environment for using packages, and create standard or customized graphics. This primer assumes some knowledge of basic statistics as taught in a first semester undergraduate or graduate sequence. Topics should include: probability, cross-tabulation, basic statistical summaries, and linear regression in either scalar or matrix form.
For details, to register and to obtain the required permission of the course master, contact the MSIBS Program Manager: biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 515 FUNDAMENTALS OF GENETIC EPIDEMIOLOGY
Department: Division of Biostatistics
Course masters: Treva Rice and Yun Ju Sung
Credit hours: 3 units
Frequency: Every summer
Intensive two-week summer course. Lectures cover causes of phenotypic variation, familial resemblance and heritability, Hardy-Weinberg Equilibrium, ascertainment, study designs and basic concepts in genetic segregation, linkage and association. The computer laboratory portion is designed as hands-on practice of fundamental concepts. Students will gain practical experience with various genetics computer programs (e.g., SOLAR, MERLIN, QTDT and PLINK). Auditors will not have access to the computer lab sessions.
M21 550 INTRODUCTION TO BIOINFORMATICS  
Department: Division of Biostatistics  
Course master: C.Charles Gu, Co-Coursemaster: Jingqin (Rosy) Luo  
Credit hours: 3 units  
Frequency: Every summer  
Intensive two-week summer course designed to provide broad exposure to the basic concepts, methodology and application of bioinformatics to solve biomedical problems. Specifically, students will learn the basics of online genomic databases and database mining tools and will acquire understanding of mathematical algorithms in genome sequence analysis (alignment analysis, gene finding/predicting), gene expression microarray (genechip) analysis, and the impact of recent developments such as protein microarrays or whole-genome DNA chips for genome-wide association studies. Students will also take computer labs and learn basics of bioinformatics tools and databases (BLAST/WUBLAST, Prospector, etc.), practice basics of R/Bioconductor programming, and apply specialized R packages to solve bioinformatics problems pertinent to real medical research of human diseases. Auditors will not have access to the computer lab sessions.

Participants are strongly encouraged to participate in the computing/UNIX Workshop offered free of charge prior to this course in early July. Prerequisite: M21 506, R Primer.

For details, to register and to obtain the required permission of the course master, contact the MSIBS Program Manager: biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 5483 HUMAN LINKAGE AND ASSOCIATION ANALYSIS  
Department: Department of Genetics  
Course master: John Rice
Credit hours: 3 units
Frequency: Every fall
Basic genetic concepts: meiosis, inheritance, Hardy-Weinberg Equilibrium, linkage, segregation analysis; Linkage analysis: definition, crossing over, map functions, phase, LOD scores, penetrance, phenocopies, liability classes, multipoint analysis, non-parametric analysis (sibpairs and pedigrees), quantitative trait analysis, determination of power for mendelian and complex trait analysis; linkage disequilibrium analyses: allelic association (case control designs and family bases studies), QQ and Manhattan plots, whole genome association analysis; population stratification; quantitative trait analysis; measured genotypes and variance components. Hands-on computer lab experience doing parametric linkage analysis with the program LINKAGE, model free linkage analyses with Genehunter and Merlin, power computations with SLINK, quantitative trait analyses with SOLAR, LD computations with Haploview and WGAViewer, and family-based and case-control association analyses with PLINK and SAS. The methods and exercises are coordinated with the lectures, and students are expected to understand underlying assumptions and limitations and the basic calculations performed by these computer programs. Auditors will not have access to the computer lab sessions. Prerequisite: M21 515 Fundamentals of Genetic Epidemiology. Cross-listed as L41 5483.

For details, to register and to obtain the required permission of the course master, contact the MSIBS Program Manager: biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 560 BIOSTATISTICS I
Department: Division of Biostatistics
Course masters: Kenneth Schechtman and Kathryn Trinkaus
Credit hours: 3 units
Frequency: Every fall (ending mid-October)
This course is designed for students who want to develop a working knowledge of basic methods in biostatistics. The course is focused on biostatistical and epidemiological concepts and on practical hints and hands-on approaches to data
analysis rather than on details of the theoretical methods. We will cover basic concepts in hypothesis testing, will introduce students to several of the most widely used probability distributions, and will discuss classical statistical methods that include t-tests, chi-square tests, regression analysis, and analysis of variance. Both in-class examples and homework assignments will involve extensive use of SAS. Prerequisite: M21 503, Statistical Computing with SAS®, or student must have good practical experience with SAS®.

For details, to register and/or to obtain the required permission of the Course Master, contact the MSIBS Program Manager: biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 570 BIOSTATISTICS II
Department: Division of Biostatistics
Course masters: Kenneth Schechtman and Kathryn Trinkaus
Credit hours: 3 units
Frequency: Every fall (from mid-October to mid-December)
This course is designed for students who have taken Biostatistics I or the equivalent and who want to extend their knowledge of biostatistical applications to more modern and more advanced methods. Biostatistical methods to be discussed include logistic and Poisson regression, survival analysis, Cox regression analysis, and several methods for analyzing longitudinal data. Students will be introduced to modern topics that include statistical genetics and bioinformatics. The course will also discuss clinical trial design, the practicalities of sample size and power computation and meta analysis, and will ask students to read journal articles with a view towards encouraging a critical reading of the medical literature. Both in-class examples and homework assignments will involve extensive use of SAS. Prerequisite: M21 560, Biostatistics I or its equivalent as judged by the course masters.

For details, to register, and/or to obtain the required permission of the course master, contact the MSIBS Program Manager: biostat-msibs@email.wustl.edu or (314) 362-1384.
M21 617 STUDY DESIGN AND CLINICAL TRIALS
Department: Division of Biostatistics
Course masters: Jingxia (Esther) Liu
Credit hours: 3 units
Frequency: Every spring
The course will focus on statistical and epidemiological concepts of study design and clinical trials. Topics include: different phases of clinical trials, various types of medical studies (observational studies, retrospective studies, adaptive designs, and comparative effectiveness research), and power analysis. Study management and ethical issues are also addressed. Students will be expected to do homework and to practice power analysis during lab sessions. Prerequisites: M21 560 Biostatistics I and M21 570 Biostatistics II. Permission of the course master required.

For details, to register, and/or to obtain the required permission of the course master, contact the MSIBS Program Manager: biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 512 ETHICS FOR BIOSTATISTICS
Department: Division of Biostatistics
Course master: Alison Antes

Credit hours: 3 units
Frequency: Every spring
This course prepares biostatisticians to analyze and address ethical and professional issues in the practice of biostatistics across the range of professional roles and responsibilities of a biostatistician. The primary goals are for biostatisticians to recognize complex situational dynamics and ethical issues in their work and to develop professional and ethical problem-solving skills. The course specifically examines ethical challenges related to research design, data collection, data management, ownership, security, and sharing, data analysis and interpretation, and data reporting and provides practical guidance on these issues. The course also examines fundamentals of the broader research environment in which biostatisticians work, including principles of ethics in human subjects and animal research, regulatory
and compliance issues in biomedical research, publication and authorship, and collaboration in science. By the conclusion of the course, participants will understand the ethical and regulatory context of biomedical research; identify ethical issues, including situational dynamics that serve to foster or hinder research integrity, in the design and conduct of research and the management, analysis, and reporting of data; and utilize strategies that facilitate ethical problem-solving and professionalism.

For details, to register, and/or to obtain the required permission of the course master, contact the MSIBS Program Manager: biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 618 SURVIVAL ANALYSIS
Department: Division of Biostatistics
Course masters: Ling Chen
Credit hours: 3 units
Frequency: Every spring
This course will cover the basic applied and theoretical aspects of models to analyze time-to-event data. Basic concepts will be introduced including the hazard function, survival function, right censoring, and the Cox-proportional hazards (PH) model with fixed and time dependent covariates. Additional topics will include regression diagnostics for survival models, the stratified PH model, additive hazards regression models and multivariate survival models. Prerequisites: Calculus I and II, M21-560 Biostatistics I and M21-570 Biostatistics II. Permission of the course master required.

For details, to register, and/or to obtain the required permission of the course master, contact the MSIBS Program Manager: biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 621 COMPUTATIONAL STATISTICAL GENETICS
Department: Division of Biostatistics
Course masters: Michael Province and Aldi Kraja
Credit hours: 3 units
Frequency: Every spring
This course covers the theory and application of both classical and advanced algorithms for estimating parameters and testing genomic hypotheses connecting genotype to phenotype. Students learn the key methods by writing their own program to do (simplified) linkage analysis in pedigrees in SAS for a simulated dataset provided by the course master. Topics covered in the course include Maximum Likelihood theory for pedigrees and unrelated individuals, Maximization routines such as Newton-Raphson and the E-M Algorithm, Path analysis, Variance components, Mixed model algorithms, the Elston-Stewart and Lander-Green Algorithms, Simulated Annealing and the Metropolis Hastings algorithm, Bayesian and MCMC methods, Hidden Markov Models, Coalescent Theory, Haplotyping Algorithms, Genetic Imputation Algorithms, Permutation/Randomization Tests, classification and Data Mining Algorithms, Population Stratification and Admixture Mapping Methods, Loss of Heterozygosity models, Gene Networks, Copy Number Variation methods, Multiple comparisons corrections and Power and Monte-carlo simulation experiments. Course not available to auditors. Prerequisites: M21 5483 Human Linkage & Association, M21 560 Biostatistics I, and M21 570 Biostatistics II or, with permission

For details, to register, and/or to obtain the required permission of the course master, contact the MSIBS Program Manager: biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 600 MENTORED RESEARCH
Department: Division of Biostatistics
Course masters: DC Rao and Chengjie Xiong
Credit hours: 6 units
Frequency: Every spring, summer and fall
Student undertakes supervised research in a mentor’s lab. The goal is to acquire important research skills as well as good writing and presentation skills. The student finds a mentor who is willing to work with him/her and they together identify a research topic. A written thesis based on the research, prepared in the format of an actual scientific publication, must be submitted and presented to a select audience. The course masters will organize a few meetings throughout to facilitate the whole
process. The course masters will determine the grade (pass/fail) in consultation with the mentors. Permission of the Course Masters is required.

For details, to register, and/or to obtain the required permission of the course master, contact the MSIBS Program Manager: biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 630 INTERNSHIP
Department: Division of Biostatistics
Course masters: D.C. Rao and J. Philip Miller
Credit hours: 3 or 6 units
Frequency: Every summer

The primary goal of the Internship program is for all students to acquire critical professional experience so that they will be well prepared to enter the job market upon graduation. This provides an opportunity for students to test-drive the job market, develop contacts, build marketable skills and perceive likes and dislikes in the chosen field. Students are required to spend a total of 440 hours in the laboratories of their chosen mentors. One of two types of projects may be pursued as part of the Internship experience. A student may elect to pursue a “Data Analysis Project” involving data management and extensive analyses of data which may lead to a publication-quality manuscript (possibly earning co-authorship for the student).

Alternatively, a student may choose a highly focused research-oriented project and carry out “Mentored Research” by working closely with the mentor. In this case, the student will assist the mentor by preparing a publication-quality manuscript as part of the Internship. In either case, as part of the Internship requirements, each student will submit a one-page abstract of the work performed as part of the internship and will give a 5-minute presentation of the Internship experience. Internship presentations will be scheduled in late summer. The grade for each student will be determined in consultation with the mentor. Internships will be facilitated and coordinated by an Internship Committee consisting of professors J. Philip Miller & D.C. Rao (Co-Chairs), Ken Schechtman and Chengjie Xiong. Available to Master of Science in Biostatistics (MSIBS) students only.
Biostatistics Faculty

Amber Salter Albright, PHD, M PH
Assistant Professor of Biostatistics (primary appointment)
Assistant Professor of Neurology
PHD University of Alabama-Birmingham 2015
M PH University of North Texas Health 2005

Ling Chen, MPH, PHD
Assistant Professor of Biostatistics (primary appointment)
Assistant Professor of Medicine
BS Beijing Medical University 1996
MPH University of South Carolina 2003
PHD University of Missouri Columbia 2009

Robert Culverhouse, PHD, MA
Assistant Professor of Medicine
Assistant Professor of Biostatistics
PHD Washington University in St. Louis 1998
MA University of California Berkeley 1987
BA Vanderbilt University 1983

Lisa De Las Fuentes, MD
Associate Professor of Medicine (primary appointment)
Associate Professor of Biostatistics
MD University of Texas Southwestern 1996
BA Stanford University 1991

Feng Gao, PHD
Associate Professor of Surgery (Public Health Sciences) (primary appointment)
 Associate Professor of Biostatistics
Associate Professor of Medicine
PHD Emory University 2003

Mae Etsuko Gordon, MS, PHD
Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Biostatistics
MS University of Wisconsin Madison 1970
PHD University of Wisconsin Madison 1979
BA Portland State University 1967

Chi Gu, PHD
Associate Professor of Biostatistics (primary appointment)
Associate Professor of Genetics
BS Nanjing Medical University 1982
PHD Washington University in St. Louis 1992

Esther Jiaxin Lu, PHD, MS
Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
Assistant Professor of Biostatistics
PHD Medical College of Wisconsin 2007
MS National University of Singapore 2002
BA Nankai University 1997
Jingqin Luo, PHD, MS
Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
Assistant Professor of Biostatistics
Assistant Professor of Medicine
PHD Duke University 2006
MS Renmin University of China 2001
MS1 Duke University 2003
BS Renmin University of China 1998

J. Philip Miller
Professor of Biostatistics (primary appointment)
Professor of Medicine
Tenure Held At-Large in the Medical School
BA Washington Univ in St. Louis 1965

Jay Francis Piccirillo
Professor of Otolaryngology (primary appointment)
Vice Chairman for Research, Dept of Otolaryngology
Professor of Medicine
Professor of Occupational Therapy
Professor of Biostatistics
BA University of Vermont 1979

Michael A Province, MA
Professor of Genetics (primary appointment)
Professor of Biostatistics
BA University of Dallas 1973
MA Washington Univ in St. Louis 1979

Dabeeru C Rao, PHD, MS
Professor of Biostatistics (primary appointment)
Professor of Biostatistics in Genetics
Director of the Division of Biostatistics
Tenure Held At-Large in the Medical School
Professor of Biostatistics in Psychiatry
Professor of Mathematics
BS Indian Statistical Institute 1967
PHD Indian Statistical Institute 1971
MS Indian Statistical Institute 1968

John P Rice, MA, PHD
Professor of Mathematics in Psychiatry (primary appointment)
Professor of Biostatistics
Professor of Genetics
BA Cornell University 1969
MA Washington Univ in St. Louis 1972
PHD Washington Univ in St. Louis 1975

Treva Kay Rice, MA
Professor of Biostatistics (primary appointment)
Professor of Psychiatry
BS University of Texas Arlington 1981
MA University of Colorado Boulder 1984

Nancy L. Saccone, PHD, MS
Associate Professor of Genetics (primary appointment)
Associate Professor of Biostatistics
PHD Brown University 1993
MS Brown University 1990

Kenneth B Schechtman, MS, MA, PHD
Associate Professor of Biostatistics (primary appointment)
Associate Professor of Medicine
Tenure Held At-Large in the Medical School
BS City University of New York 1967
MS Purdue University 1971
MA Washington Univ in St. Louis 1978
PHD Washington Univ in St. Louis 1978
Yun Ju Sung **Associate Professor of Biostatistics** (primary appointment)

**Associate Professor of Psychiatry**

*Guoqiao Wang, MA* **Assistant Professor of Biostatistics** (primary appointment)
MA University of Alabama-Tuscaloo 2010

*Ting Wang, PHD, MS* **Associate Professor of Genetics** (primary appointment)
**Associate Professor of Computer Science and Engineering**
**Associate Professor of Biostatistics**

BS School Not Listed 1997
PHD Washington Univ in St. Louis 2006
MS Washington Univ in St. Louis 2001

*Chengjie Xiong, PHD, MS* **Professor of Biostatistics** (primary appointment)

**Professor of Neurology**
**Professor of Mathematics**
PHD Kansas State University 1997
BS Xinjiang University 1983
MS Peking University 1989

*Yan Yan, MHS, MD* **Professor of Surgery (Public Health Sciences)** (primary appointment)
**Professor of Biostatistics**
MHS Johns Hopkins University 1995
MD Nanjing Medical University 1983
No entries found

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**Master of Science in Clinical Investigation Program**

The Master of Science in Clinical Investigation (MSCI) Program provides high-quality, multidisciplinary training in clinical research to promote the successful career development of clinical investigators. It is designed as a one- to three-year full- or part-time degree program for young investigators committed to pursuing academic careers in clinical research. The unique program combines didactic coursework with mentored research and career development opportunities and provides students with the knowledge and tools to excel in the areas of clinical investigation most relevant to their
careers. The MSCI is available to postdoctoral scholars, junior faculty and predoctoral students enrolled in established clinical research training programs. The program is also available to other Washington University affiliated postdoctoral health sciences scholars. Postdoctoral scholars and junior faculty must be within the medicine and allied health professions, conducting clinical research at Washington University or with an affiliated program. Predoctoral students in medicine, psychology, the Division of Biology and Biomedical Sciences, social work, audiology, physical therapy, occupational therapy and related disciplines in the Graduate School of Arts & Sciences who have completed or are enrolled in the Predoctoral Interdisciplinary Clinical Research Training Program (PICRT) are also eligible. For further information, email crtc@dom.wustl.edu, call 312-454-8936 or visit http://crtc.wustl.edu.

**Program requirements**

The MSCI requires the following core curriculum in clinical investigation:

M17 513 DESIGNING OUTCOMES AND CLINICAL RESEARCH
3 credits, Fall Semester, Wednesdays, 4:00 p.m. to 6:15 p.m., Brian Gage, MD, MSc, course master
This course includes lectures from faculty of Medicine, Surgery, Otolaryngology and Pediatrics. You will learn how to select a clinical research question, write a research protocol and execute a clinical study. Topics include subject selection, observational and experimental study design, sample size estimation, clinical measurements, questionnaires and data management. The course is designed for clinicians and health-care professionals who wish to conduct outcomes and patient-oriented clinical research. Students receive ongoing feedback as they incorporate research design concepts into their own research proposals. At the end of the course, students are required to submit a research protocol or a draft of a manuscript describing their research and pass the final exam. The course consists of lectures. Each student gives an oral presentation and presents a written paper or grant protocol for discussion and critique by faculty and other students.

OR
M17 588 EPIDEMIOLOGY FOR CLINICAL RESEARCH
3 credits, Spring Semester, Wednesdays, 4:30 p.m. to 7:00 p.m., TBD, coursemaster
This course introduces principles of epidemiology as they apply to clinical research. The course provides basic tools used in descriptive and analytical epidemiology, which are crucial for making informed decisions in the care of patients. Critical thinking and scientific/analytic competencies are emphasized throughout the course.

M17 510 ETHICAL AND LEGAL ISSUES IN CLINICAL RESEARCH
2 credits, Fall Semester, Mondays, 4:00 p.m. to 6:00 p.m., Stephanie Solomon, PhD, course master
This course prepares clinical researchers to critically evaluate ethical and regulatory issues in clinical research. The principal goal of this course is to prepare clinical researchers to identify ethical issues in clinical research and the situational factors that give rise to them, to identify ethics and compliance resources and to foster ethical problem-solving skills.

M17 522 INTRODUCTION TO STATISTICS FOR CLINICAL INVESTIGATION
3 credits, Fall Semester, Thursdays, 4:30 p.m. to 7:00 p.m., Dorina Kallogjeri, MD, MPH, course master
This is a basic course in statistics with particular focus on the health sciences. It is taught in a user-friendly manner with emphasis on use of SPSS, statistical analysis software commonly used in clinical research. The course will teach basic statistical methods in which clinical researchers should have facility to execute their own analyses.

M17 590 INTERMEDIATE METHODS FOR CLINICAL & OUTCOMES RESEARCH
3 credits, Spring Semester, Wednesdays, 4:30 p.m. to 7:00 p.m., Ann Marie Dale, PhD, course master
This course will focus on the application of epidemiologic principles and tools in clinical research, clinical issues and understanding the medical literature concerning these issues. Course content will go beyond basic applications to clinical research. The course provides scholars with clinical epidemiological tools, which are crucial for making informed decisions in the care of patients. Critical thinking and scientific and
analytic competencies are emphasized throughout the course. Prerequisite, M17-513 or M17-588.

M17 524 INTERMEDIATE STATISTICS FOR THE HEALTH SCIENCES
3 credits, Spring Semester, Thursdays, 4:00 p.m. to 6:30 p.m., Dorina Kallogjeri, MD, MPH, course master
This course is designed to build on skills developed in Introduction to Statistics for the Health Sciences and to foster basic expertise required to independently use common multivariate biostatistical methods to analyze clinical research data for peer-review presentation and publication.

M17 528 GRANTSMANSHIP
2 credits, Fall Semester, Tuesdays, 5:15 p.m. to 7:15 p.m., Jay Piccirillo, MD, Karen Dodson, MBA, course masters
Scholars create a focused research plan that incorporates well-formulated hypotheses, rationales, specific objectives and long-range research goals; organize and present a sound research plan that accurately reflects the ideas and directions of the proposed research activities; develop and justify a budget for the proposed research activities; avoid many common grant-writing mistakes; discuss the peer-review process in grant evaluation and formulate a grant proposal that is maximally compatible with that process. You must have a grant identified that you will be submitting for this course.

OR

M17 529 SCIENTIFIC WRITING AND PUBLISHING
2 credits, Spring Semester, Tuesdays, 5:15 p.m. to 7:15 p.m., Jay Piccirillo, MD, and Karen Dodson, MBA, course masters
The objective of this course is to teach the proper techniques of writing and publishing a biomedical manuscript. Writing a working title and structured abstract as well as hand drawing of figures and tables is covered. Publishing strategies are also discussed.

Scholars also:
• Conduct independent research under the tutelage of a mentorship committee (6-8 credits)

• Participate in an ongoing seminar series to present and discuss research as a work-in-progress (1 credit each semester, minimum of 4 semesters)

• Take elective course work related to their research interests (minimum 6 credits)

• Submit a final thesis consisting of a submitted manuscript or a biomedical entrepreneurial project

Advanced placement credit can be earned for past equivalent course work as determined on an individual basis. The MSCI is a 33-credit degree and typically takes two to three years to complete.

Tuition

Tuition is $1,250 per credit hour. Training grant or departmental funds, if available, may be used to cover tuition costs. However, some costs of the degree may be the responsibility of the scholar. Trainees currently enrolled in other medicine and allied health programs should contact the program director or program coordinator to discuss entry into the MSCI program. MSCI courses are eligible for the Washington University, Human Resources tuition assistance program for qualifying staff and faculty.

Location

Most courses and seminars are taught during early evening hours in various locations on the Medical School campus.

Further information

Further information, including complete admissions details and program descriptions, may be obtained from the Clinical Research Training Center website (http://crtc.wustl.edu) or through the following contacts:
Clinical Investigation Faculty

Program directors

David K. Warren, MD, MPH
Associate Professor of Medicine
Director, Master of Science in Clinical Investigation Program
Co-Director, Postdoctoral Program
Division of Infectious Diseases, Department of Medicine, Washington University School of Medicine

Bradley A. Evanoff, MD, MPH
Richard A. and Elizabeth Henby Sutter Professor of Occupational, Industrial and
Environmental Medicine
Chief, Division of General Medical Sciences, Department of Medicine
Director, Institute of Clinical and Translational Sciences
Division of General Medical Sciences, Department of Medicine, Washington University
School of Medicine

Mario Castro, MD, MPH
Professor of Medicine
Director, Office of Training Grants
Co-Director, Office of Faculty Management
Department of Medicine, Washington University School of Medicine

Victoria J. Fraser, MD
Chair, Department of Medicine
J. William Campbell Professor of Medicine
Director, Clinical Research Training Center, Career Development Award Program
Division of Infectious Diseases, Department of Medicine, Washington University School of Medicine

Jane M. Garbutt, MBChB, MHSc
Research Associate Professor of Medicine and of Pediatrics
Medical Director of Washington University Pediatric and Adolescent Ambulatory Research Consortium (WU PAARC)
Director, Postdoctoral Program
Co-Director, Career Development Award Program
Co-Director, Master of Science in Clinical Investigation Program
Division of General Medical Sciences, Department of Medicine, Washington University School of Medicine

Jay F. Piccirillo, MD
Professor of Otolaryngology
Director, Clinical Outcomes Research Office
Director, Predoctoral Interdisciplinary Clinical Research Training Program, and ASPIRE
Ana Maria Arbelaez Perez, MD  
Associate Professor of Pediatrics  
Co-Director, Predoctoral Interdisciplinary Clinical Research Training Program  
Department of Pediatrics, Division of Endocrinology & Diabetes, Washington University School of Medicine

Susan L. Stark, PhD, OTR/L  
Assistant Professor of Occupational Therapy and of Neurology  
Co-Director, Predoctoral Interdisciplinary Clinical Research Training Program  
Program in Occupational Therapy, Washington University School of Medicine

Course masters

Karen L. Dodson, MBA (Scientific Writing, Grantsmanship)  
Adjunct Instructor, Department of Medicine; Director of Faculty Development and Academic Publishing Services, Office of Faculty Affairs, Washington University School of Medicine

Brian F. Gage, MD, MSc (Designing Outcomes and Clinical Research)  
Associate Professor of Medicine, Division of General Medical Sciences, Department of Medicine, Washington University School of Medicine

Dorina Kallogjeri, MD, MPH (Introduction to Statistics for Clinical Investigation, Intermediate Statistics for the Health Sciences)  
Research Statistician, Department of Otolaryngology, Washington University School of Medicine

Leslie McIntosh, MPH, PhD (Medical Data and Information Management)  
Research Assistant Professor of Pathology and Immunology, Division of Laboratory and Genomic Medicine, Department of Pathology and Immunology, Washington University School of Medicine
University in St. Louis

**Jay F. Piccirillo, MD** (Scientific Writing, Grantsmanship)
Professor of Otolaryngology
Director, Predoctoral Interdisciplinary Clinical Research Training Program and ASPIRE Program
Department of Otolaryngology, Washington University School of Medicine

**Rachel M. Presti, MD, PhD** (Bench Fundamentals of Translational Research)
Assistant Professor of Medicine, Division of Infectious Diseases, Department of Medicine, Washington University School of Medicine

**Stephanie Solomon, PhD** (Ethical and Legal Issues in Clinical Research)
Assistant Professor of Health Care Ethics
Albert Gnaegi Center for Healthcare Ethics
Saint Louis University

**Instructors and guest lecturers**

**Thomas C. Bailey, MD**
Professor of Medicine, Division of Infectious Diseases, Department of Medicine, Washington University School of Medicine

**Laura J. Bierut, MD**
Professor of Psychiatry, Department of Psychiatry, Washington University School of Medicine

**Graham A. Colditz, MD, DrPH**
Niess-Gain Professor in the School of Medicine
Chief, Division of Public Health Sciences, Department of Surgery, Washington University School of Medicine
Associate Director, Prevention and Control, Siteman Cancer Center
Adjunct Professor, Community Health, Division of Epidemiology, Saint Louis University
School of Public Health

Bettina F. Drake, PhD, MPH
Assistant Professor of Surgery, Division of Public Health Sciences, Department of Surgery, Washington University School of Medicine

Rebecca Dresser, JD
Daniel Noyes Kirby Professor of Law and Professor of Ethics in Medicine, Washington University School of Law

Jim Dubois, PhD, DSc
Hubert Mader Endowed Chair and Director, Bander Center for Medical Business Ethics, Social Science Research Group and Center for Research Ethics and Integrity, Albert Gnaegi Center for Health Care Ethics, Saint Louis University

Bradley A. Evanoff, MD, MPH
Richard A. and Elizabeth Henby Sutter Professor of Occupational, Industrial and Environmental Medicine
Director, Institute of Clinical and Translational Sciences
Division of General Medical Sciences, Department of Medicine, Washington University School of Medicine

Jane M. Garbutt, MB, ChB
Associate Professor of Medicine and of Pediatrics
Medical Director of Washington University Pediatric and Adolescent Ambulatory Research Consortium (WU PAARC)
Director, Postdoctoral Program
Division of General Medical Sciences, Department of Medicine, Washington University School of Medicine

Bijoy George
Biomedical Informatics Program Manager, Department of Laboratory and Genomic Medicine, Washington University School of Medicine
Jonathan M. Green, MD
Associate Dean for Human Studies and Executive Chair of the Institutional Review Board (IRB), Washington University School of Medicine

Snehil Gupta
Bioinformaticist, Division of Laboratory and Genomic Medicine, Department of Pathology and Immunology, Washington University School of Medicine

Christine M. Hoehner, PhD
Assistant Professor, Department of Surgery, Washington University School of Medicine

Dorina Kallogjeri, MD, MPH
Research Statistician, Department of Otolaryngology, Washington University School of Medicine

Marin H. Kollef, MD
Golman Professor of Medicine, Division of Pulmonary and Critical Care Medicine, Department of Medicine, Washington University School of Medicine; Director, Medical Intensive Care Unit and Director, Respiratory Care Services, Barnes-Jewish Hospital

Laura B. Langton, PhD
Research Development Manager, Office of the Vice Chancellor for Research, Washington University School of Medicine

Judith E. Lieu, MD
Assistant Professor, Department of Otolaryngology, Washington University School of Medicine

Mark J. Manary, MD
Professor of Pediatrics, Division of Emergency Medicine, Department of Pediatrics, Washington University School of Medicine

Timothy McBride, PhD
Professor and Associate Dean for Public Health, George Warren Brown School of Social
Jay R. McDonald, MD
Assistant Professor of Medicine, Division of Infectious Diseases, Department of Medicine, Washington University School of Medicine

Leslie D. McIntosh, PhD
Research Instructor, Department of Pathology and Immunology, Washington University School of Medicine

J. Phillip Miller
Professor of Biostatistics, Division of Biostatistics, Washington University School of Medicine

David A. Mulvihill
Project Manager IS, Division of Laboratory and Genomic Medicine, Department of Pathology and Immunology, Washington University School of Medicine

Peter Nagele, MD
Assistant Professor of Anesthesiology, Department of Anesthesiology, Division of Clinical Research, Washington University School of Medicine

Anthony O. Odibo, MD, MSCE
Associate Professor of Obstetrics and Gynecology, Division of Maternal-Fetal Medicine and Ultrasound, Department of Obstetrics and Gynecology, Washington University School of Medicine

Chijioke G. Ogbuka, MDiv, MA
Pre-doctoral Fellow, Center for Clinical Research Ethics, Albert Gnaegi Center for Health Care Ethics, Saint Louis University

Margaret A. Olsen, PhD, MPH
Research Associate Professor of Medicine, Division of Infectious Diseases, Department of...
of Medicine, Washington University School of Medicine

Diana L. Owyoung
Research Administrator, Department of Cell Biology and Physiology, Washington University School of Medicine

Jay F. Piccirillo, MD
Professor, Department of Otolaryngology
Director, Clinical Outcomes Research Office
Director, Predoctoral Interdisciplinary Clinical Research Training Program, Doris Duke Clinical Research Fellowship and ASPIRE program
Department of Otolaryngology, Washington University School of Medicine

Fred W. Prior, PhD
Lab Director, Electronic Radiology Lab
Research Associate Professor, Department of Radiology, Washington University School of Medicine

Michael A. Province, PhD
Professor of Genetics and Director, Division of Statistical Genetics, Department of Genetics, Washington University School of Medicine

Erica K. Salter, PhD
Instructor, Albert Gnaegi Center for Health Care Ethics, Saint Louis University

Cathy C. Sarli
Librarian, Washington University School of Medicine

Stephanie Solomon, PhD
Assistant Professor of Health Care Ethics, Albert Gnaegi Center for Health Care Ethics, Saint Louis University

Kathryn M. Trinkaus
Mark A. Watson, MD, PhD
Associate Professor of Pathology and Immunology, Division of Laboratory and Genomic Medicine, Department of Pathology and Immunology, Washington University School of Medicine

Roger D. Yusen, MD, MPH
Associate Professor of Medicine, Division of Pulmonary and Critical Care Medicine, Division of General Medical Sciences, Department of Medicine, Washington University School of Medicine

More information

Please visit our website at http://crtc.wustl.edu, email crtc@dom.wustl.edu, or write to:

Washington University in St. Louis School of Medicine
Master of Science in Clinical Investigation Program
Campus Box 8051
660 S. Euclid Ave.
St. Louis, MO 63110

Doctor of Philosophy

The Division of Biology and Biomedical Sciences (DBBS) at Washington University in St. Louis offers exceptional doctoral training at one of the nation's preeminent biomedical
research centers. The DBBS is organized into twelve academic programs, each representing a different scientific area.

Prospective students apply to the Division rather than to an individual program. Students are admitted into a specific program but may change their Program affiliation as their interests develop. Faculty members from 30 plus departments across the university contribute to the admission, teaching and research training of the Division’s students. Each Program has its own steering committee to provide students with personal attention, guiding them and addressing their needs during the first years of training. Steering committee members are conversant with the broad range of opportunities available to the student pursuing a graduate degree at Washington University, and they work for a precise match of interest, aptitude, Program and course of study.

Each of the 12 Programs establishes its own requirements for earning the PhD degree, and progress toward the degree is monitored by the Program steering committee. The PhD degree is granted by Washington University’s Graduate School of Arts and Sciences.

**Doctoral programs**

- Biochemistry
- Computational and Molecular Biophysics
- Computational and Systems Biology
- Developmental, Regenerative and Stem Cell Biology
- Evolution, Ecology and Population Biology
- Human and Statistical Genetics
- Immunology
- Molecular Cell Biology
- Molecular Genetics and Genomics
For more information

For complete admissions details and program descriptions, visit the DBBS website or contact:

Mailing address:
Division of Biology & Biomedical Science
Washington University in St. Louis
Campus Box 8226
660 South Euclid Ave.
St. Louis, MO 63110

Physical location:
660 South Euclid Ave.
Bernard Becker Medical Library, Fourth floor

Main phone numbers:
Phone: (314) 747-0840
Toll Free: (800) 852-9074
Fax: (314) 362-3369

Masters in Genetic Epidemiology (GEMS) for Post Doctoral Students
The Division of Biostatistics now offers an option for those who have completed a doctoral degree (PhD, MD, or equivalent) to pursue a Post-Doctoral Master of Science in Genetic Epidemiology (GEMS) degree. The Division of Biostatistics includes world-renowned scientific leaders in their respective areas. D.C. Rao, PhD, Director of the Division of Biostatistics and the Program Director, is one of the founding fathers of the field. The 31-credit-hour program can be pursued either full time or part time but must be completed in within three years. See https://biostatistics.wustl.edu/training/ for details about the GEMS and other programs.

The GEMS program for Post-Doctoral students has eight required courses, listed below, as well as two electives:

- M21 503 STATISTICAL COMPUTING WITH SAS
- M21 506 R PRIMER
- M21 515 FUNDAMENTALS OF GENETIC EPIDEMIOLOGY
- M21 550 INTRODUCTION TO BIOINFORMATICS
- M21 5483 HUMAN LINKAGE AND ASSOCIATE ANALYSIS
- M21 560 BIOSTATISTICS I
- M21 512 ETHICS FOR BIOSTATISTICS
- M21 610 MENTORED RESEARCH

**Prospective students**

Anyone interested in pursuing the Post-Doctoral GEMS degree should contact the Program Manager at biostat-msibs@email.wustl.edu in the Division of Biostatistics for information regarding the application process.

**Location**

The Program is currently located in the Division of Biostatistics, on the third floor of Shriners Building (706 S. Euclid Ave. at Clayton Road), Rooms 3301-3312. At the end of January 2017, the Division of Biostatistics, including the Program, will be moving to the Bernard Becker Library 5th floor (660 S. Euclid Ave.).
More information

See our website, http://biostatistics.wustl.edu/training/msibs/prospectivestudents/GEMS, contact the Program Manager at (314) 362-1384, send email to biostat-msibs@email.wustl.edu or write to:
GEMS Post-Doctoral Program Division of Biostatistics
Campus Box 8067
660 S. Euclid Ave.
St. Louis, MO 63110-1093
Telephone: (314) 362-1384
Fax: (314) 362-2693

Certificate in Genetic Epidemiology

The Certificate in Genetic Epidemiology training program provides a multidisciplinary educational opportunity for people who want to work at the dynamic nexus of genetics and medicine. There are growing needs for scientists with this training both in academia and industry. With the wealth of data from the Human Genome Project and the availability of powerful new computational approaches, abundant opportunities are now available to explore and characterize the interplay between genes and the environment that affect the biological processes that underlie disease.

The GEMS Certificate program is sponsored by the Division of Biostatistics and includes world-renowned scientific leaders in their respective areas. D.C. Rao, PhD, director of the Division of Biostatistics and the Program Director, is one of the founding fathers of the field. The 19-credit-hour program is designed to prepare students to work at the interface of genetics, biostatistics, epidemiology and computing. See https://biostatistics.wustl.edu/training/msibs/pages for details.

The Certificate in Genetic Epidemiology is earned after successful completion (with a minimum of a “B” average) of six core courses plus labs (19 credit hours) that are normally offered to master’s candidates in Biostatistics. To earn the certificate, these
courses may be taken over one or two consecutive years:

M21 503 STATISTICAL COMPUTING WITH SAS (summer)
M21 506 R PRIMER (summer)
M21 515 FUNDAMENTALS OF GENETIC EPIDEMIOLOGY (summer)
M21 550 INTRODUCTION TO BIOINFORMATICS (summer)
M21 560 BIOSTATISTICS I (fall)
M21 570 BIOSTATISTICS II (fall)
M21 5483 HUMAN LINKAGE AND ASSOCIATION (fall)

Prospective students

Since genetic epidemiology is a multidisciplinary field, we expect applicants to come from a variety of backgrounds, but primarily those who have earned a terminal degree such as physician scientists and other clinical investigators, particularly postdoctoral fellows and people with terminal degrees in other (related) disciplines who seek to gain expertise in genetic epidemiology. All prospective students must provide evidence of basic skills in computer programming through course work, documented experience or by passing a proficiency exam. Promising candidates who do not meet all the prerequisites will work with the Program Director to take the appropriate courses or training to rectify weaknesses.

Location

The Program is currently located in the Division of Biostatistics, on the third floor of Shriners Building (706 S. Euclid Ave. at Clayton Road), Rooms 3301-3312. At the end of January 2017, the Division of Biostatistics, including the Program, will be moving to the Bernard Becker Library 5th floor (660 S. Euclid Ave.).

Registration instructions

All students will register with the Program Manager at biostat-msibs@email.wustl.edu. Before registering, current Washington University students must obtain appropriate
consent from their division or department. Students outside of the program wishing to enroll in individual courses must contact the Program Manager.

**Academic calendar**

The Certificate program begins approximately July 1 each year with preparatory workshops, followed by intensive summer semester courses. For the fall courses, the certificate program follows the calendar of the College of Arts & Sciences.

**Further information**

For complete admissions details and program descriptions, please visit our website, [https://biostatistics.wustl.edu/training/msibs](https://biostatistics.wustl.edu/training/msibs), contact the Program Manager at (314) 362-1384, send email biostat-msibs@email.wustl.edu or write to:

MSIBS Program  
Division of Biostatistics  
Campus Box 8067  
660 S. Euclid Ave.  
St. Louis, MO 63110-1093  
Telephone: (314) 362-1384  
Fax: (314) 362-2693

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**Genetic Epidemiology Courses**

M21 503 STATISTICAL COMPUTING WITH SAS® (Required for both Certificate and GEMS)  
Department: Division of Biostatistics
Course master: Karen Schwander  
Credit hours: 2 units  
Frequency: Every summer  
Intensive hands-on summer training in SAS® during nine full weekdays. Students will learn how to use the SAS® system for handling, managing and analyzing data. Instruction is provided in the use of the SAS® programming language, procedures, macros and SAS® SQL. The course will include exercises using existing programs written by SAS® experts. Instruction manual and computer lab will be provided. This course meets the prerequisite for M21 560 Biostatistics I offered in fall. The registration/grade option of “Audit” is not available.

Participants are required to participate in the Computing/Unix Workshop offered free of charge immediately prior to this course in early July.

For details, to register and to obtain the required permission of the course master, contact the MSIBS Program Manager at biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 506 R PRIMER  
Department: Division of Biostatistics  
Course master: Yun Ju Sung  
Credit hours: 2 units  
Frequency: Every summer  
This is an introduction to the R Statistical Environment. R is “a freely available language and environment for statistical computing and graphics which provides a wide variety of statistical and graphical techniques: linear and nonlinear modeling, statistical tests, time series analysis, classification, clustering, etc. The goal is to give students a set of tools to perform statistical analysis in medicine, biology, or epidemiology. At the conclusion of this primer, students will: be able to manipulate and analyze data, write basic models, understand the R environment for using packages, and create standard or customized graphics. This primer assumes some knowledge of basic statistics as taught in a first semester undergraduate or graduate sequence. Topics should include: probability, cross-tabulation, basic statistical summaries, and linear regression in
either scalar or matrix form.

M21 515 FUNDAMENTALS OF GENETIC EPIDEMIOLOGY (Required for both Certificate and GEMS)
Department: Division of Biostatistics
Course masters: Treva Rice and YunJu Sung
Credit hours: 3 units
Frequency: Every summer
Intensive two-week summer course. Lectures cover causes of phenotypic variation, familial resemblance and heritability, Hardy-Weinberg Equilibrium, ascertainment, study designs and basic concepts in genetic segregation, linkage and association. The computer laboratory portion is designed as hands-on practice of fundamental concepts. Students will gain practical experience with various genetics computer programs (e.g., SOLAR, MERLIN, QTDT and PLINK). Auditors will not have access to the computer lab sessions.

Participants are strongly encouraged to participate in the computing/UNIX Workshop offered free of charge prior to this course in early July. For details, to register and to obtain the required permission of the course master, contact the MSIBS Program Manager at biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 550 INTRODUCTION TO BIOINFORMATICS (Required for both Certificate and GEMS)
Department: Division of Biostatistics
Course master: C. Charles Gu, Co-Coursemaster: Jingqin (Rosy) Luo
Credit hours: 3 units
Frequency: Every summer
Intensive two-week summer course designed to provide broad exposure to the basic concepts, methodology and application of bioinformatics to solve biomedical problems. Specifically, students will learn the basics of online genomic databases and database mining tools and will acquire understanding of mathematical algorithms in genome sequence analysis (alignment analysis, gene finding/predicting), gene expression microarray (genechip) analysis, and the impact of recent developments
such as protein microarrays or whole-genome DNA chips for genome-wide association studies. Students will also take computer labs and learn basics of bioinformatics tools and databases (BLAST/WU-BLAST, Prospector, etc.), practice basics of R/Bioconductor programming, and apply specialized R packages to solve bioinformatics problems pertinent to real medical research of human diseases. Auditors will not have access to the computer lab sessions.

Participants are strongly encouraged to participate in the computing/UNIX Workshop offered free of charge prior to this course in early July. Prerequisite: M21 506, R Primer.

For details, to register and to obtain the required permission of the course master, contact the MSIBS Program Manager at biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 5483 HUMAN LINKAGE AND ASSOCIATION ANALYSIS (Required for both Certificate and GEMS)
Department: Department of Genetics
Course master: John Rice
Credit hours: 3 units
Frequency: Every fall
Basic genetic concepts: meiosis, inheritance, Hardy-Weinberg Equilibrium, linkage, segregation analysis; linkage analysis: definition, crossing over, map functions, phase, LOD scores, penetrance, phenocopies, liability classes, multipoint analysis, non-parametric analysis (sibpairs and pedigrees), quantitative trait analysis, determination of power for Mendelian and complex trait analysis; linkage disequilibrium analyses: allelic association (case control designs and family bases studies), QQ and Manhattan plots, whole-genome association analysis; population stratification; quantitative trait analysis; measured genotypes and variance components. Hands-on computer lab experience doing parametric linkage analysis with the program LINKAGE, model-free linkage analyses with Genehunter and Merlin, power computations with SLINK, quantitative trait analyses with SOLAR, LD computations with Haploview and WGAViewer, and family-based and case-control association analyses with PLINK and SAS. The methods and exercises are coordinated with the lectures, and students are
expected to understand underlying assumptions and limitations and the basic
calculations performed by these computer programs. Auditors will not have access to
the computer lab sessions. Prerequisite: M21 515 Fundamentals of Genetic
Epidemiology. Cross-listed as L41 5483.
For details, to register and to obtain the required permission of the course master,
contact the MSIBS Program Manager at biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 560 BIOSTATISTICS I (Required for both Certificate and GEMS)
Department: Division of Biostatistics
Course masters: Kenneth Schechtman and Kathryn Trinkaus
Frequency: Every fall (ending mid-October)
This course is designed for students who want to develop a working knowledge of
basic methods in biostatistics. The course is focused on biostatistical and
epidemiological concepts and on practical hints and hands-on approaches to data
analysis rather than on details of the theoretical methods. We will cover basic concepts
in hypothesis testing, will introduce students to several of the most widely used
probability distributions, and will discuss classical statistical methods that include t-
tests, chi-square tests, regression analysis and analysis of variance. Both in-class
examples and homework assignments will involve extensive use of SAS. Prerequisite:
M21 503, Statistical Computing with SAS®, or student must have good practical
experience with SAS®.
For details, to register and/or to obtain the required permission of the course master,
contact the Program Manager at biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 570 BIOSTATISTICS II (Required for Certificate)
Department: Division of Biostatistics
Course masters: Kenneth Schechtman and Kathryn Trinkaus
Credit hours: 3 units
Frequency: Every fall (from mid-October to mid-December)
This course is designed for students who have taken Biostatistics I or the equivalent
and who want to extend their knowledge of biostatistical applications to more modern
and more advanced methods. Biostatistical methods to be discussed include logistic and Poisson regression, survival analysis, Cox regression analysis and several methods for analyzing longitudinal data. Students will be introduced to modern topics that include statistical genetics and bioinformatics. The course will also discuss clinical trial design, the practicalities of sample size and power computation and meta analysis, and will ask students to read journal articles with a view towards encouraging a critical reading of the medical literature. Both in-class examples and homework assignments will involve extensive use of SAS. Prerequisite: M21 560, Biostatistics I or its equivalent as judged by the course masters.

For details, to register, and/or to obtain the required permission of the course master, contact the Program Manager at biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 512 ETHICS FOR BIOSTATISTICS
Department: Division of Biostatistics
Course master: Alison Antes

Credit hours: 3 units
Frequency: Every spring
This course prepares biostatisticians to analyze and address ethical and professional issues in the practice of biostatistics across the range of professional roles and responsibilities of a biostatistician. The primary goals are for biostatisticians to recognize complex situational dynamics and ethical issues in their work and to develop professional and ethical problem-solving skills. The course specifically examines ethical challenges related to research design, data collection, data management, ownership, security, and sharing, data analysis and interpretation, and data reporting and provides practical guidance on these issues. The course also examines fundamentals of the broader research environment in which biostatisticians work, including principles of ethics in human subjects and animal research, regulatory and compliance issues in biomedical research, publication and authorship, and collaboration in science. By the conclusion of the course, participants will understand the ethical and regulatory context of biomedical research; identify ethical issues, including situational dynamics that serve to foster or hinder research integrity, in the
design and conduct of research and the management, analysis, and reporting of data; and utilize strategies that facilitate ethical problem-solving and professionalism.

For details, to register, and/or to obtain the required permission of the course master, contact the MSIBS Program Manager: biostat-msibs@email.wustl.edu or (314) 362-1384.

M21 600 MENTORED RESEARCH (Required for GEMS)
Department: Division of Biostatistics
Course masters: DC Rao and Chengjie Xiong
Credit hours: 6 units
Frequency: Every spring, summer and fall
Student undertakes supervised research in a mentor’s lab. The goal is to acquire important research skills as well as good writing and presentation skills. The student finds a mentor who is willing to work with him/her and they together identify a research topic. A written thesis based on the research, prepared in the format of an actual scientific publication, must be submitted and presented to a select audience. The course masters will organize a few meetings throughout to facilitate the whole process. The course masters will determine the grade (pass/fail) in consultation with the mentors. Permission of the Course Masters is required. For details, to register and/or to obtain the required permission of the course master, contact the Program Manager at biostat-msibs@email.wustl.edu or (314) 362-1384.

Genetic Epidemiology Faculty

Jeffrey D Milbrandt, PHD, MD
James S McDonnell Professor of Genetics (primary appointment)
Professor of Medicine
Professor of Neurology
Professor of Pathology and Immunology
Head of the Department of Genetics
PHD University of Virginia 1983
MD Washington Univ in St. Louis 1978
BS Univ of Nebraska at Kearney 1974
Haley J Abel
**Instructor in Genetics**

Ping An
**Assistant Professor of Genetics** (primary appointment)

Lucinda L. Antonacci-Fulton, MS
**Academic Rank held in Genetics** (primary appointment)
**Instructor in Genetics**
MS Southern Ill Univ Edwardsville 1992
BS Southern Ill Univ Edwardsville 1991

Ruteja A. Barve, MS, PHD
**Instructor in Genetics** (primary appointment)
MS Washington Univ in St. Louis 2008
PHD Washington Univ in St. Louis 2014
BS University of Pune 1995

John Rutledge Bermingham Jr, PHD
**Associate Professor of Genetics** (primary appointment)
BS Yale University 2016
PHD University of Colorado Boulder 2016

Ingrid B Borecki, PHD, MS
**Adjunct Professor of Genetics** (primary appointment)
PHD University of Hawaii 1981
MS University of Hawaii 1980
BS University of Illinois 1977

Paul F Cliften, MS, PHD
**Associate Professor of Genetics** (primary appointment)
MS Utah St University 1995
BS Utah St University 1992
PHD University of California 1999

C. Robert Cloninger, MD
**Wallace Renard Professor of Psychiatry** (primary appointment)
Professor of Psychiatry
Professor of Psychological & Brain Sciences
Professor of Genetics
BA University of Texas Austin 1966
MD Washington Univ in St. Louis 1983

Barak Alon Cohen
**Professor of Genetics** (primary appointment)
Alvin Goldfarb
**Distinguished Professor of Computational Biology**
BS Cornell University 1992

Donald Franklin Conrad
**Assistant Professor of Genetics** (primary appointment)
**Assistant Professor of Pathology and Immunology**
Joseph C. Corbo, MD, PHD, AB
**Associate Professor of Pathology and Immunology** (primary appointment)
**Associate Professor of Genetics**
**Associate Professor of Ophthalmology and Visual Sciences**
MD University of California 1999
PHD University of California 1997
BS Stanford University 1990
AB Stanford University 1990

Catherine E Cottrell, PHD
**Assistant Professor of Pathology and Immunology** (primary appointment)
**Assistant Professor of Genetics**
BS Ohio State University 2001
PHD Ohio State University 2007
James P Crane, MD Associate Vice Chancellor for Clinical Affairs (primary appointment)
Chief Executive Officer-Faculty Practice Plan
Professor of Obstetrics and Gynecology
Professor of Radiology
Associate Professor of Genetics
MD Indiana University Bloomington 1970
BS Indiana University Bloomington 1966
Sharon Cresci, MD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Genetics
MD New York University 1986
BS State Univ of NY Binghampton 1982
Seth Daniel Crosby, MD Assistant Professor of Genetics (primary appointment)
MD University Texas San Antonio 1989
BS University of California 1984
Li Ding, PHD Associate Professor of Medicine (primary appointment)
Associate Professor of Genetics
PHD University of Utah 1998
Joseph D Dougherty, PHD Assistant Professor of Genetics (primary appointment)
Assistant Professor of Psychiatry
BS Truman State University 1999
PHD University of California 2005
Todd Druley, MD, PHD Assistant Professor of Pediatrics (primary appointment)
Assistant Professor of Genetics
Assistant Professor of Developmental Biology
MD University of Illinois Chicago 2002
BS University of Illinois 1994
PHD University of Illinois Chicago 2002
Susan K. Dutcher, PHD Professor of Genetics (primary appointment)
Professor of Cell Biology and Physiology
Interim Director of the McDonnell Genome Institute
PHD University of Washington 1980
BA Colorado College 1974
Justin C. Fay, PHD Associate Professor of Genetics (primary appointment)
PHD University of Chicago 2001
Mary F Feitosa Associate Professor of Genetics (primary appointment)
Robert S. Fulton Academic Rank held in Genetics (primary appointment)
Instructor in Genetics
Narasimhan Gautam, MS, PHD Professor of Anesthesiology (primary appointment)
Professor of Genetics
MS School Not Listed 1979
BS School Not Listed 1977
PHD University of Bombay 1985
Matthew I Goldsmith, MD, MS Associate Professor of Pediatrics (primary appointment)
Assistant Professor of Genetics
BS University of Toronto 1987
MD University of Toronto 1995
MS University of Toronto 1990
Malachi Griffith, PHD Academic Rank held in Genetics (primary appointment)
Assistant Professor of Genetics
PHD University of British Columbia 2010
BS University of Winnipeg 2002
BS1 University of Winnipeg 2002
Obi Lee Griffith, PHD Assistant Professor of Medicine (primary appointment)

Assistant Professor of Genetics
PHD British Columbia Open Univ 2008
Chi Gu, PHD Associate Professor of Biostatistics (primary appointment)

Associate Professor of Genetics
BS Nanjing Medical University 1982
PHD Washington Univ in St. Louis 1992
David H Gutmann Donald O. Schnuck Family Professor of Neurology (primary appointment)

Professor of Genetics
Professor of Neurological Surgery
Ira McCarthy Hall, PHD Associate Professor of Medicine (primary appointment)

Associate Professor of Genetics
Associate Director of the Genome Center
BS University of CA Berkeley 1998
PHD Cold Spring Harbor Laboratory 2003
Richard D Head Associate Professor of Genetics (primary appointment)

Associate Professor of Pathology and Immunology
Andrew C Heath, PHD Spencer T. Olin Professor of Psychology in Psychiatry (primary appointment)

Associate Professor of Psychological & Brain Sciences
Professor of Genetics
PHD Oxford University 1983
Patrick Y Jay Associate Professor of Pediatrics (primary appointment)

Associate Professor of Genetics
Stephen L Johnson Professor of Genetics (primary appointment)
BA Vanderbilt University 1983

Sungsu Kim Instructor in Genetics (primary appointment)
BS Korea University 2000

Aldi T Kraja Associate Professor of Genetics (primary appointment)

David Ernfrid Larson, PHD Academic Rank held in Genetics (primary appointment)
Instructor in Genetics
BS Indiana State University 2003
PHD Washington Univ in St. Louis 2007

Heather A Lawson, PHD, MA Assistant Professor of Genetics (primary appointment)
BA Univ of Wisconsin Milwaukee 2002
PHD Pennsylvania State University 2008
MA Pennsylvania State University 2004

Timothy J Ley Lewis T and Rosalind B Apple Professor of Medicine (primary appointment)

Professor of Genetics
BA Drake University 1974

Huawen Lin Instructor in Genetics (primary appointment)
BS School Not Listed 1998

Jeffrey A Magee, PHD, MD Assistant Professor of Pediatrics (primary appointment)
Assistant Professor of Genetics  
PHD Washington Univ in St. Louis 2005  
MD Washington Univ in St. Louis 2005  
Xianrong Mao, MSInstructor in Genetics (primary appointment)  
MS Chinese Academy of Technology Sciences 1996

Elaine Rene Mardis, PHDAdjunct Professor of Genetics (primary appointment)  
BS University of Oklahoma 1984  
PHD University of Oklahoma 1989

James P Mc Carter, MD, PHDAdjunct Professor of Genetics (primary appointment)  
MD Washington Univ in St. Louis 1998  
BA Princeton University 1989  
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Shondra Michelle Miller, PHDAssistant Professor of Genetics (primary appointment)  
MS Chinese Academy of Sciences 1996

Evona Rene Mardis, PHDAdjunct Professor of Genetics (primary appointment)  
BS University of Oklahoma 1984  
PHD University of Oklahoma 1989

James P Mc Carter, MD, PHDAdjunct Professor of Genetics (primary appointment)  
MD Washington Univ in St. Louis 1998  
BA Princeton University 1989  
PHD Washington Univ in St. Louis 1998

Shondra Michelle Miller, PHDAssistant Professor of Genetics (primary appointment)  
MS Chinese Academy of Sciences 1996

Alvin Goldfarb Distinguished Professor of Computational Biology

Robi D. Mitra, PHDAssociate Professor of Genetics (primary appointment)  
BS University of Arkansas 2003

Makedonka Mitreva, PHD, MSAssociate Professor of Medicine (primary appointment)  
MS University of Skopje - Macedon 1994

Samantha A Morris, PHDAssistant Professor of Developmental Biology (primary appointment)  
BS1 University of London 2002  
PHD Cambridge University 2007

Peter NageleAssociate Professor of Anesthesiology (primary appointment)  
Associate Professor of Genetics

Zachary Scott PincusAssistant Professor of Genetics (primary appointment)  
Associate Professor of Developmental Biology

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BA University of Dallas 1973  
MA Washington Univ in St. Louis 1979

Dabeeru C Rao, PHD, MSProfessor of Biostatistics (primary appointment)  
BS Indian Statistical Institute 1967  
PHD Indian Statistical Institute 1971  
MS Indian Statistical Institute 1968

John P Rice, MA, PHDProfessor of Mathematics in Psychiatry (primary appointment)  
Professor of Biostatistics  
Professor of Genetics  
BA Cornell University 1969  
MA Washington Univ in St. Louis 1972
Elisha D.O. Roberson, PHD — Assistant Professor of Medicine (primary appointment)

Assistant Professor of Genetics

BS Western Kentucky University 2004

PHD Johns Hopkins University 2009

Nancy L. Saccone, PHD, MS — Associate Professor of Genetics (primary appointment)

Associate Professor of Biostatistics

PHD Brown University 1993

MS Brown University 1990

Lawrence B Salkoff, PHD — Professor of Neuroscience (primary appointment)

Professor of Genetics

BA University of CA Los Angeles 1967

PHD University of CA Berkeley 1979

Mark Steven Sands, PHD — Professor of Medicine (primary appointment)

Professor of Genetics

PHD State Univ of NY Stonybrook 1990

BS Rochester Institute of Techno 1980

Yo Sasaki, PHD, MS — Assistant Professor of Genetics (primary appointment)

BS Tokyo U of Agric & Technology 1991

PHD Gunma University, Med School 1997

MS Tokyo U of Agric & Technology 1994

Tim B Schedl, PHD — Professor of Genetics (primary appointment)

PHD Univ of Wisconsin Madison 1984

BA Lawrence University 1977

Karen Seibert, MA — Professor of Anesthesiology (primary appointment)

Professor of Pathology and Immunology

Professor of Genetics

BS Northwestern University 1981

MA University of Toledo 1983

Cherilynn Maria Reynolds Shadding — Academic Rank held in Genetics (primary appointment)

Assistant Professor of Genetics

Alan Shiels, PHD — Professor of Ophthalmology and Visual Sciences (primary appointment)

Professor of Genetics

PHD University of London 1983

BS School Not Listed 1979

James B Skeath, PHD — Professor of Genetics (primary appointment)

BA Haverford College 1988

PHD Univ of Wisconsin Madison 1993

Nathan O. Stitziel — Assistant Professor of Medicine (primary appointment)

Assistant Professor of Genetics

BA1 Washington Univ in St. Louis 1998

Gary D Stormo, PHD, MA — Professor of Genetics (primary appointment)

Joseph Erlanger Professor

Professor of Computer Science

Professor of Biomedical Engineering

PHD University of Colorado Boulder 1981

BS California Institute Technolo 1972

MA University of Colorado Boulder 1975
Matthew John Walter Associate Professor of Medicine (primary appointment)
Associate Professor of Genetics

Ting Wang, PhD, MS Associate Professor of Genetics (primary appointment)
Associate Professor of Computer Science and Engineering
Associate Professor of Biostatistics

BS School Not Listed 1997
PHD Washington Univ in St. Louis 2006
MS Washington Univ in St. Louis 2001

Wesley Charles Warren, MS, PHD Academic Rank held in Genetics (primary appointment)
Associate Professor of Genetics

MS Clemson University 1986
BS Oklahoma St University 1984
PHD University of Missouri 1990

Michael C Wendl Academic Rank held in Genetics (primary appointment)
Assistant Professor of Genetics
Assistant Professor of Genetics
Assistant Professor of Mechanical Engineering & Materials Science
Assistant Professor of Mathematics
Assistant Professor of Genetics

Michael Aaron White, PHD, MS Assistant Professor of Genetics (primary appointment)

BA Brigham Young University 2000
PHD University of Rochester 2006
MS University of Rochester 2004

Michael Peter Whyte, MD Professor of Medicine (primary appointment)
Professor of Pediatrics
Professor of Genetics

MD State University of New York 1972
BA New York University 1968

Richard K Wilson, PHD Adjunct Professor of Genetics (primary appointment)

BA Miami University 1981
PHD University of Oklahoma 1986

Mary Kaye Wojczynski Assistant Professor of Genetics (primary appointment)

Hiroko Yano, PHD, MS Assistant Professor of Neurological Surgery (primary appointment)
Assistant Professor of Genetics
Assistant Professor of Neurology

PHD University of Tokyo 1996
MS University of Tokyo 1993
BS Science University of Tokyo 1991

Jinsheng Yu Instructor in Genetics (primary appointment)

BS Tongji University 1984

No entries found
Occupational Therapy

The Program in Occupational Therapy prepares students for professional practice and through its research generates knowledge to address the issues facing individuals with disabilities, chronic diseases and developmental disabilities. Students are prepared as generalists but, in addition, can concentrate their studies for work in pediatrics, aging, rehabilitation, work and industry or social participation. The curriculum focuses on the dynamic interaction of the biological and psychological, environmental and occupational factors that enable persons to fulfill roles, and lead meaningful and productive lives. Students interact with leading physicians and scientists whose practice and science is contributing to better methods of treatment of persons with disabilities. In addition, students are linked with community agencies and leaders that are providing services to individuals with disabling conditions.

Undergraduate students in pre-medical, psychology, biology or anthropology will find that the program offers a means of applying their knowledge in a professional field. Applicants must hold a bachelor’s degree or be a participant in an approved three-two program and have completed prerequisite courses from an accredited college or university. The Program in Occupational Therapy is accredited by the Accreditation Council for Occupational Therapy Education of the American Occupational Therapy Association. Graduates of the program will be eligible to sit for the national certification examination administered by the NBCOT. (Note: A felony conviction may affect a graduate's ability to sit for NBCOT certification examination or attain state licensure.)

Master of science in occupational therapy degree program

The professional Master of Science in Occupational Therapy degree requires courses that develop the knowledge and skills necessary to practice occupational therapy. Each candidate for a Master of Science in Occupational Therapy degree must complete a minimum of 70 hours of course work, usually accomplished in five semesters of study
(two academic years and the intervening summer.) Six months of supervised clinical fieldwork (12 credits) is required to be completed within 12 months of completion of course work.

**Doctor of occupational therapy degree program**

The Doctor of Occupational Therapy (OTD) is a degree providing students the opportunity to focus their occupational therapy studies in one of five areas of concentration: Productive Aging, Social Participation and the Environment, Rehabilitation, Work and Industry, and Pediatrics. The OTD requires seven semesters of study and three clinical placements for students entering professional practice. Postprofessional students enrolled in the OTD have varying program lengths based on prior degree and experience.

**Fees**

Tuition and fieldwork fees (MSOT, full time) per semester: $15,225 for first five semesters, $7,612 per semester for last two semesters while on fieldwork. Tuition and fieldwork fees (OTD, full-time): $15,225 per semester first five semesters, $15,721 per semester last two academic semesters, and $7,612 for each semester student is on clinical fieldwork or apprenticeship.

Part-time tuition: $1,225 per credit

**More information**

Complete admissions information and a full description of degrees in Occupational Therapy are available from the office of the Program in Occupational Therapy:

Program in Occupational Therapy  
Washington University School of Medicine  
Campus Box 8505, 4444 Forest Park Ave.  
St. Louis, MO 63108-2212  
(314) 286-1600
Occupational Therapy Courses

OT 5023 THEORY AND FOUNDATIONS FOR OCCUPATIONAL THERAPY PRACTICE (3)
Students explore the knowledge, skills and attitudes of the professional occupational therapist through the study of occupation, participation and well-being, some of the core concepts of the profession. The course acquaints students with the profession's history, current health issues and emerging areas of practice. Students explore the relationship between occupation, development, culture and health at the person, organization and population levels. Students are introduced to the Occupational Therapy Practice Framework and the International Classification of Function. The theoretical foundation of practice is emphasized.

OT 5225 FUNDAMENTALS OF HEALTH CARE AND PROFESSIONAL PRACTICE (3)
This course prepares students to manage the changing paradigms of practice that will be encountered over their career, with particular focus on bridging biomedical perspectives with narratives regarding organizational, community, and population health and well-being. Understanding the current continuum of care settings, professional team roles, and health policy sets the foundation for this course. Professional behavior and ethics will be introduced. Preparation of leadership skills and an entrepreneurial approach to practice will be introduced. Partnering with community agencies to meet the unmet needs of those we serve and to open up new potential markets will be explored.
OT 5630 FUNDAMENTALS OF PROFESSIONAL COMMUNICATION (3)
The ability to communicate and work with individuals and groups are essential skills for an occupational therapist. Effective practitioners employ therapeutic use of self, activity analysis, behavioral management, and group leadership skills to effect change in those served. Concepts of self-management and basic tenets of learning theories will be explored and applied to various populations served. Occupational therapists must be able to meet the psychosocial needs of all clients across the continuum of care.

OT 5452 FUNDAMENTALS OF EVIDENCE-BASED PRACTICE (3)
Through critical reading and analysis of professional scientific literature, students build a foundation for life-long learning and evidence-based clinical practice. Students will be introduced to measurement principles, learn qualitative and quantitative analysis, and apply concepts learned to designing single case studies for clients served. Evaluation is at the core of evidence based practice: Interactions with clients are dependent on the ability to measure therapeutic effect.

OT 5315 TOOLBOX TO SUPPORT PROFESSIONAL PRACTICE (3)
This course serves as an introduction to the essential skills required of therapists in contemporary clinical practice. Students will be introduced to resources supporting professional practice and will learn and apply a variety of skills including transfers, documentation, goal-writing, common precautions, infection control, monitoring of vital signs, basic splinting techniques, chart reading, orientation to residential care environments, fundamentals of activity analysis, and searching relevant literature to facilitate evidence-based practice.

OT 5120 CONTEMPORARY ISSUES IN OT PRACTICE I (1)
This first of a series of three seminar courses provides students with the opportunity to explore current, emerging, and future trends in OT practice. Students will utilize the most recent research and policy information to critically examine and discuss potential developments in OT practice, including new areas of practice such as habilitation and telemedicine, effects of legislation and novel technologies, and a focus on community and population health, participation, and well-being.
OT 5782 NEUROSCIENCE PRINCIPLES OF PERFORMANCE I (3)
In this first of a two-course sequence, students learn how the brain and nervous system support the sensory, perceptual, cognitive, emotional, and physiological capacity of individuals as they perform activities of daily life. Emphasis is placed on sensory processing, motor processing, cognitive performance, learning and memory, and communication. Students will also learn about specific neurological conditions commonly encountered in clinical practice.

OT 5762 BODY STRUCTURES SUPPORTING DAILY FUNCTION I (3)
Students engage in the study of the contribution of the structure, function, and development of body systems that support daily activity. This semester emphasizes anatomical systems and neuromusculoskeletal substrates for activity, joint integrity, strength and cardiopulmonary function.

OT 5770 FUNDAMENTALS OF ASSESSMENT I (3)
The course runs concurrently with Body Structures Supporting Daily Function and Neuroscience Principles of Performance. In this first of a two-course sequence, students apply anatomical and kinesiological principles to occupational performance through assessment of anatomical structures and physiological health. Students learn how to identify sensory, cognitive, perceptual, and emotional performance capacities of individuals by focusing on neuroanatomical and neuro-physiological substrates of sensory, motor, arousal, cognitive, motivational and emotional systems. The students connect the neuroscience of the physiological, neurobehavioral, cognitive and psychological systems to the motor, process and communication performance skills and performance patterns that support occupational performance. Additionally, selected chronic diseases, disorders and conditions will be introduced. Etiology, pathology, clinical course, prognosis and medical management will inform the evaluation process as it impacts occupational performance. Students will build clinical reasoning for core OT practice skills including assessment of person, occupation and environment factors, activity analysis and activity gradation, observation, administering and interpreting assessments, building measurement models, and documenting the evaluation process. Evidence based practice is emphasized through
exploration of the scientific and medical literature. Students will apply measurement principles and skills in selection, administration and interpretation of assessments through case studies, laboratory and fieldwork or in-context experiences.

OT 5163 ENVIRONMENTAL FACTORS FACILITATING PERFORMANCE AND PARTICIPATION I (2)
In this first of a two-course sequence, students gain in-depth understanding of the psychological, social, political, physical, and cultural elements of the environment that influence occupational performance, participation, and health. Disability and chronic health conditions as consequences of environmental barriers and the relationship between the person and environments as both change across the life span will be discussed. Assessment and intervention strategies that promote health and maximize participation in daily activities will be examined in home, school, workplace, and other community settings. Students are provided with opportunities to practice and demonstrate skills acquired through community based experiences including a group community consultation project.

OT 5125 CONTEMPORARY ISSUES IN OT PRACTICE II (1)
This second of a series of three seminar courses provides students with the opportunity to explore current, emerging, and future trends in OT practice. Students will utilize the most recent research and policy information to critically examine and discuss potential developments in OT practice, including new areas of practice such as habilitation and telemedicine, effects of legislation and novel technologies, and a focus on community and population health, participation, and well-being.

OT 5610 FIELDWORK I (1)
This is the first course in a series that emphasizes the growth of the student as a professional. Students will build on the electronic professional portfolio developed in the fall semester and participate in self-directed learning experiences to enhance personal growth and professional competence. An intensive one week, 40 hour, supervised fieldwork experience in a clinical or community setting allows the student to practice the skills learned in the classroom.
OT 601 APPLIED CLINICAL RESEARCH I (3) is the first of a four course sequence offering the students opportunities to: 1) perform a systematic investigation, 2) develop a research project, and 3) perform testing and evaluation. The class is designed to develop or contribute to generalizable knowledge of occupational therapy or occupational performance. Activities that meet this definition include ongoing work in the laboratories of the faculty, controlled clinical trials, pilot studies to determine feasibility of future studies, demonstrations and community programs that may lead to new services or policy demonstrations. In the sequence, the student will work on his/her research project. The project will include collecting, processing, and analyzing data. The student will also begin to write about their work. Students may observe practitioners who work with the population related to their research projects.

OT 605 APPLIED CLINICAL PRACTICE I (3) is the first of a four course sequence offering students opportunities to: 1) enhance clinical skills, 2) support evidence based practice, 3) provide leadership opportunities, and 4) allow specialization in an area of clinical practice. The opportunities will present themselves by associating with clinics or other OT related facilities in the greater St. Louis area. The course is a self-directed learning experience under the guidance of an OT clinical faculty member and a community practitioner. The student will be guided by a clinical mentor and work on a clinical project related to the needs of the facility. A final report and presentation will be made and the end of the sequence.

OT 5783 NEUROSCIENCE PRINCIPLES OF PERFORMANCE II (1)
In this second of a two-course-sequence, students learn how the brain and nervous system support the sensory, perceptual, cognitive, emotional, and physiological capacity of individuals as they perform activities of daily life. Emphasis is placed on sensory processing, motor processing, cognitive performance, learning and memory, and communication. Students will also learn about specific neurological conditions commonly encountered in clinical practice.

OT 5763 BODY STRUCTURES SUPPORTING DAILY FUNCTION II (1)
Students examine the complexity of movement and the integration of functions that are necessary to enable participation in everyday activities. Biomechanical principles
are presented and applied to the body structures, allowing students to understand the kinesiological underpinnings of occupational performance.

OT 5771 FUNDAMENTALS OF ASSESSMENT II (2)
The course runs concurrently with Body Structures Supporting Daily Function and Neuroscience Principles of Performance. In this second of a two-course-sequence, students apply anatomical and kinesiological principles to occupational performance through assessment of anatomical structures and physiological health. Students learn how to identify sensory, cognitive, perceptual, and emotional performance capacities of individuals by focusing on neuroanatomical and neuro-physiological substrates of sensory, motor, arousal, cognitive, motivational and emotional systems. The students connect the neuroscience of the physiological, neurobehavioral, cognitive and psychological systems to the motor, process and communication performance skills and performance patterns that support occupational performance. Additionally, selected chronic diseases, disorders and conditions will be introduced. Etiology, pathology, clinical course, prognosis and medical management will inform the evaluation process as it impacts occupational performance. Students will build clinical reasoning for core OT practice skills including assessment of person, occupation and environment factors, activity analysis and activity gradation, observation, administering and interpreting assessments, building measurement models, and documenting the evaluation process. Evidence based practice is emphasized through exploration of the scientific and medical literature. Students will apply measurement principles and skills in selection, administration and interpretation of assessments through case studies, laboratory and fieldwork or in-context experiences.

OT 5164 ENVIRONMENTAL FACTORS FACILITATING PERFORMANCE AND PARTICIPATION II (1)
In this second of a two-course sequence, students gain in-depth understanding of the psychological, social, political, physical, and cultural elements of the environment that influence occupational performance, participation, and health. Disability and chronic health conditions as consequences of environmental barriers and the relationship between the person and environments as both change across the life span will be
discussed. Assessment and intervention strategies that promote health and maximize participation in daily activities will be examined in home, school, workplace, and other community settings. Students are provided with opportunities to practice and demonstrate skills acquired through community based experiences including a group community consultation project.

OT 5130 CONTEMPORARY ISSUES IN OT PRACTICE III (1)
This third of a series of three seminar courses provides students with the opportunity to explore current, emerging, and future trends in OT practice. Students will utilize the most recent research and policy information to critically examine and discuss potential developments in OT practice, including new areas of practice such as habilitation and telemedicine, effects of legislation and novel technologies, and a focus on community and population health, participation, and well-being.

OT 602 APPLIED CLINICAL RESEARCH II (2) is the second of a four course sequence offering the students opportunities to: 1) perform a systematic investigation, 2) develop a research project, and 3) perform testing and evaluation. The class is designed to develop or contribute to generalizable knowledge of occupational therapy or occupational performance. Activities that meet this definition include ongoing work in the laboratories of the faculty, controlled clinical trials, pilot studies to determine feasibility of future studies, demonstrations and community programs that may lead to new services or policy demonstrations. In the sequence, the student will work on his/her research project. The project will include collecting, processing, and analyzing data. The student will also begin to write about their work. Students may observe practitioners who work with the population related to their research projects.

OT 606 APPLIED CLINICAL PRACTICE II (2) is the second of a four course sequence offering students opportunities to: 1) enhance clinical skills, 2) support evidence based practice, 3) provide leadership opportunities, and 4) allow specialization in an area of clinical practice. The opportunities will present themselves by associating with clinics or other OT related facilities in the greater St. Louis area. The course is a self-directed learning experience under the guidance of an OT clinical faculty member and a community practitioner. The student will be guided by a clinical mentor and work on a
clinical project related to the needs of the facility. A final report and presentation will be made and the end of the sequence.

OT 5825 INTERVENTIONS SUPPORTING RECOVERY AND PARTICIPATION OF INDIVIDUALS WITH SENSORIMOTOR CHALLENGES (3)
Sensorimotor deficits and delays impact daily life and participation. Throughout this course, students will explore how to utilize assessment results to implement theory driven evidence-based treatment plans to improve occupational performance and participation in daily life. Lifespan and practice setting issues from birth to older adults will be addressed in relation to sensory and motor deficits and delays. Students will utilize a variety of hands on, case-based, and self-directed learning activities to develop clinical skills.

OT 5835 INTERVENTIONS SUPPORTING RECOVERY AND PARTICIPATION OF INDIVIDUALS WITH COGNITIVE AND LEARNING CHALLENGES (3)
This 3 credit course is designed to provide the foundation skills for evidence based intervention for individuals with cognitive impairment across the lifespan. Students will explore various intervention approaches and therapeutic techniques for individuals faced with cognitive challenges arising from developmental issues, injuries, and/or disease processes focused on increasing independence and participation in daily life activities. Lectures, case studies, lab experiences, and client treatments in the community will provide the foundation for the learning experiences. Related skills in documentation, goal setting, and ethical issues which may arise will be incorporated into classroom discussions and assignments.

OT 5380 HEALTH PROMOTION, PARTICIPATION AND WELLNESS FOR PERSONS WITH CHRONIC DISEASE (3)
The impact of chronic disease on daily participation affects health-related quality of life and well-being. Students will study health promotion and preventive individual and group models of service delivery for community-dwelling people. Using Healthy People 2020 topic areas, students will explore theory-driven, evidence-based health education solutions for consumers with chronic conditions to strengthen their community participation. Students will discover therapeutic interventions to empower
people to self-manage their conditions and connect with community resources for
health promotion, prevention and wellness.

OT 5801 CASE BASED LEARNING I (2)
In this first course of a two semester sequence, students are engaged in learning
experiences that includes divergent case method, inquiry learning, and problem-based
learning. Using a self-directed learning process, clinical reasoning and group process
skills, students explore practice problems and apply specific occupational therapy
evaluations and intervention techniques for persons of all ages and disability
categories. The context of cases are integrated with material covered concurrently in
the Interventions courses and focus on direct clinical treatment interventions.

OT 5615 FIELDWORK I (1)
This is the second course in a series that emphasizes the growth of the student as a
professional. Students will continue to build on their electronic professional portfolio
and participate in self-directed learning experiences to enhance personal growth and
professional competence. An intensive one week, 40 hour, supervised fieldwork
experience in a clinical or community setting allows the student to practice the skills
learned in the classroom.

OT 603 APPLIED CLINICAL RESEARCH III (3) is the third of a four course sequence
offering the students opportunities to: 1) perform a systematic investigation, 2)
develop a research project, and 3) perform testing and evaluation. The class is
designed to develop or contribute to generalizable knowledge of occupational therapy
or occupational performance. Activities that meet this definition include ongoing work
in the laboratories of the faculty, controlled clinical trials, pilot studies to determine
feasibility of future studies, demonstrations and community programs that may lead
to new services or policy demonstrations. In the sequence, the student will work on
his/her research project. The project will include collecting, processing, and analyzing
data. The student will also begin to write about their work. Students may observe
practitioners who work with the population related to their research projects.

OT 607 APPLIED CLINICAL PRACTICE III (3) is the third of a four course sequence
offering students opportunities to: 1) enhance clinical skills, 2) support evidence based practice, 3) provide leadership opportunities, and 4) allow specialization in an area of clinical practice. Students will have an opportunity to develop occupation-based programs for clinics or other community agencies in the St. Louis region. The course is a collaborative self-directed service learning experience under the guidance of an OT faculty member and a community partner. The student will be guided by the needs of the agency in helping to build the agency’s capacity.

OT 5220 SUPPORTING PARTICIPATION WITH TECHNOLOGY AND ENVIRONMENTAL INTERVENTIONS (3)
This course introduces technology and environment related interventions to preserve, augment or improve social, emotional, physical and academic well being. Intervention strategies that promote heath and maximize participation in daily activities for people with chronic conditions and disabilities will be examined in home, school, workplace, and community settings. The tools and interventions will include descriptions of special equipment (i.e. self-care tools and compensatory techniques), assistive technology devices (i.e. computer access, mobility devices, augmentative communication systems, environmental control units, vehicles adaptations and recreational equipment), and environment adaptations and modifications (i.e. universal design, home and work modifications). Lectures will focus on the ethical, legislative, funding, assessment and psychosocial issues. Labs will provide an opportunity for hands on learning experiences with a broad range of tools in context specific personal, community and organizational settings.

OT 5845 INTERVENTIONS SUPPORTING RECOVERY AND PARTICIPATION OF INDIVIDUALS WITH PSYCHOSOCIAL CHALLENGES (3)

OT 5285 PROMOTING POPULATION HEALTH THROUGH COMMUNITY PARTNERSHIPS (2)
This course offers a service learning experience through partnership with local community agencies to enhance population health. Mentored teams collaborate with personnel in community non-profit agencies. Students provide a capacity-building service through a needs assessment and a written program plan with an evaluation
component. The intent is to enhance sustainability of the organizations’ programs. The target population served by the organization benefits from expansion and/or enhancement of services. Examples of programs include: parent education, youth skill development, worker health advocacy, neighborhood/residential services, and employee/volunteer programs.

OT 5093 MANAGEMENT IN A CHANGING PRACTICE ENVIRONMENT (3)
This course applies management and organizational principles to occupational therapy services in current and potential practice environments, and entrepreneurial opportunities. Through discussions with business professionals, and case studies, this course highlights organizational, managerial, marketing, financial, regulatory, and funding influences on the development, delivery and evaluation of OT practice. Business plans are developed through case studies. Fieldtrips and interactions with managers and corporate leaders allow students the opportunity for experiential learning.

OT 5802 CASE BASED LEARNING II (2)
In this second of a two-course sequence, students are engaged in a learning process that includes divergent case method, inquiry learning, self-directed learning, problem-based learning, clinical reasoning and group process skills. Students explore practice problems, and apply specific occupational therapy evaluations and intervention techniques for persons of all ages and disability categories within the context of cases integrated with material covered concurrently in the Interventions courses. The focus is on direct clinical treatment interventions. This is a small seminar class with 8-9 students and a faculty mentor.

OT 5620 PREPARATION FOR PROFESSIONAL PRACTICE (1)
This course emphasizes the growth of the student as a professional. Topics include the preparation for national certification and state requirements for credentialing, standards of practice, ethical behaviors and continuing competence. Students will prepare a personal marketing package and participate in self-directed learning experiences. Preparation for the students’ fieldwork Level II and Apprenticeships will be emphasized in this course. Topics include the FWII evaluation process, completing
FWII prerequisites, communicating with FW Educators and other professionals.

OT 604 APPLIED CLINICAL RESEARCH IV (2) is the fourth of a four course sequence offering the students opportunities to: 1) perform a systematic investigation, 2) develop a research project, and 3) perform testing and evaluation. The class is designed to develop or contribute to generalizable knowledge of occupational therapy or occupational performance. Activities that meet this definition include ongoing work in the laboratories of the faculty, controlled clinical trials, pilot studies to determine feasibility of future studies, demonstrations and community programs that may lead to new services or policy demonstrations. In the sequence, the student will work on his/her research project. The project will include collecting, processing, and analyzing data. The student will also begin to write about their work. Students may observe practitioners who work with the population related to their research projects.

OT 608 APPLIED CLINICAL PRACTICE IV (2) is the fourth of a four course sequence offering students opportunities to: 1) enhance clinical skills, 2) support evidence based practice, 3) provide leadership opportunities, and 4) allow specialization in an area of clinical practice. The opportunities will present themselves by associating with clinics or other OT related facilities in the greater St. Louis area. The course is a self-directed learning experience under the guidance of an OT clinical faculty member and a community practitioner. The student will be guided by a clinical mentor and work on a clinical project related to the needs of the facility. A final report and presentation will be made and the end of the sequence.

M01 593A FIELDWORK II
Provides fieldwork experiences under the supervision of an occupational therapist. Students' participation includes in-depth experience in delivering occupational therapy services to clients including evaluation, treatment and intervention. Students have the opportunity to practice in a variety of clinical or community-based settings. During the fieldwork process, students are expected to assume increasing responsibilities related to patient or client care. The fieldwork experience is designed to promote clinical reasoning, professionalism and competency. Duration is 12 weeks.
M01 593B FIELDWORK II
Provides a second fieldwork experience under the supervision of an occupational therapist. Students’ participation includes in-depth experience in delivering occupational therapy services to clients including evaluation, treatment and intervention. Students have the opportunity to practice in a variety of clinical or community-based settings. Because this is the second of two fieldwork experiences, students are expected to build on their first fieldwork and assume increasing responsibilities related to patient or client care. The fieldwork experience is designed to progressively build competencies in clinical reasoning, professionalism and entry level skills. Duration is 12 weeks.

M01 595 INDEPENDENT STUDY
Active participation in research activities with program faculty. A written plan of study agreed upon by faculty and student.

OTD Only Courses

M01 630 SEMINAR IN PROPOSAL DEVELOPMENT AND APPLIED CLINICAL RESEARCH
This course is designed to prepare the OTD student to write a research proposal supporting the identified direction of their clinical doctorate work under the supervision of their graduate faculty mentor. Using a seminar format, students will support each other in this endeavor. After a systematic review of interventions, proposals are developed that may lead to policy work that supports clinical services, development or piloting of clinical interventions, developing a program evaluation proposal, writing a business plan to support funding of research, or writing a grant. In all cases the student will refine a problem statement and will have a clear understanding of the research design and methods that will develop into the research proposal.

M01 750 DIRECTED PRACTICE RESEARCH I
This is the first course in a series of three courses designed as an applied clinical experience or clinical research project under the guidance of a graduate faculty mentor. The focus of the project will be in productive aging. The project, over the
course of three semesters, will result in a scholarly paper. Students enter this course after they have completed OT630, the Proposal Seminar course.

M01 751 DIRECTED PRACTICE/RESEARCH II
Student will engage in applied clinical research under the guidance of a graduate faculty member. Topics will be in the area of specialization chosen by the student in consultation with the faculty member.

M01 752 DIRECTED PRACTICE/RESEARCH III
Student will engage in applied clinical research under the guidance of a graduate faculty member. Topics will be in the area of specialization chosen by the student in consultation with the faculty member.

M01 760A OT PRACTICE SEMINAR I
The seminar will focus on the World Health Organization's International Classification of Function, Health, and Disability. This class focuses on the relationship of person factors to occupation. Students engage in critical readings and discussion as they construct a model that will support their area of practice.

M01 760B OT PRACTICE SEMINAR II
The seminar will focus on World Health Organization's International Classification of Function, Health, and Disability. This class focuses on the relationship of environment to occupation. Students engage in critical readings and discussion as they construct a model that will support their area of practice.

M01 762 SEMINAR IN EDUCATION STRATEGIES
This seminar offers an opportunity for students to reflect on and examine concurrent occupational therapy teaching assistantship (TA) experiences. Attention is given to teaching and learning theories underlying practice, teaching tools and strategies, and situated and distributed learning. Activities will include critical reading, journaling, Washington University Teaching Center Workshops and shared critical incident reflection.
M01 793C FIELDWORK III — APPRENTICESHIP

Provides a customized fieldwork experience specific to the doctoral pursuit of the student. Students may participate in research, policy, clinical practice, advocacy, teaching, etc. Students are expected to achieve specific goals established by the student and their doctoral chair. Duration is 12 weeks.

Occupational Therapy Faculty

Parul Bakhshi **Assistant Professor of Occupational Therapy** (primary appointment)
*Assistant Professor of Surgery (Public Health Sciences)*

Peggy Barco, MED **Assistant Professor of Occupational Therapy** (primary appointment)
*Assistant Professor of Medicine*

M. Carolyn Baum, MA, PHD **Professor of Occupational Therapy** (primary appointment)
*Professor of Neurology (Occupational Therapy)*

Elias Michael Executive Director of the Program in Occupational Therapy

BS University of Kansas 1966
MA Webster University 1979
PHD Washington Univ in St. Louis 1993

Christine R. Berg, MS, BSOT, PHD **Associate Professor of Occupational Therapy** (primary appointment)
*Associate Professor of Neurology*

Anjali Maruti Bhorade, MD **Associate Professor of Ophthalmology and Visual Sciences** (primary appointment)

Ellen F Binder, MD **Professor of Medicine** (primary appointment)

Margheuretta Dakota Bland, MS **Assistant Professor of Physical Therapy** (primary appointment)
*Assistant Professor of Neurology*

Assistant Professor of Occupational Therapy
MS Washington Univ in St. Louis 2008
Alexandre Carter, PHD, MD
Assistant Professor of Neurology (primary appointment)
Assistant Professor of Occupational Therapy
PHD Harvard University 2003
MD Harvard University 2003

Ann Marie Dale, PHD
Associate Professor of Medicine (primary appointment)
Associate Professor of Occupational Therapy
BS University of MO Columbia 1983
PHD Saint Louis University 2009

Jeanenne M Dallas
Instructor in Occupational Therapy (primary appointment)
Instructor in Neurology
BS University of Central Arkansas 1979

Jessica L Dashner, MS
Instructor in Occupational Therapy (primary appointment)
Instructor in Neurology
BS McKendree College 2000
MS Washington Univ in St. Louis 2002

Michael N Diringer, MA, MD
Professor of Neurology (primary appointment)
Professor of Anesthesiology
Professor of Occupational Therapy
Professor of Neurological Surgery
MA University of Louisville 1978
MD University of Kentucky 1982

Nico U. Dosenbach, MD, PHD
Assistant Professor of Neurology (primary appointment)
Assistant Professor of Pediatrics
Assistant Professor of Occupational Therapy
BA Columbia University 2000
MD Washington Univ in St. Louis 2008
PHD Washington Univ in St. Louis 2008

Alexander W Dromerick, MD
Adjunct Associate Professor of Neurology (primary appointment)
Adjunct Associate Professor of Occupational Therapy
Adjunct Associate Professor of Physical Therapy
BA University of Virginia 1980
MD University of Maryland 1986

Dorothy F Edwards, PHD
Adjunct Associate Professor of Occupational Therapy
Adjunct Associate Professor of Neurology
PHD Washington Univ in St. Louis 1980

Jack R. Engsberg, PHD, MS
Professor of Occupational Therapy (primary appointment)
Professor of Neurological Surgery
Professor of Orthopaedic Surgery
BS Univ of Wisconsin La Crosse 1973
PHD University of Iowa 1985
MS Univ of Wisconsin La Crosse 1978
MS1 Univ of Wisconsin La Crosse 1979

Bradley A Evanoff, MD
Richard A and Elizabeth Henby Sutter Professor of Occupational, Industrial, and Environmental Medicine in Medicine (primary appointment)
Professor of Occupational Therapy
Assistant Dean for Clinical and Translational Research
BA Cornell University 1982
MD Washington Univ in St. Louis 1986
Susan M Fitzpatrick, PHD Adjunct Associate Professor of Neuroscience (primary appointment)
Adjunct Associate Professor of Occupational Therapy
BS St Johns University 1978
PHD Cornell University 1984
Linda Ann Hunt Adjunct Associate Professor of Neurology
Adjunct Associate Professor of Occupational Therapy
Victoria Kaskutas, MHS Associate Professor of Occupational Therapy (primary appointment)
Associate Professor of Medicine
BS University of Illinois 1980
MHS Washington Univ in St. Louis
Allison A King, MD Associate Professor of Occupational Therapy (primary appointment)
Associate Professor of Pediatrics
Associate Professor of Pediatrics
Associate Professor of Education (Courtesy)
Associate Professor of Surgery (General Surgery)
Associate Professor of Medicine
Associate Professor of Medicine
MD University of MO Columbia 1996
Kathleen Marie Kniepmann, M PH, DED Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Neurology
M PH Harvard University 1981
BA Washington Univ in St. Louis 1974
BS Washington Univ in St. Louis 1974
DED Harvard University 1980
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Professor of Neurology
Professor of Occupational Therapy
MS University of Vermont 1997
PHD Washington Univ in St. Louis 2001
BS University of Vermont 1993
Huiping C Lieser, PHD, MA Instructor in Occupational Therapy (primary appointment)
PHD Kansas State University 2001
MA Kansas State University 1994
Susan E Mackinnon, MD Sydney M., Jr. and Robert H. Shoenberg Professor of Surgery (Plastic and
Reconstructive Surgery) (primary appointment)
Professor of Otolaryngology
Professor of Occupational Therapy
BA Queens College 1971
MD Queen's University 1975
Lauren Elizabeth Milton, PHD Instructor in Occupational Therapy (Pending Dean's Approval)
( primary appointment)
BS1 Saint Louis University 2001
PHD Washington Univ in St. Louis 2008
Marian A Minor, PHD, M PH Associate Professor of Occupational Therapy (primary appointment)
PHD University of Missouri 1989
BS University of Kansas 1965
Kerri A Morgan, PhD, MS
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PhD Washington Univ in St. Louis 2015
MS Washington Univ in St. Louis 1998
BA Texas Christian University 1996

John Carl Morris, MD
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Professor of Physical Therapy
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MD University of Rochester 1974
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Professor of Occupational Therapy
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MD University of Oklahoma 1965

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Professor of Radiology
Professor of Occupational Therapy
Professor of Neuroscience
Professor of Physical Therapy
MD University of MO Columbia 1979
BA Princeton University 1975

Monica S Perlmutter, OTD, MA, BSOT
Associate Professor of Occupational Therapy (primary appointment)
Associate Professor of Ophthalmology and Visual Sciences
OTD Washington Univ in St. Louis 2012
MA Washington Univ in St. Louis 1989
BSOT University of MO Columbia 1981

Benjamin Allen Philip
Instructor in Occupational Therapy (primary appointment)
Instructor in Neurology

Jay Francis Piccirillo
Professor of Otolaryngology (primary appointment)
Vice Chairman for Research, Dept of Otolaryngology
Professor of Medicine
Professor of Occupational Therapy
Professor of Biostatistics
BA University of Vermont 1979

Roberta G Pineda, PHS, MHS
Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Pediatrics
PHS University of Florida 2006
MHS University of Florida 1994

Stacy Lynn Smallfield, MS, MD
Assistant Professor of Occupational Therapy (Pending Executive Faculty Approval) (primary appointment)
BS Gustavus Adolphus College 1995
MS Washington Univ in St. Louis 1996
MD Nova Southeastern University 2007

Susan L Stark, PhD, MS
Assistant Professor of Occupational Therapy (primary appointment)
Pharmacy Student Research Training Program

A key academic institution in our biomedical and clinical health center environment is the St. Louis College of Pharmacy. It is one of the premier institutions in the country for the teaching and training of pharmacists. The College's extensive pharmaceutical sciences curriculum has generated interest by a number of their students in laboratory biomedical research. Students beyond their fourth year at St. Louis College of Pharmacy who demonstrate interest in science and research, and are recommended by the College faculty, will have an opportunity to complete 10- to 14-week fellowships in any of the laboratories at the School of Medicine. Students can, with consent of their advisors at the College of Pharmacy and the laboratory principal investigator, extend their stay. This joint research collaboration should encourage those students in the program to pursue graduate degrees in the Division of Biomedical Sciences at the School of Medicine.
Physical Therapy

Physical therapy is the science of human movement applied to rehabilitation, injury, fitness, injury prevention and overall health. Practicing in a variety of settings, physical therapists diagnose and treat movement dysfunction in patients with skill, competence and compassion. The Program in Physical Therapy is committed to providing students with excellent scientific and clinical education in an environment that strives to continually lead the industry in practice, research, innovation and advocacy of movement health.

The Program in Physical Therapy at the School of Medicine offers three formal curricula that collectively foster opportunities for lifelong learning and comprehensive career development.

The professional Doctor of Physical Therapy

The professional curriculum is an intensive three-year experience leading to the degree of Doctor of Physical Therapy. The principle focus of this professional training is to develop scientific and clinical expertise in the diagnosis and treatment of movement-related conditions. By integrating biomedical and physical sciences and clinical education with behavioral and social sciences, this curriculum provides students with the scientific expertise, critical thinking skills and interpersonal communication necessary for effective clinical practice, comprehensive treatment design, patient advocacy, patient education and health promotion. Applicants for admission must have completed 1) a bachelor’s degree at an accredited institution, and 2) prerequisite courses in biology, chemistry, physics, mathematics, anatomy, physiology, English, psychology, social sciences and humanities, 3) have a minimum math/science, core prerequisites and science GPA of 3.0 and 4) the Graduate Record
Doctor of Philosophy in Movement Science

The focus of the interdisciplinary doctoral program in movement science is to prepare future researchers and faculty members who can enhance the profession of physical therapy. Admission to this curriculum requires acceptable scores on the Graduate Record Examination, excellence in previous academic work and demonstrated beginning abilities in posing questions of importance to the study of movement.

The faculty members of the Program in Physical Therapy are committed to being leaders in discovering and transmitting new knowledge related to movement dysfunction, preparing clinicians to assume multiple roles in a complex health-care environment and fulfilling the service mission to society through active participation in humanistic, scientifically-based patient care. Students in all curricula are expected to participate actively in an environment that values integrity, initiative, creativity and the strong belief that physical therapy intervention promotes health. In these ways, all individuals associated with the Program in Physical Therapy may achieve their highest professional and personal potential.

Tuition

Professional DPT curriculum: $18,634 per semester
Doctoral curriculum: $24,475 per semester

Further information

Further information, including complete admissions instructions and program descriptions, may be obtained by direct correspondence with the Program in Physical Therapy:

Program in Physical Therapy
Washington University School of Medicine
Campus Box 8502
Physical Therapy Courses

Doctor of Physical Therapy degree

Semester 1

M02 601 DIAGNOSIS AND EVIDENCE ANALYSIS IN PT I
Department: Program in Physical Therapy
Course Master: Nancy Bloom, PT, DPT, MSOT
Credit Hours: 2
The program is located in the Division of Biostatistics, on the third floor of Shriners Building (706 S. Euclid Ave. at Clayton Road), Rooms 3301-3312. Includes processes required for effective clinical decision-making such as the use of models for classifying patient problems, decision trees, diagnostic classification systems, patient interviewing, health histories and outcome measures. Patient cases will be used to practice clinical decision-making skills. An introduction to basic research methods and systematic review of the literature.

M02 602 PROFESSIONAL ISSUES AND SKILL DEVELOPMENT I
Department: Program in Physical Therapy
Course Masters: Jennifer Stith, PT, PhD, LCSW, and Suzanne Cornbleet, PT, DPT
Credit Hours: 3
An introduction to the profession of physical therapy, the APTA, professional behavior and clinical activities such as documentation and quality improvement. Includes ethics, legal issues and policies that guide professional behavior. Interpersonal skills and issues related to human diversity will be addressed. Students will complete a personal and family health history. Students will learn and practice using principles of patient teaching, negotiation and team building. Students will spend 80 hours at clinical sites.

M02 603 ESSENTIAL SKILLS IN PHYSICAL THERAPY I
Department: Program in Physical Therapy
Course Master: Susan Strecker, PT, DPT, and Judith Gelber, PT, DPT
Credit Hours: 4
Semester: 1
Beginning skills for patient management include using systems screening and reliable assessment of impairments including visual appraisal, vital signs, sensation, reflexes, pain, range of motion, muscle strength, infection control. Skill and safety in positioning, draping and managing wheelchairs and other equipment during patient-care activities such as walking and transfers will be developed.

M02 604 CELLS, SYSTEMS AND DISEASE I
Department: Program in Physical Therapy
Course Master: Ruth Clark, PT, PhD
Credit Hours: 4
Semester: 1
The first of a two-semester course, this course focuses on a comprehensive review of normal physiology of the organ systems: musculoskeletal, cardiovascular, respiratory, renal, gastrointestinal, endocrine, immune and digestive. Regulatory mechanisms to maintain homeostasis will be emphasized throughout the course. Students will be introduced to pharmacology and to the relevance of clinical laboratory values. Patient case studies will be used to integrate information. Introduction to the medical management will be provided for some diseases.

M02 605 NEUROSCIENCE
Department: Program in Physical Therapy
Course Master: Gammon Earhart, PT, PhD
Credit Hours: 3
Semester: 1
Focuses on the study of structures, organization and function of the nervous and muscular systems. Emphasis is on the sensory and motor systems involved in motor control and on basic knowledge required for clinical practice.

M02 606 KINESIOLOGY I
Department: Program in Physical Therapy
Course Master: Marcie Harris Hayes, PT, DPT, MSCI, OCS
Credit Hours: 3
Semester: 1
An introduction to the analysis of normal human movement activities through the application of mechanical concepts including displacement, velocity, acceleration, force and torque. Emphasizes kinematic and kinetic concepts relevant to human movement and study of the structures involved in movement.

Semester 2

M02 610 CELLS, SYSTEMS AND DISEASE II
Department: Program in Physical Therapy
Course Master: Ruth Clark, PT, PhD
Credit Hours: 4
Semester: 2
A continuation of the first semester. Physicians will discuss medical management of selected diseases including the etiology, diagnosis, medical management and prognosis of medical diseases frequently encountered in the practice of physical therapy. Three areas of clinical competency will be emphasized through assigned readings and case studies: 1) screening for medical referral including emergent medical referral; 2) clinical decision skills pertaining to pathological implications of underlying disease processes and their relevance to guiding physical therapy intervention; 3) clinical decision skills pertaining to implications of medical
management and their relevance to guiding physical therapy activity and exercise prescription.

M02 611 HUMAN ANATOMY
Department: Program in Physical Therapy
Course Master: Stacy Tylka, PT, DPT, WCS, CLT
Credit Hours: 5
Semester: 2
Emphasis is on 1) musculoskeletal, neural and vascular systems of the extremities, head, neck and trunk, and 2) anatomical features relevant to current physical therapy practice. Lectures are complemented by student-performed dissection of human cadavers, instructor-prepared prosections and computer-assisted instruction.

M02 612 DIAGNOSIS AND EVIDENCE ANALYSIS IN PT II
Department: Program in Physical Therapy
Course Master: Barbara Norton, PT, PhD, FAPTA
Credit Hours: 2
Semester: 2
Continuation of research methods from the first semester. Includes descriptive, experimental and quasi-experimental research designs and statistics, hypothesis testing, continuation of measurement issues, hierarchy of credibility for rating research articles.

M02 613 KINESIOLOGY II
Department: Program in Physical Therapy
Course Master: Renee Ivens, PT, DPT, and Judith Gelber, PT, DPT
Credit Hours: 5
Semester: 2
Emphasizes principles of maturation and motor learning relative to the application of biomechanical principles to the analysis of human movement. Topics include developmental, anatomical, electromyographical and physiological elements of kinesiology with regard to individual joints and common functional activities such as gait and transitional movements.
M02 614 DIAGNOSIS AND MANAGEMENT OF MUSCULOSKELETAL CONDITIONS IN PT I
Department: Program in Physical Therapy
Course Masters: Suzanne Cornbleet, PT, DPT, and Gregory Holtzman, PT, DPT
Credit Hours: 3
Semester: 2
Students will learn postural assessment and application of Movement Systems Balance. Analysis of functional activities, the essential components and compensatory strategies will prepare the student to begin to plan interventions for individuals with musculoskeletal problems. Skill in providing interventions of manual exercise, fitness training and functional mobility training will be developed. Cases will provide use of diagnostic systems relevant to musculoskeletal conditions.

M02 615 PROFESSIONAL ISSUES AND SKILL DEVELOPMENT II
Department: Program in Physical Therapy
Course Master: Gregory Holtzman, PT, DPT
Credit Hours: 0.5
Semester: 2
Students will be assigned to part-time clinical experiences for 40 hours to allow practice of acquired skills in patient care, documentation and communication. Additional class time allows students to role play a clinical situation involving a patient examination and supervision by a clinical instructor.

M02 691 and 691A CLINICAL EXPERIENCE I (8 WEEKS)
Department: Program in Physical Therapy
Course Master: Tamara Burlis, PT, DPT, CCS
Credit Hours: 4
Semester: 2
An eight-week, full-time clinical experience supervised by clinical faculty. Allows the student to practice evaluation and treatment skills acquired in the classroom and laboratory. Also emphasizes development of professional behaviors.

Semester 3
M02 621 EXERCISE PHYSIOLOGY
Department: Program in Physical Therapy
Course Masters: Susan Racette, PhD, and David Sinacore, PT, PhD, FAPTA
Credit Hours: 3
Semester: 3
A study of the responses of various physiological systems to exercise. Includes application and integration of these systems to various diseases and to human performance. Content will be coordinated with Diagnosis and Management of Cardiopulmonary Conditions in PT.

M02 622 DIAGNOSIS AND MANAGEMENT OF CARDIOPULMONARY CONDITIONS IN PT
Department: Program in Physical Therapy
Course Masters: Tamara Burlis, PT, DPT, CCS, and Ethel Frese, PT, DPT
Credit Hours: 3
Semester: 3
Students will learn to assess, diagnose and treat movement-related cardiopulmonary conditions. Treatment techniques will include exercise and conditioning, breathing techniques, postural drainage and percussion. Interpretation of laboratory tests and pharmacology will prepare students to work with patients safely. Case studies will prepare students for general practice.

M02 623 ORTHOPEDIC MEDICINE
Department: Program in Physical Therapy
Course Master: Renee Ivens, PT, DPT
Credit Hours: 2
Semester: 3
Physician lectures will provide students with information on surgical and nonsurgical procedures and post-operative management of patients with orthopedic conditions. Physicians will discuss medical diagnosis, clinical signs and symptoms, and management of selected conditions to prepare the student to use this information in Diagnosis and Management of Musculoskeletal Conditions in PT II – III.

M02 624 DIAGNOSIS AND MANAGEMENT OF MUSCULOSKELETAL CONDITIONS IN PT II
Students will acquire the skills needed to manage and prevent movement-related musculoskeletal problems of the spine, hip, knee and shoulder. Acute and post-acute care will be addressed. Integration of information from previous and concurrent courses will be stressed with emphasis on screening, examination, analysis of findings, diagnosis, design and implementation of intervention programs for patients with increasingly complex problems. Functional activities across the life span also will be addressed.

M02 625 NEUROLOGY MEDICINE
Department: Program in Physical Therapy
Course Master: Brendan Tanner, PT, DPT
Credit Hours: 2
Semester: 3
Physician lectures will provide students with information on the medical management of patients with neurological conditions. Physicians will discuss medical diagnosis, clinical signs and symptoms and their natural progression, and management of selected conditions to prepare the student to use this information in Diagnosis and Management of Neuromuscular Conditions in PT. Students attend class with occupational therapy students and work independently to meet the objectives of the course.

M02 627 ESSENTIAL CLINICAL SKILLS IN PT II
Department: Program in Physical Therapy
Course Masters: Tracy Spitznagle, PT, DPT, WCS and Gregory Holtzman, PT, DPT
Credit Hours: 3
Semester: 3
Skill in providing interventions including massage and mobilization and the application
of thermal, mechanical, hydro and electrotherapeutic modalities will be developed. Students will learn the basic indications for and prescription of adaptive equipment and wheelchairs.

M02 628 CASE INTEGRATION LAB I
Department: Program in Physical Therapy
Course Masters: Cheryl Caldwell, PT, DPT, CHT and Patricia McGee, PT, DPT, PCS
Credit Hours: 1
Semester: 3
Paper, video and live patient cases provided by faculty and students will be completed to provide practice in managing patients with varying movement-related diagnoses. Students participate in faculty-facilitated small groups to discuss their own patient cases and to develop skill in asking clinical questions, using the literature to support, practice and write a modified case report.

M02 629 DIAGNOSIS AND MANAGEMENT OF NEUROMUSCULAR CONDITIONS IN PT I
Department: Program in Physical Therapy
Course Masters: Beth Crowner, PT, DPT, NCS, MPPA, and Susan Strecker, PT, DPT
Credit Hours: 4
Semester: 3
Students will acquire the skills to examine patients with neuromuscular disorders. Emphasis will be on screening, selecting tests and measures, examination, determining impairments and functional loss, and making a movement system diagnosis. Students will practice examining both adult and pediatric patients. Content related to motor control and motor learning will be integrated into the course. Course content will be integrated with the concurrent Neurology Medicine course.

M02 692 and 692A CLINICAL EXPERIENCE II (8 WEEKS)
Department: Program in Physical Therapy
Course Master: Tamara Burlis, PT, DPT, CCS
Credit Hours: 4
Semester: 3
An eight-week, full-time clinical experience supervised by clinical faculty. Allows the
Semester 4

M02 626 MODERATORS OF HEALTH, WELLNESS AND REHABILITATION
Department: Program in Physical Therapy
Course Master: Jennifer Stith, PT, PhD, LCSW
Credit Hours: 3
Semester: 4
Designed to explore individual attitudes toward health, illness, disability and death. Emphasizes the effect of these attitudes on individual goals, motivation, expectations, interpersonal relationships and exercise adherence. Investigates individual health attitudes, personal values, family interaction, stress management and concepts of wellness. Age-related issues will be addressed.

M02 635 PROFESSIONAL ISSUES AND SKILL DEVELOPMENT III
Department: Program in Physical Therapy
Course Master: Jennifer Stith, PT, PhD, LCSW
Credit Hours: 3
Semester: 4
Focuses on clinical application of compliance and motivation principles. Peer teaching, communication, consultation skills, leadership skills, lobbying legislation, documentation and negotiation in the clinic will be practiced. Students will practice decision making, supervision and delegation. Students will prepare résumés and begin career planning.

M02 636 DIAGNOSIS AND MANAGEMENT OF GENERAL MEDICAL CONDITIONS IN PT
Department: Program in Physical Therapy
Course Master: Tamara Burlis, PT, DPT, CCS and Traci Norris, PT
Credit Hours: 3
Semester: 4
Students will acquire the skills needed to manage movement-related problems in
patients with diabetes, burns, arthritis, wounds, amputation, obesity, oncological problems, incontinence, pregnancy, pain, genetic conditions and orthotic needs. Students will become familiar with care in both the neonatology unit and emergency room. Integration of information from previous and concurrent courses will be stressed with emphasis on screening, examination, analysis of findings, diagnosis, design and implementation of intervention programs for patients with increasingly complex problems. Functional activities across the life span will be addressed.

M02 638 DIAGNOSIS AND MANAGEMENT OF MUSCULOSKELETAL CONDITIONS IN PT III
Department: Program in Physical Therapy
Course Master: Gregory Holtzman, PT, DPT
Credit Hours: 3
Semester: 4
Students will acquire the skills needed to manage and prevent movement-related musculoskeletal problems of the spine, neck, elbow, wrist and hand, ankle and foot. Integration of information from previous and concurrent courses will be stressed with emphasis on screening, examination, analysis of findings, diagnosis, design and implementation of intervention programs for acute and post-acute patients with increasingly complex problems. Functional activities across the life span will be addressed.

M02 642 CASE INTEGRATION II
Department: Program in Physical Therapy
Course Masters: Nancy Bloom, PT, DPT, MSOT, and Tracy Spitznagle, PT, DPT, WCS
Credit Hours: 1
Semester: 4
Students will be updated on the use of movement-related diagnostic systems and hear a practice case from a faculty member. Using data on a patient studied during CE II, students will work in small groups with a faculty mentor to 1) orally present the case in five minutes using a rounds fashion; 2) develop a clinical question; 3) search the literature for 6-8 articles that will address the clinical question, summarizing the
articles and completing a systematic review using matrix method; and 4) complete a modified case report.

M02 643 DIAGNOSIS AND MANAGEMENT OF NEUROMUSCULAR CONDITIONS IN PT II
Department: Program in Physical Therapy
Course Masters: Beth Crowner, PT, DPT, NCS, MPPA, and Susan Strecker, PT, DPT
Credit Hours: 4
Semester: 4
Students will build on their skills for examining patients with neuromuscular disorders and diagnosing movement system dysfunction. Additional skills acquired will be designing and implementing intervention plans to address impairments and functional loss in patients of all ages. To aid in selecting appropriate interventions students will consider patient prognosis. Students will learn to prescribe wheelchairs and orthotics, fabricate splints, apply kinesiotape, and use a variety of medical equipment. Motor control and motor learning principles will be integrated into the course.

M02 693 and 693A CLINICAL EXPERIENCE III (10 WEEKS)
Department: Program in Physical Therapy
Course Master: Tamara Burlis, PT, DPT, CCS
Credit Hours: 5
Semester: Summer
A full-time clinical experience supervised by clinical faculty. Allows the student to practice evaluation and treatment skills acquired in the classroom and laboratory. Also emphasizes development of professional behaviors.

M02 694 and 694A CLINICAL EXPERIENCE IV (12 WEEKS)
Department: Program in Physical Therapy
Course Master: Tamara Burlis, PT, DPT, CCS
Credit Hours: 6
Semester: Fall
A full-time clinical experience supervised by clinical faculty. Allows the student to practice evaluation and treatment skills acquired in the classroom and laboratory. Also
emphasizes development of professional behaviors.

M02 650 DIAGNOSIS AND EVIDENCE ANALYSIS IN PT III
Department: Program in Physical Therapy
Course Masters: Nancy Bloom, PT, DPT, MSOT, and Tracy Spitznagle, PT, DPT, WCS
Credit Hours: 3
Semester: 5
Students will prepare written case reports based on patients seen during their clinical experiences. Students will defend the use of diagnostic classifications and integrate the literature to support their case. Students will practice selecting appropriate outcome measures, designing clinical research questions, and using data to make decisions about individual and group treatment. Students will apply concepts of reliability and validity to assess their measurements.

M02 651 ORGANIZATIONAL AND MANAGEMENT ISSUES
Department: Program in Physical Therapy
Course Master: Beth Crowner, PT, DPT, NCS, MPPA
Credit Hours: 3
Semester: 5
Dynamics of organizations and department will be discussed using case examples. Focuses on the knowledge and skills needed by physical therapists early in their careers. Principles of administration and management that enable the physical therapist to supervise supportive personnel, to understand fiscal issues including reimbursement and to recommend staffing schedules and patterns will be addressed. Students will learn marketing and public relations strategies.

M02 652 ALTERNATIVE SKILLS AND PRACTICE ENVIRONMENTS
Department: Program in Physical Therapy
Course Master: Lynette Khoo-Summers, PT, DPT
Credit Hours: 3
Semester: 5
Physical therapy practice in work and community settings will be addressed. Special PT tests and the interpretation of other tests will be integrated into cases. Students also
will be introduced to care in the ER, issues related to genetics and genomics and the importance of changes in medical care to PT. A unit on ergonomics is included. Alternative medicine and alternative PT practice (using an evidence-based practice approach) will be studied. PT topics may include craniosacral therapy, pilates, tai-chi, functional stabilization, therapeutic horsemanship, muscle energy, magnets and others. Student will learn about chiropractic, acupuncture, functional capacity evaluation and focus more on chronic pain. Students will also explore recreational options for disabled populations.

M02 653 HEALTH, FITNESS AND PREVENTION
Department: Program in Physical Therapy
Course Master: Tamara Burlis, PT, DPT, CCS
Credit Hours: 3
Semester: 5
Emphasis will be on critiquing and designing fitness and wellness programs for well and special populations. Programs will focus on those for employee fitness, diabetes, arthritis, obesity and the elderly. Students will participate in and evaluate group treatments and recreational exercise. Use of exercise equipment will be addressed.

M02 654 CASE INTEGRATION LAB III
Department: Program in Physical Therapy
Course Masters: Mary Kate McDonnell, PT, DPT, OCS, and Suzanne Cornbleet, PT, DPT
Credit Hours: 3
Semester: 5
A variety of teaching methods, including rounds format, assessment centers and student presentations will enable students to integrate information from across the curriculum to complete complex case studies. Emphasis will be on pharmacology, other tests, moderators, establishing time frames and setting priorities for care. Age-related issues will be addressed.

M02 655 PROFESSIONAL ISSUES AND SKILL DEVELOPMENT IV
Department: Program in Physical Therapy
Course Master: Tamara Burlis, PT, DPT, CCS
Credit Hours: 4  
Semester: 5  
Focus will be on the professional skills students need to function in entry-level practice in a variety of settings. Students will study licensure, participate in lobbying and a mock House of Delegates. Skills in serving as an expert witness, a leader, peer instructor and clinical instruction will be developed. Students will be expected to participate in a service project and activities of the APTA. Cultural and race issues will be actively explored.

Courses – PhD in Movement Science Program

L63 5110 INSTRUMENTATION THEORY AND APPLICATION I  
Department: Movement Science  
Course Master: Joe Klaesner, PhD  
Credit Hours: 4  
Semester: Fall  
This course is designed for the student to have a greater understanding of computer hardware, software and the interaction between these two which makes the use of the computer so useful in research. Basic computer architecture and operating systems will be discussed in this class. The student will gain a basic understanding of software programming logic and structures. The student will use “C” to write several programs for the class. The students will also be exposed to software packages that may include LabView, Matlab, Visual-3D and Excel. The class is organized in a lecture/lab structure.

L63 5115 INSTRUMENTATION THEORY AND APPLICATION II  
Department: Movement Science  
Course Master: Joe Klaesner, PhD  
Credit Hours: 3  
Semester: Spring  
The main goal of this class is to make students comfortable in the identification of data acquisition equipment that is appropriate for their chosen research area. Instrumentation II is an introduction to electrical components and circuits and their role in the function of laboratory instrumentation. The student will be exposed to
basic electronic design of filters, amplifiers and A/D sampling. Also included is exposure to selected pieces of laboratory instrumentation. The class is organized in a lecture/lab structure.

L63 5210 TEACHING PRACTICUM I
Department: Movement Science
Course Master: Ruth Clark, PT, PhD
Credit Hours: 2
Semester: Fall and Spring
The teaching practicum provides an opportunity for the doctoral student to engage in a focused and supervised classroom teaching experience. The student’s teaching should be in a content area relevant to the student’s area of interest. Students are expected to provide at least 6 hours of formal classroom instruction; to include a minimum of 4 hours of lecture presentation to an appropriate educational audience.

L63 5220 LAB PRACTICUM I
Department: Movement Science
Course Master: Faculty
Credit Hours: 1-2
Semester: Fall and Spring
Supervised and focused laboratory research experience. Development of a specific portion of ongoing research by generating a project proposal and pilot data. Culminates with the production of a written report on the project.

L63 5230 LAB PRACTICUM II
Department: Movement Science
Course Master: Faculty
Credit Hours: 1-2
Semester: Fall and Spring
Supervised and focused laboratory research experience. Development of a specific portion of ongoing research by generating a project proposal and pilot data. Culminates with the production of a written report on the project.
This didactic course is designed to provide a comprehensive examination of skeletal muscle bioenergetics: structure, function, physiologic regulation of substrate utilization and physiological/pathological adaptation (mutability) to external and internal stimuli. The course is designed to provide the student with a solid basis in muscle structure, function and physiology needed for high-level clinical care. Course content will include skeletal muscle histology, function of intracellular and extracellular muscle proteins, mechanisms of contraction, myogenesis, utilization of fuel substrates including hormonal control and the effects of exercise, mechanical properties of muscle and the response of muscle to training, disuse and selected pathologies.

The focus of this course will be upon understanding mechanical principles as they relate to the study of human movement. The course will use an integration of quantitative principles and published literature to explore methods to study biomechanics and also to learn how the human body responds to mechanical stimuli in healthy and selected disease conditions.

This goal of this course is to understand how the nervous system controls movement.
and how human movement is affected after pathology to the nervous system. Each class session will consist of an introductory lecture followed by student-led discussions of selected papers. During the course, we will gain insight into how the enormous repertoire of human movements (e.g., gait, posture, voluntary hand movements) is controlled by a distributed motor system (e.g., spinal cord, basal ganglia, motor cortex), how pathology to the system alters movements and how various structures in the system may or may not be able to compensate for each other.

L63 5710 INDEPENDENT STUDY IN MOVEMENT SCIENCE
Department: Movement Science
Course Master: Faculty
Credit Hours: 1-6
Semester: Fall and Spring
Opportunity to pursue individual projects under supervision of a Movement Science faculty member.

L63 5720 RESEARCH IN MOVEMENT SCIENCE
Department: Movement Science
Course Master: Faculty
Credit Hours: 1-6
Semester: Fall and Spring
Opportunity to pursue non-dissertation research on an individual basis under the supervision and direction of a Movement Science faculty member.

L63 5730 READINGS IN MOVEMENT SCIENCE
Department: Movement Science
Course Master: Faculty
Credits 1-6
Semester: Fall and Spring
Opportunity to pursue individual work under the supervision and direction of an IPMS faculty member.

L63 5850 PROGRAM SEMINAR
Department: Movement Science  
Course Master: Gammon Earhart, PT, PhD  
Credit Hours: 1  
Semester: Fall and Spring  
Departmental seminar focused on review of current literature, scholarly presentation and the development of skills in developing and presenting grant proposals. Required for each of the first four semesters of enrollment in the Movement Science program.

M17 522 INTRODUCTION TO STATISTICS FOR THE HEALTH SCIENCES  
Department: Clinical Investigation  
Course Master: Sarah Boslaugh, PhD  
Credit Hours: 3  
Semester: Every Fall  
This is a basic course in statistics with particular focus on the health sciences. It is taught in a user-friendly manner with emphasis on use of SPSS, statistical analysis software commonly used in clinical research. The course will teach basic statistical methods in which clinical researchers should have facility to execute their own analyses.

M17 524 INTERMEDIATE STATISTICS FOR THE HEALTH SCIENCES  
Department: CRTC  
Course Master: Sarah Boslaugh, PhD  
Credit Hours: 3  
Semester: Every Spring  
This 15-week course is designed to build on skills developed in Introduction to Statistics for the Health Sciences and to foster basic expertise required to independently use common multivariate biostatistical methods to analyze clinical research data for peer-review presentation and publication.

M17 588 EPIDEMIOLOGY FOR CLINICAL RESEARCH  
Department: CRTC  
Course Master: Mario Schootman, PhD  
Credit Hours: 3
This course introduces principles of epidemiology as they apply to clinical research. The course provides basic tools used in descriptive and analytical epidemiology, which are crucial for making informed decisions in the care of patients. Critical thinking and scientific/analytic competencies are emphasized throughout the course.

BIO 5011 ETHICS AND MEDICAL RESEARCH
Department: Division of Biology and Biomedical Sciences
Course Master: Robert Mercer, PhD
Credit Hours: 1
Semester: Spring

Physical Therapy Faculty

Amy J Bastian, Adjunct Assistant Professor of Physical Therapy (primary appointment)
Marghuretta Dakota Bland, MS, Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Neurology
Assistant Professor of Occupational Therapy
MS Washington Univ in St. Louis 2008
BS Canisius College 2004
Marybeth Brown, PHD, MA, Adjunct Associate Professor of Physical Therapy (primary appointment)
PHD University of Southern Calif 1984
BS Russell Sage College 1967
MA University of Southern Calif 1974
Tamara Lavon Burlis, Associate Professor of Physical Therapy (primary appointment)
Associate Director for Clinical Education in Physical Therapy
Assistant Director of Professional Curriculum in Physical Therapy
Associate Professor of Medicine
BA Wartburg College 1988
BS Washington Univ in St. Louis 1988
William Todd Cade, PHD, MS Professor of Physical Therapy (primary appointment)
Professor of Medicine
Associate Director of Postdoctoral Fellowships in Physical Therapy
PHD University of Maryland 2002
MS University of Miami 1994
Cheryl Ann Caldwell, DPT, MHS Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
BS University of Colorado Boulder 1976
DPT Washington Univ in St. Louis 2002
MHS Washington Univ in St. Louis 1988
Billie Ruth Clark, PHD Professor of Physical Therapy (primary appointment)
Professor of Neurology
BS Saint Louis University 1974
PHD Saint Louis University 1988
Paul Kevin Commean Assistant Professor of Radiology (primary appointment)
Assistant Professor of Physical Therapy
BS Georgia Tech 1982
Suzanne Marie Cornbleet, MA, DPT Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
MA Washington Univ in St. Louis 1987
BS University of Colorado Boulder 1975
DPT Washington Univ in St. Louis 2003
Beth Elaine Crowner, MS, DPT, BS PT, M PP Associate Professor of Physical Therapy (primary appointment)
Division Director of Clinical Practice in Physical Therapy
Associate Professor of Neurology
MS Washington Univ in St. Louis 1989
DPT Washington Univ in St. Louis 2007
BS PT Washington Univ in St. Louis 1989
M PP University of MO St Louis 1997
Sylvia Lin Czuppon Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
Ryan Michael DeGeeter, DPT Instructor in Physical Therapy (primary appointment)
Instructor in Orthopaedic Surgery
BS Ball State University 2007
DPT Washington Univ in St. Louis 2010
Krikor T Dikranian, PHD, MD Professor of Anatomy (primary appointment)
Professor of Physical Therapy
PHD Medical University - Sofia 1992
MD Medical University - Varna 1978
Alexander W Dromerick, MD Adjunct Associate Professor of Neurology (primary appointment)
Adjunct Associate Professor of Occupational Therapy
Adjunct Associate Professor of Physical Therapy
BA University of Virginia 1980
MD University of Maryland 1986
Ryan Patrick Duncan, DPT, MS Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Neurology
DPT Washington Univ in St. Louis 2012
BS Maryville University 2007
MS Maryville University 2008
Gammon Marie Earhart, MS, PHD Professor of Physical Therapy (primary appointment)
Professor of Neuroscience
Professor of Neurology
Associate Director of Movement Science PhD Program in Physical Therapy
Executive Director of the Program in Physical Therapy
MS Beaver College 1996
BS Beaver College 1994
PHD Washington Univ in St. Louis 2000
Julaine Marie Florence, DPT, MS Professor of Neurology (primary appointment)
Professor of Physical Therapy
DPT Washington Univ in St. Louis 2002
MS Washington Univ in St. Louis 1983
BS Washington Univ in St. Louis 1975
Michael Dennison Harris Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Orthopaedic Surgery
BS University of Utah 2007
Mary Kent Hastings, MS, DPT Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
MS Washington Univ in St. Louis 1993
BS University of Illinois 1990
DPT Washington Univ in St. Louis 2002
Marcie Harris Hayes, MS, DPT Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
BS Southwest Misouri St Universi 1994
MS Northwestern University 1996
DPT Washington Univ in St. Louis 2003
Carey Lane Holleran, MS, PHD Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Neurology
MS Duquesne University 2004
BS Duquesne University 2003
PHD University of Indianapolis 2014
Gregory William Holtzman, MS, DPT Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
Associate Director of Clinical Practice in Physical Therapy
BA Emory University 1995
MS Washington Univ in St. Louis 2001
DPT Washington Univ in St. Louis 2007
Renee A. Ivens, DPT, MHS Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
BS Maryville University 1984
DPT Washington Univ in St. Louis 2006
MHS Washington Univ in St. Louis 1996
Lynnette C Khoo-Summers, MS, DPT Associate Professor of Physical Therapy (primary appointment)
Joseph W. Klaesner, PHD, MS Professor of Physical Therapy (primary appointment)
Professor of Radiology
BS1 Marquette University 1987
BS Marquette University 1987
PHD Vanderbilt University 1995
MS Vanderbilt University 1993
Catherine Eckels Lang, MS, PHD Professor of Physical Therapy (primary appointment)
Professor of Neurology
Professor of Occupational Therapy
MS University of Vermont 1997
PHD Washington Univ in St. Louis 2001
BS University of Vermont 1993
Vanessa Mae Lanier Instructor in Physical Therapy (primary appointment)
Instructor in Orthopaedic Surgery
BS Washington Univ in St. Louis 2007
Matthew J Matava, MD Professor of Orthopaedic Surgery (primary appointment)
Professor of Physical Therapy
BA University of MO Kansas City 1986
MD University of MO Kansas City 1987
Debra Ann McDonnell, MS, DPT, AS Associate Professor of Emergency Medicine in Medicine
(secondary appointment)
Associate Professor of Orthopaedic Surgery
Associate Professor of Physical Therapy
BS Washington Univ in St. Louis 1990
MS Washington Univ in St. Louis 1990
DPT Washington Univ in St. Louis 2005
AS Oakton Community College 2000
Mary Kate McDonnell, DPT, MHS Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
Associate Director of Residencies and Fellowships in Physical Therapy
BS Saint Louis University 1981
DPT Washington Univ in St. Louis 2003
MHS Washington Univ in St. Louis 1985
Patricia Navarro McGee Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Orthopaedic Surgery
Marie Elizabeth McNeely, PHD Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Neurology
BS Ohio Wesleyan University 2008
PHD Washington Univ in St. Louis 2012
Gretchen Ann Meyer, PHD, MS Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Neurology
Assistant Professor of Orthopaedic Surgery
PHD University of CA San Diego 2011
Jennifer Alaine Miller-Katsafanas, DPT, BBA  
Assistant Professor of Physical Therapy (primary appointment)  
Assistant Professor of Obstetrics and Gynecology  
BA University of MO St Louis 1996  
DPT Washington Univ in St. Louis 2012  
BBA University of MO St Louis 1996  
John Carl Morris, MD  
Harvey A and Dorismae Hacker Friedman Distinguished Professor of Neurology (primary appointment)  
Professor of Physical Therapy  
Professor of Pathology and Immunology  
Professor of Occupational Therapy  
MD University of Rochester 1974  
BA Ohio Wesleyan University 1970  
Michael Jeffrey Mueller, PHD, MHS  
Professor of Physical Therapy (primary appointment)  
Division Director of Research in Physical Therapy  
Professor of Radiology  
PHD Washington Univ in St. Louis 1992  
BS Washington Univ in St. Louis 1979  
MHS Washington Univ in St. Louis 1984  
Barbara Jean Norton, MHS  
Professor of Physical Therapy (primary appointment)  
Associate Director for Education Technology in Physical Therapy  
Professor of Neurology  
MHS Washington Univ in St. Louis 1985  
Diana C. Parra Perez, MS, PHD  
Assistant Professor of Physical Therapy (primary appointment)  
Assistant Professor of Surgery (Prevention and Control)  
MS Saint Louis University 2008  
PHD Washington Univ in St. Louis 2013  
BA Universidad del Rosario 2001  
Joel S Perlmutter, MD  
Professor of Neurology (primary appointment)  
Professor of Radiology  
Professor of Occupational Therapy  
Professor of Neuroscience  
Professor of Physical Therapy  
MD University of MO Columbia 1979  
BA Princeton University 1975  
Susan B. Racette, PHD  
Professor of Physical Therapy (primary appointment)  
Professor of Medicine  
PHD University of Chicago 1994  
BS Bucknell University 1988  
Shirley Ann Sahrmann, MA  
Professor Emeritus of Physical Therapy (primary appointment)  
Prof Emeritus of Physical Therapy (primary appointment)  
BS Washington Univ in St. Louis 1958  
MA Washington Univ in St. Louis 1971  
David R Sinacore, MHS, PHD  
Professor of Physical Therapy (primary appointment)  
Professor of Medicine  
MHS Washington Univ in St. Louis 1983
Nancy Bloom Smith, DPT
Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
DPT Washington Univ in St. Louis 2002
BS Washington Univ in St. Louis 1984
BA University of Virginia 1976
Theresa M Spitznagle, DPT, MHS
Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Obstetrics and Gynecology
DPT Washington Univ in St. Louis 2006
MHS Washington Univ in St. Louis 1994
BS Marquette University 1986
Jennifer S Stith, MSW, MS, PHD
Professor of Physical Therapy (primary appointment)
Associate Director of Professional Curriculum in Physical Therapy
Division Director for Education in Physical Therapy
Professor of Neurology
BS University of California 1976
MSW Washington Univ in St. Louis 2006
MS University of Southern Calif 1979
PHD Washington Univ in St. Louis 1994
Stacy Lynne Tylka, DPT, MS
Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
Associate Professor of Obstetrics and Gynecology
BS Saint Louis University 2000
DPT Washington Univ in St. Louis 2009
MS Saint Louis University 2002
Linda R Van Dillen, MS, PHD
Professor of Physical Therapy (primary appointment)
Professor of Orthopaedic Surgery
Associate Director of Musculoskeletal Research in Physical Therapy
MS Washington Univ in St. Louis 1985
BS University of Missouri 1979
PHD Washington Univ in St. Louis 1994
Pamela M. Wendl, DPT
Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Orthopaedic Surgery
BS North Park College 1991
DPT Washington Univ in St. Louis 2007
Dequan Zou, D SC, MS, ME
Professor of Physical Therapy (primary appointment)
Professor of Radiology
BS Harbin Engineering University 1982
D SC Washington Univ in St. Louis 1993
MS Washington Univ in St. Louis 1991
ME Harbin Engineering University 1984
No entries found
The Master of Population Health Sciences (MPHS), offered by the School of Medicine, is a 10-month degree program for clinicians, clinical doctorates, medical students and health sciences students seeking training in clinical research methods. The curriculum emphasizes the role of epidemiology and biostatistics in approaching clinical effectiveness and outcomes research for all medical specialties. The MPHS does not require a research thesis upon completion of the program. Instead, the program innovatively uses applied course work to focus on the long-term mastery of skills. Using topics relevant to their careers and interests, MPHS students practice the art of developing research study protocols, performing systematic reviews, designing epidemiologic studies and much more. Many students go on to produce award-winning research using their applied coursework and skills learned in the program. MPHS students deepen their learning by choosing one of four concentrations: Clinical Epidemiology, Health Services, Quantitative Methods or Psychiatric and Behavioral Health Sciences.

Prospective students

Applicants should be in the process of completing a degree in a clinical training program at the doctoral level or should have completed such a degree. The pace of course work assumes students have familiarity with clinical medicine.

Program format

The MPHS program is a full-time, 10-month format. A minimum of 12 credit hours is required for full-time student status, and the maximum course load is 18 credit hours per semester. Part-time study options are available.

Core MPHS courses

Introduction to SAS for Clinical Research (M19 510)
MD/MPHS program

The MD/MPHS provides medical students with an opportunity to supplement their clinical training and course work with a quantitative approach to population health science research. Students develop core skills in epidemiology and biostatistics, which can be applied to research in any clinical field, from primary to specialty care. The program is intended for medical students who plan to incorporate clinical or population health research into their clinical careers, including clinical effectiveness and outcomes research. The program is not restricted to Washington University medical students; students from other medical schools are encouraged to apply. The program combines the traditional medical school curriculum with one additional year of full-time study for the MPH degree. This added year is typically taken after the second or third year of medical school.

Application deadlines

For 2017 – 2018 academic year: January 13, 2017
Notification of students of admission decision: February 20, 2017
Commitment deadline: May 1, 2017

Further information

The director of the MPH program is Graham Colditz, MD, DrPH. Additional information can be obtained at http://www.mphs.wustl.edu or by emailing Joyce Linn, Program Coordinator, at linnj@wudosis.wustl.edu.
Population Health Sciences Faculty

Arpana Agrawal, PhD
Assistant Professor, Department of Psychiatry

Ross Brownson, PhD
Professor, George Warren Brown School of Social Work

Kathleen Bucholz, PhD
Professor, Department of Psychiatry

Su-Hsin Chang, PhD
Assistant Professor, Division of Public Health Sciences, Department of Surgery

Graham Colditz, MD, DrPH
Niess-Gain Professor, Department of Surgery

Benjamin Cooper, MPH
Manager, Public Health Data & Training Center

Bettina Drake, PhD, MPH
Assistant Professor, Department of Surgery

Sarah Gehlert, PhD
E. Desmond Lee Professor, George Warren Brown School of Social Work

Jeff Gill, PhD
Professor, Division of Public Health Sciences, Department of Surgery

Anne Glowinski, MD, MPE
Associate Professor, Department of Psychiatry

Melody Goodman, MS, PhD
Assistant Professor, Division of Public Health Sciences, Department of Surgery

Richard Griffey, MD, MPH
Assistant Professor, Department of Internal Medicine

Richard Grucza, PhD, MPE
Associate Professor of Psychiatry, Department of Psychiatry

Katy Henke, MA
Media and Marketing Administrator, Division of Public Health Sciences

Aimee James, MD, MPH
Assistant Professor, Department of Surgery

Allison King, MD, MPH
Assistant Professor, Department of Occupational Therapy

Mallory Leung, PhD, MSc
Postdoctoral Research Associate, Division of Public Health Sciences, Department of Surgery

Esther Liu, PhD
Faculty, Institute of Clinical and Translational Sciences

Ying Liu, MD, PhD
Instructor, Division of Public Health Sciences
Margaret Olsen, PhD, MPH
Associate Professor, Department of Internal Medicine

Amy Ostendorf
Department of Surgery

Mary Politi, PhD
Assistant Professor, Department of Surgery

Rumi Price, PhD, MPE
Professor, Department of Psychiatry

Enola Proctor, PhD
George Warren Brown School of Social Work

Siobhan Sutcliffe, PhD
Associate Professor, Division of Public Health Sciences, Department of Surgery

Adetunji Toriola, MD, MPH, PhD
Assistant Professor of Surgery

Methodius Tuuli, MD, MPH
Assistant Professor of Obstetrics and Gynecology

Anke Winter, MD, MSc
Assistant Professor of Surgery

Yan Yan, MD, PhD
Research Associate Professor, Division of Public Health Sciences
Postgraduate Training

Residency training

Postgraduate residency training in an approved hospital is considered essential preparation for the practice of medicine. Most Washington University graduates serve three or more years of residency training, and many will gain additional experience as postdoctoral fellows.

To aid students in obtaining desirable residency appointments, an active counseling program is maintained. Students in their preclinical years can participate in a career counseling workshop in which they are given specific information about subspecialties. They are encouraged to look at their own interests, attributes and priorities and, with this information, begin to make decisions about the specialty best suited for them. In addition, small group conferences are held for students to meet with faculty members from a variety of the specialty divisions at Washington University to learn more about the fields that they are interested in.

During their third and fourth years, students interact closely with the Career Counseling Office, which provides them with individual counseling to help plan for the residency application process. Students receive general background information about the kinds of residencies available, special issues concerning certain extremely competitive residencies and help identifying faculty members for further assistance. The Career Counseling Office maintains a web site (residency.wustl.edu) where students can find information regarding 20 residency specialties. The number of U.S. seniors applying in the match each year has been steadily increasing. The match process continues to be competitive, and students must make their choices with considerable care. The School of Medicine participates in the National Resident Matching Program, which offers distinct advantages to applicants.

Results of these efforts have been consistently gratifying. The first-year post-graduate (PGY-1) residencies selected in the most recent residency matching (2016) are
identified in the Alphabetical List of Students in the Register of Students section of this web site.

The School of Medicine maintains an active interest in its graduates and is pleased to assist them in subsequent years as they seek more advanced training or staff appointments in the communities in which they settle.

**Postdoctoral training**

Those departments that offer postdoctoral fellowships individualize such educational activity up to a maximum of 36 months of academic time. Such fellowships lead integrally to certification by the appropriate specialty and/or subspecialty boards of the American Medical Association.

**Fellowship and other funds**

**Alexander and Gertrude Berg Fellowship Fund.** Created in 1952 through the bequest of Gertrude Berg to provide a fellowship in the Department of Molecular Microbiology.

**Glover H. Copher Fellow in Surgical Research.** Established in 1971 to support a postdoctoral fellow in surgery.

**William H. Danforth Loan Fund for Interns and Residents in Surgery.** Provides financial assistance in the form of loans for postdoctoral students in surgery.

**Ron and Hana Evens Fellowship.** Established in 2014 to support a Post-Doctoral Fellowship in the Mallinckrodt Institute of Radiology.

**Antonio Hernandez, Jr. Fellowship in Pediatric Cardiology.** Established in 1987 as a memorial to Dr. Hernandez.

**Leopold and Theresa Hofstatter Fellowship.** Established in 2000 from the estate of Leopold and Theresa Hofstatter to be used to support fellowships in neurological research.
J. Albert Key Fellowship Fund. Provides a stipend for a fellow in orthopaedic surgery.

Louis and Dorothy Kovitz Fellowship Fund. Established in 1970 by an alumnus and his wife to provide support for research by qualified residents or students interested in surgery, at the discretion of the Head of the Department of Surgery.

Carol B. and Jerome T. Loeb Teaching Fellowships at the School of Medicine. Established in 2004 to honor and thank St. Louis-area physicians with clinical excellence to encourage teaching that excellence to residents and students.

Stephen I. Morse Fellowship. Established in 1980 by Carl and Belle Morse in memory of their son; awarded to predoctoral or postdoctoral students pursuing research careers in microbiology, immunology and infectious diseases.

William D. Owens Anesthesiology Research Fellowship. Established in 2000 in honor of William D. Owens, MD. This fund will allow an individual to do a clinical or basic research fellowship for a two-year period.

The Esther and Morton Wohlgemuth Foundation Fellowship. Established to support a fellow in the Division of Cardiovascular Diseases.

Continuing medical education

The study of medicine is a lifelong process with continuing medical education being an integral component of the continuum. Since 1973 the School of Medicine has supported this learning endeavor through the operation of the Continuing Medical Education (CME) Program. The Program’s mission is to collaborate with teams of healthcare professionals and / or individual members of the healthcare team to provide opportunities for educational renewal and advancement in order to facilitate life-long learning, maintenance of professional competencies, and enhancement of knowledge and skills to improve performance, clinical care and patient outcomes.

Pursuant to this mission the objectives of the CME program include the following:
• Enable the acquisition of new knowledge and skills for the delivery of quality patient care
• Translate the results of research to clinical diagnosis and treatment for healthcare practitioners
• Apply educational approaches in support of continuous quality improvement and patient safety in health care delivery
• Integrate clinical outcome measures into the educational process
• Assist with adaptation to changing health care delivery environments
• Support faculty development as postgraduate medical educators and leaders
• Evaluate and refine educational activities

Each year more than 160 symposia and more than 180 recurring academic rounds and conferences as well as videos, monographs, and self-directed learning are provided with CME credit by this office. About 9,000 registrants attend these courses annually and receive more than 110,000 hours of instruction. CME-Online provides educational programs via the Internet. Since starting in 2000, the CME online program has grown to include more than 250 hours of available CME credit. The educational program is fully accredited by the Accreditation Council for Continuing Medical Education and provides credits to physicians pursuant to the Physician’s Recognition Award of the American Medical Association, as well as various other types of state and specialty recertification and relicensure activities.

Public Health
The purpose of this joint degree is to train physicians in the knowledge and skills needed to recognize, analyze, and solve the key problems affecting the health of our community and society. The MPH degree offered through the Brown School is unique in that it prepares students to apply public health sciences and transdisciplinary approaches to problem solving for improving population health, especially in vulnerable communities. Courses involve learning systematic approaches to implement and sustain public health discoveries regionally, nationally and internationally. Both the Brown School and the Medical School are top-ranked academic centers making this joint degree an outstanding opportunity.

**Prospective students**

Applicants should be in the third year of their medical school program. Prior to entering the MPH program, students should have taken courses (up to 11 credit hours) that count toward their MPH degree.

**Program format**

Medical students will spend their fourth year in the MPH program. The MD/MPH curriculum is comprised of three full-time semesters of course work, (Summer, Fall, Spring) at the Brown School, followed by the MPH Practicum and Culminating Experience. Students will meet the 52 required credit hours with the 11 credits earned in the MD program, 40 credits at the Brown School, and 1 credit in either program.

**Core MPH courses**

Cross-cutting Themes in Public Health
Epidemiology
Biostatistics
Environmental Health
Health Policy and Administration
Health Behavior and Health Promotion
MD/MPH program

The MD/MPH provides medical students with an opportunity to supplement their clinical training with courses and experiences designed to create transdisciplinary competencies on how to improve population health. Students learn the basics of public health from the foundations courses. MD/MPH students also can choose from a wide variety of Transdisciplinary Problem Solving Courses (2 are required) and they will participate in small group public health discussions in Public Health Seminar. The faculty and staff at the Brown School will help guide students to relevant practicum experiences. When coursework and practicum are completed, MD/MPH students take a comprehensive case study exam that is the final MPH requirement (Culminating Experience). In addition to coursework at Brown, MD/MPH students also have an opportunity to apply for Masters Research Fellows program, allowing them to work on research projects during their MPH program.

Application Deadlines for 2016-17 Academic Year

Applicants will apply through https://sophasexpression.liaisoncas.com/
Application deadline: December 15, 2015
Admission decisions sent: February 1, 2016
Commitment deadline: April 1, 2016

Further Information

If you are interested in the MD/MPH program, please contact Amy Eyler, PhD, the Assistant Dean for Public Health at aeyler@wustl.edu or 314-935-0129. Additional information can be obtained at https://mph.wustl.edu/ or by emailing brownadmissions@wustl.edu
Admission

Costs, admission requirements and application procedures vary from program to program. Please contact individual programs for more information.

Standards for Satisfactory Academic Progress for Financial Aid Eligibility: Other School of Medicine Programs and Joint Degree Programs

The following policy applies to students pursing graduate/professional training in the following programs:

- Applied Health Behavior Research
- Audiology and Communications Sciences
- Biostatistics
- Clinical Investigation
- Genetic Epidemiology
- Occupational Therapy
- Physical Therapy
- Population Health Sciences

Federal law and regulations require that all students receiving financial assistance from Federal Title IV funds maintain satisfactory academic progress (SAP). This policy
presents the standards adopted by the Washington University School of Medicine and applies to all non-MD students.

The School of Medicine at Washington University in St. Louis evaluates SAP at the end of each semester for all non-MD students receiving financial aid. A student failing to meet the standards of progress as determined by the Committee on Academic and Professional Evaluation of Students (CAPES) shall be placed on financial aid probation and notified by CAPES and the Director of Financial Aid. While on probation the student may receive financial assistance for one semester, trimester, or equivalent period of time. At the conclusion of this period, the student must have achieved compliance with each standard. A student who does not achieve compliance and is not making SAP by the conclusion of the probationary period is suspended from federal aid eligibility. The Office of Student Financial Aid must notify a student of implementation of probationary status and/or suspension.

In order to be compliant in maintaining SAP, and thus eligible for financial aid, students must be satisfactorily progressing toward their academic objectives. Federal regulations require the following measurements for determining SAP: time frame and quantitative/qualitative requirements.

**Maximum Time Frame:**
To maintain eligibility you must complete your program by attempting no more than 150% of the credits required to complete your program. For example, if your program requires 120 credits to complete your degree, you must be able to complete the program by attempting no more than 180 credits. This includes credits attempted without financial aid. Specific information for each program may be found in each program’s Handbook or Bulletin.

Periods of non-enrollment are NOT counted in the measurement of satisfactory academic progress but all periods of attendance, regardless of whether the student received Title IV aid, are counted.

If you reach a point where you cannot complete your program within the 150%
maximum, students become ineligible for aid.

Quantitative/Qualitative Requirement:
The minimum semester and cumulative GPAs needed to meet the SAP requirement are set by each program. The program’s Bulletin or Handbook will help you determine your minimum GPA requirements.

If you are not achieving the minimum GPA requirements for your program at the end of each semester when the SAP review is performed, you are not considered to be making SAP.

Financial Aid Warning:
A student failing to meet the standards of progress as determined by their Program at the end of each semester will be placed on “financial aid warning” for the following term. At the end of that term, the student must be meeting SAP to receive financial aid for future semesters. Any student not meeting SAP at the end of the warning period will be suspended from future financial aid. The student will be eligible for aid when they achieve SAP or the student may appeal. Students who choose to appeal must state the reasons for failing to meet SAP (e.g. injury/illness of the student, death in the family or other special circumstance) and what has changed in the student’s situation so that he or she can now make SAP. If the student successfully appeals, the student will be placed on financial aid probation and may receive financial assistance for one semester. At the conclusion of this period, the student must have achieved compliance with each standard or be progressing per their individual academic plan to receive additional aid. A student who does not achieve compliance with each standard by the conclusion of the probationary period is suspended from financial aid eligibility.

The Office of Student Financial Aid must notify a student of implementation of probationary status and/or suspension.

The Director of Student Financial Aid shall have primary responsibility for enforcement of this policy. The Office of Student Financial Aid shall ascertain at the time of each disbursement of funds and prior to certification of a financial aid application that the
The Ability to finance a graduate/professional education at Washington University School of Medicine does not influence the student selection process. As all students accepted for admission have proven scholastic ability, financial assistance is awarded solely on the basis of documented financial need which cannot be met by student and family resources.

Accepted students interested in applying for financial aid will receive electronic communication from the Financial Aid Office providing instructions for completing the FAFSA and additional forms necessary for a financial aid award to be determined. Everyone applying for financial aid must complete a Free Application for Federal Student Aid (FAFSA) and designate Washington University School of Medicine, School Code #G24620, as a recipient. Financial aid application documents and detailed instructions will be made available after January 1.

The financial aid application materials solicit information about the applicant and their spouse, if married, including a detailed description of resources and liabilities. The School expects the applicant to complete and submit the financial aid documents within two weeks from the date the applicant receives them. Specific items will always be outlined on your individual student portal, Netpartnerstudent.wustl.edu, to which access is granted after students are accepted by their program and their information is forward to the Financial Aid Office.
Once all documentation has been received and evaluated, an award package is determined for that student. He or she will then be notified via email once the award is available to view online. All awards must be accepted online using the student portal. Financial aid awards are credited toward payment of tuition and fees on the student's WebSTAC account. If there is an excess of funds on a student's account after tuition and other charges, the Registrar's Office will issue a student refund check.

Students may reapply for financial assistance in succeeding years if they remain in good academic and personal standing, and if there is continued financial need. Awards made to a student may vary from year to year, depending upon the student's needs and upon the availability of funds. Students are responsible for filing applications for renewal of awards in the spring of each year.

The financial aid committee holds that students receiving assistance have an obligation to notify the committee in writing if their financial situation changes, for example, through employment or receipt of a scholarship not anticipated at the time the application was submitted.

All scholarship funding is awarded by a student's specific program and not through the Financial Aid Office. The Financial Aid Office applies all program scholarships to a student's financial aid award and awards Federal and Institutional program-specific loans when applicable.

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**MD Program Admission**

Visit the [MD Admissions website](#) for full admissions information and to check the status of your application.
Admission requirements for the study of medicine

Entrance requirements to the School of Medicine include:

1. Evidence of superior intellectual ability and scholastic achievement;
2. Completion of at least 90 semester hours of college courses in an approved college or university;
3. Completion of the Medical College Admission Test of the Association of American Medical Colleges; and
4. Evidence of character and integrity, a caring and compassionate attitude, scientific and humanitarian interests, effective communication skills, and motivation suitable for a career in medicine.

Chemistry, physics and mathematics provide the tools for modern biology, for medicine and for the biological basis of patient care. Thus, a firm grounding in these subjects is essential for the study of medical sciences. Entering students are expected to have accomplished at least the equivalent of one-year courses at the undergraduate level in physics and biology; mathematics through calculus, including integral equations and differential equations; and chemistry, including one year of general or inorganic chemistry and one year of organic chemistry. Course work in biochemistry is encouraged although not required. In addition one semester of biochemistry can be substituted for one semester of organic chemistry. Similarly, one semester of statistics can be substituted for one semester of calculus. In selected instances, one or more of these prerequisites may be waived by the Committee on Admissions, but applicants are strongly advised to pursue their interests in these and in other areas of science.

A major goal of undergraduate college work should be development of the intellectual talents of the individual. This often involves the pursuit of some area of knowledge in-depth, whether in the humanities, social sciences or natural sciences. At the same time, a diversity of background is encouraged in order to provide a necessary foundation for the development of cultural awareness, sensitivity and competence.
Specific courses, other than the few in the natural sciences, are not prerequisites because a great variety of courses and life experiences may prepare students for the many roles they may play in their medical careers.

**Application procedure**

General information for prospective medical students and how to apply can be found on the [MD Admissions website](https://www.aamc.org/students/).

Washington University School of Medicine participates in the American Medical College Application Service (AMCAS) of the Association of American Medical Colleges. AMCAS provides a centralized system for applying to any participating medical school with only one application and one set of official transcripts of academic work.

The AMCAS Application for Admission, common to all participating medical schools, is available online at [https://www.aamc.org/students/](https://www.aamc.org/students/). Applicants are urged to file their applications as early as possible.

Applicants to the first-year class must submit their AMCAS application no later than December 1 of the year prior to that in which they want to matriculate. On receipt of the application from AMCAS, the Office of Admissions contacts the applicant regarding the additional steps to be taken to complete the application. These include completing a supplemental application via the Internet at [http://wumsapply.wustl.edu](http://wumsapply.wustl.edu), submission of letters of recommendation and payment of a nonrefundable Application Service Fee of $80. These materials must be received no later than December 31. Applicants can check the status of their application via the Internet at the [http://wumsapply.wustl.edu](http://wumsapply.wustl.edu) web site. Once the application is complete, the Committee on Admissions evaluates it.

Selected applicants are invited for a personal interview, as well as a tour of the School of Medicine and the Washington University Medical Center. This visit provides extensive opportunities for the applicant to meet and talk with students and faculty members.
If an applicant is planning a trip to the St. Louis area, it is appropriate to contact us by email (wumscoa@wustl.edu) to inquire if an interview has been authorized. The inquiry should be submitted at least three weeks in advance of the anticipated travel. The Office of Admissions is open weekdays from 8:30 a.m. to 5 p.m. Central Time.

Admission decisions are made by the Committee on Admissions on a rolling schedule beginning in early October. Applicants are notified as soon as a final decision has been made on their application, but by April 15, every applicant should be notified whether he or she is accepted, on the waiting list or not accepted.

Upon notification of acceptance for admission to the School, the applicant is required to file a Statement of Intent to Matriculate within two weeks. Three options are presented: 1) accept the offer of admission; 2) accept the offer of admission and request financial aid materials; or 3) decline the offer of admission. The School of Medicine abides by the traffic rules regarding application timelines as established by AMCAS. Accepted applicants who are non-compliant with AMCAS traffic rules and medical school deadlines may have their acceptance into the class rescinded.

After the applicant has been accepted, matriculation is contingent upon sustained superior academic performance as well as continued ethical, honest and mature deportment. Accepted applicants must report to the Registrar all institutional judicial or academic sanctions and/or legal actions in which he/she has been a party prior to matriculation at the School of Medicine. Accepted applicants must report all institutional judicial and academic charges and/or legal charges brought against them before matriculation at the School of Medicine where such charges could result in sanctions. Concealing or failing to report such sanctions and/or charges promptly and, more generally, failure to maintain high standards of moral and ethical behavior may result in rescission of acceptance or dismissal from the School of Medicine or revocation of the Doctor of Medicine degree.

**Merit-based scholarships**

Please see the Financial Assistance section.
Policy for International Students

The admission decision at Washington University School of Medicine is based on academic and personal merit and not on the ability of the student to pay the costs of education. However, individuals who are not citizens of the United States of America or who do not hold U.S. Permanent Resident Visa status, including DACA students, are not eligible for financial aid due to regulations covering many programs used by the School to fund financial assistance. Therefore, in order for the School to complete the required documents which are necessary for issuance of a visa, the student must document, by a date and in a manner designated by the School, that the necessary amount of funds, as established by the School, is available to pay the costs of education (tuition and living expenses) for the anticipated period of enrollment, normally four years. Documentation of the required amount of financial resources may be by a letter of credit or by deposit of funds in an escrow account with a bank designated by the School.

Background Checks and Screening for Controlled Substances

Students entering the School of Medicine who will have contact with patients are required to have criminal background checks and screening for controlled substances (THC-cannabis, cocaine, opiate, amphetamine, PCP-phencyclidine) in order to qualify
for participation in patient care activities at Washington University School of Medicine-affiliated facilities. Drug screening usually will be conducted during student orientation prior to the start of classes. Incoming, prematriculant students, or visiting students will be disqualified to study at the School of Medicine if they do not consent to background checks, if they have significant positive findings on the background checks, or if they have illicit substances detected on drug screening without a bona fide medical indication. Disqualified prematriculant students and disqualified visiting students will be precluded from matriculation and will not be registered as students in the School of Medicine.

In addition, no final action will be taken on an application until the Admissions Committee has received satisfactory statement(s) (“Dean's Certification” form(s)) from each college or university at which the applicant has completed a program of study. The certification form(s) inquire whether the applicant was subject to disciplinary charges or actions and must be completed by institutional official(s) with access to the applicant's disciplinary records. The certification inquires about past, current, pending or future disciplinary charges or actions.

### Third-Year Class Transfer Program

Each year, Washington University School of Medicine accepts a limited number of transfer students into its third-year class depending on the availability of positions. Transfer applications are accepted from well-qualified second-year students who are enrolled in good standing and eligible to continue in their LCME-accredited U.S. medical schools. Applicants must also have a compelling personal reason for requesting transfer and must have the full approval of the dean of their current school. Accepted students are required to successfully complete the USMLE Step 1 examination.
Transfer application forms for admittance into the third-year class are available after October 1 for the following academic year. The deadline for submission of applications is March 31. Those applicants selected for an interview will be invited to visit the Washington University Medical Center. Applicants will be notified of the decision of the Committee on Admissions by May 15 or when a position becomes available. Inquiries should be directed to:

Third-Year Class Transfer Program  
Washington University School of Medicine  
Campus Box 8077  
660 S. Euclid Ave.  
St. Louis, MO 63110-1093  
Phone: (314) 362-6844  
Fax: (314) 362-4658  
wumscoa@wustl.edu

Cost of Education

For the first-year class matriculant, tuition and estimated expenses for the 2016-17 academic year are listed below. Students who enter in 2016 will benefit from a tuition stabilization plan, which provides that their annual tuition of $60,798 will be constant for up to five consecutive years. The stabilized rate will expire five academic years after matriculation. Therefore, students whose medical education is interrupted for any reason for more than one year will be charged the rate of the class they rejoin. Appeals of this policy should be submitted in writing to the registrar. The items listed below provide an estimate of the expenses for a single student in the 39-week first-year class. The total of these figures suggests a basic minimum budget of approximately $79,642. Allowances for entertainment, travel, clothing and other
miscellaneous items must be added to this estimate.

Tuition (includes Student Health Service and Microscope Lending Plan): $60,798
Books, supplies and instruments: $1,396
Housing and food: $12,768
Travel and personal: $4,680

Registration, Payments, and Withdrawal & Refunds Policy

The University billing system provides a central financial account against which most student expenses incurred at the University will be posted, including but not limited to tuition, housing charges, parking, library fines, etc. This policy, when referring to tuition and other charges, includes any and all charges posted to this account.

All payments of tuition and other University charges are due and payable on the dates specified in the published calendars of the programs in the School of Medicine. Failure of a student to register when required, and pay tuition and other charges incurred on or before the date specified in the published calendar, will result in a late fee of $50 to be added to the amount due. The late fee will be imposed seven days after the due date if full payment has not been received. Tuition and other charges are usually payable twice a year, at the start of the academic year, and again at the middle of the academic year, as listed on the schedule on the academic calendar.

In addition to the $50 late fee, any payment due from the student and not paid by the specified date will accrue interest at the current market rate in effect on the first business day of the month in which the payment is due. This fee will be imposed on any accounts not paid in full within 30 days of the due date. Any amount not paid
when due (plus accrued interest thereon) must be paid in full within three months of the due date to avoid potential suspension from classes.

If a student fails to make payments within three months of the original due date, the School will not release the student’s academic record, grade reports or transcript, pending settlement of the unpaid account. A student who has not satisfied all of his/her delinquent financial obligations to Washington University (tuition, University housing, parking, etc.) one month before the end of the academic year will not be allowed to progress to the next academic year, nor can they be issued a diploma.

Federal financial aid funds for the next academic year cannot be disbursed until all prior year balances are paid in full.

Students who rely on financial aid funds to meet their obligations should submit their applications for processing according to application deadlines published by the Office of Financial Aid. Deadlines allow for receipt of financial aid funds by payment due dates if applications are filed by the deadline. The Office of Student Financial Aid will assist students with loan applications and financial planning upon request.

A student who withdraws or takes a leave of absence from the School will receive a pro rata refund of tuition and appropriate fees. The refund will be based on the ratio of the class days enrolled (from the first day of classes to the termination date) to the total number of class days in the term for which tuition and fees were paid. It is understood that the date on which a student formally notifies the Registrar’s Office in writing of the decision to withdraw or take a leave of absence from the School of Medicine shall be regarded as the termination date, with no retroactive clause to be accepted. A prospective date will be accepted, however. If tuition and fees were paid entirely or in part by financial aid from the School, the refund will be applied first to the total repayment of the accounts from which financial aid was drawn, with any remaining refund balance given to the student. Financial aid received in excess of the costs of tuition and fees must be refunded by the student to the School on the same pro rata basis as calculated for the tuition refund outlined above – per “Return of Title IV” Federal guidelines. Any questions about these policies may be directed to either
Standards for Satisfactory Academic Progress for Financial Aid Eligibility

Please visit the Policies section for Standards for Satisfactory Academic Progress for Financial Aid Eligibility: MD Students.

Financial Assistance — Medical Students

The ability to finance a medical education at Washington University does not influence the student selection process. As all students accepted for admission have proven scholastic ability, financial assistance is awarded solely on the basis of documented financial need which cannot be met by student and family resources. Students who consider themselves financially independent of their parents must arrange for loans to replace the amount of support parents are analyzed to have the potential to contribute. The School of Medicine’s Office of Financial Aid (Box 8059) will assist students in making these arrangements.
In responding to the Admissions Committee's offer of admission, an accepted student may request financial aid application materials. The Financial Aid Office acknowledges the student's intent and provides instructions for completing the FAFSA. Everyone applying for financial aid must complete a Free Application for Federal Student Aid (FAFSA) and designate Washington University School of Medicine, School Code #G24620, as a recipient. Medical school financial aid application documents and detailed instructions will be made available after January 1.

The financial aid application materials solicit information about the applicant and parents, including a detailed description of resources and liabilities. If an applicant's parents are separated or divorced, the financial information is required from both biological parents (excluding income and assets of their spouse, if remarried). If the applicant is married, similar information is required of the spouse. The School expects the applicant to complete and submit the financial aid documents within two weeks from the date the applicant receives them. Official copies of both biological parents' individual U.S. Income Tax Returns and the applicant's official IRS transcripts complete the data required for financial aid consideration.

While “permanent residents” of the United States are eligible for most federal financial aid programs, need-based financial aid from Washington is only awarded if the applicant and both biological parents can provide official, audited documents with the same detailed information as provided on a U.S. income tax return. All information is held in strict confidence.

Financial aid awards are credited toward payment of tuition and fees. If there is an excess of funds on a student's account after tuition and other charges, the Registrar's Office will issue a refund check. The loan portion of an award will be funded through the resources of the School of Medicine or through the Federal Direct Loan program. Financial aid awards are made for a given academic year. Students may reapply for financial assistance in succeeding years if they remain in good academic and personal standing, and if there is continued financial need. Awards made to a student may vary from year to year, depending upon the student's needs and upon the availability of funds to the Committee. Students are responsible for filing applications for renewal of
awards in the spring of each year.

The committee holds that students receiving assistance have an obligation to notify the committee in writing if their financial situation changes, for example, through employment or receipt of a scholarship not anticipated at the time the application was submitted.

First- and second-year students are urged not to accept employment during the academic year. A number of fourth-year students find employment in hospitals within the Medical Center. The personnel office may provide assistance to students’ spouses seeking employment.

**Merit-based scholarships**

In 1978, the School of Medicine established a scholarship program that based selection on merit rather than financial need. As one of the first merit scholarship programs for medical students, the Distinguished Student Scholarship Program has recognized and rewarded academic excellence and personal achievement for 33 years. And, to honor outstanding alumni of Washington University, the Medical Center Alumni Association created in 1989 the Distinguished Alumni Scholarship Program. In 1998, the Barnes-Jewish Hospital Medical Staff Association committed to funding one full-tuition, four-year scholarship to a student in each entering class. Beginning with the 2002-2003 academic year, one additional “named” scholarship was made available through the generosity of a donor.

Most merit-based scholarships are awarded to students in the first-year class and are subject to annual renewal. Recipients of these scholarships are expected to maintain academic excellence. If a scholarship is not renewed, the student may file for financial aid from the School. For scholarship recipients who document financial need above the full-tuition scholarship, additional funds are available to provide support up to the total cost of education. Scholarship recipients may not concurrently participate in the School’s Medical Scientist Training Program, the Armed Forces Health Professions Scholarship Program, or the National Health Service Corps Scholarship Program.
Now known collectively as the Distinguished Scholars Program, its aim is to attract and enroll the most outstanding students in the School of Medicine, thus enriching the scholarly environment and broadening the scope of learning for all students. Scholarship recipients are selected on intelligence, character, personal accomplishments and goals, motivation for medicine, aptitude for science, leadership potential, communication skills and diversity of life experience. Scholarships awarded under this Program include the Barnes-Jewish Hospital Scholars, Danforth Scholars in Medicine, Distinguished Alumni Scholars (DAS), Distinguished Faculty Scholars (DFS), and Distinguished Student Scholars (DSS).

**Barnes-Jewish Hospital Medical Staff Association Scholarship**

One full-tuition, four-year scholarship will be awarded to a student in each entering class beginning in 1999. Selection of the Barnes-Jewish Hospital Medical Staff Association Scholar is the same as for the Distinguished Student Scholarship.

**Danforth Scholars in Medicine**

Named in honor of William H. and Elizabeth Gray Danforth, the chancellor and first lady of the University from 1971 to 1995, the Danforth Scholars Program is a tribute to their legacy of exemplary leadership and service.

**Distinguished Alumni Scholarships**

Up to four full-tuition scholarships are awarded annually to members of the entering first-year class. The application procedure and selection process are the same as for the Distinguished Student Scholarships. Since 1989, Distinguished Alumni Scholarships have been named in honor of:

- Leonard Bacharier, MD
- Thomas Bailey, MD
- Thomas Baranski, MD/PhD
- Walter F. Benoist, MD
Distinguished Alumni Scholarship Program honorees 2016-2017:

R. Mark Grady, MD ’89
Judy C. Lieu, MD ’92
Lisa M. Moscoso, MD/PhD ’98, HS ’02
Janice W. Semenkovich, MD ‘81

Distinguished Faculty Scholars

The Distinguished Faculty Scholar Program provides merit-based scholarships (up to full-tuition for four years) to students who demonstrate their commitment to bringing diverse people together and to enhancing service to disadvantaged groups.

These awards are for students who have:

- Been recognized as scholars from groups that are historically underrepresented in medicine;
- Challenged themselves and excelled academically;
- Demonstrated leadership;
- Engaged in or shown a commitment to community service;
- Demonstrated their commitment to bringing diverse people together (as, for example, by having been involved in diversity initiatives in their schools or communities); and,
- Demonstrated a commitment to serving historically underprivileged populations, and/or demonstrated achievement and determination in the face of personal challenges.

**Distinguished Student Scholarships**

Distinguished Student Scholarships are awarded annually (up to full-tuition for four years) to selected members of the entering first-year class based on meritorious academic and personal accomplishments. Final selection of scholarship recipients is made by a committee of the faculty based on demonstrated superior intellectual achievement as well as an assessment of the applicant’s character, attitude, motivation and maturity.

**Scholarship funds**

**Grace Bergner Abrams Scholarship.** Established in 1995 through the bequest of Dr. Grace Bergner Abrams, MD ’43. Friends and patients also contributed to this endowed scholarship.

Helen M. Aff-Drum Scholarship Fund. Established in 1988 to provide scholarship support to financially deserving medical students.

**Anderson Student Scholarship.** Established through bequest in 2001 by Rolf L. Anderson, MD ’62.

**Franz and Harriet I. Arzt Student Loan.** Established by the estate of Dr. and Mrs. Franz Arzt in 2013.

**Isak and Breine Ascher Scholarship Fund.** The late Dr. Eduard Ascher, MD, ’42, established this scholarship through a trust to memorialize his parents, who were lost in the Holocaust during World War II. He chose Washington University School of Medicine because of their willingness to “give a chance” to an Austrian refugee.

**Arthur I. Auer MD1956 and Marian D. Auer, NU1955 Scholarship.** Established in 2012
by Dr. and Mrs. Auer to provide scholarship assistance to worthy students.

**Dr. William Monroe Baker Fund.** Established in 1988 under the will of Miss Lola Braxton in memory of Dr. Baker to provide scholarship assistance to worthy students.

**Barnes-Jewish Hospital Medical Staff Association Scholarship.** Established in 1998 by the Barnes-Jewish Hospital Medical Staff Association to provide financial assistance to students based on academic excellence.

**Floyd A. and Rita Sue Barnett Scholarship.** Established in 1994 from a trust agreement (1989) of Floyd and Rita Sue Barnett for scholarships for students who are academically well-qualified and financially deserving.

**Dr. Frederick Barry Scholarship.** Established in 2009 through the estate of Dr. Frederick Barry for medical student education.

**The Dr. Joseph A. and Helene H. Bauer Scholarship.** Created in 1987 by Dr. and Mrs. Joseph A. Bauer to provide scholarship support to academically well-qualified and financially deserving medical students.

**Edward Baumhardt Scholarship.** Established in 2014 through the estate Dr. Edward Earl Baumhardt.

**William L. Becker, MD Scholarships.** Established in 2012 by Dr. William Becker, MD ‘87 and awarded based on financial need.

**Albert G. Blanke, Jr. Endowed Scholarship.** Established by a generous gift in 1982, the fund provides scholarship assistance for deserving students in the School of Medicine.

**Dr. John A. Bowers Scholarship Fund.** Established through the estate of Dr. and Mrs. John Bowers. The scholarship is awarded based on need.

**Warren Bowersox, MD Scholarship Fund.** Established in 2005 by Mrs. Warren
Bowersox in memory of her husband, who was a member of the MD class of 1943, to support scholarships.

**Isabel Valle Brookings Scholarship.** Established in 1957 by Isabel Valle Brookings (Mrs. Robert S.) for scholarships and loans in the School of Medicine.

**The Seymour Brown, MD and Rose Tropp Brown Scholarship.** Established by the estate of Dr. Seymour and Mrs. Rose Tropp Brown.

**Jane Stewart and Robert S. Brua, MD Scholarship Fund.** Established in 1996 through the generosity of Dr. Brua.

**The Bruce Family Scholarship.** Established in 2012 by Robert and Suzanne Bruce to commemorate three generations of physicians: Helen L. Bruce, MD; her son, Robert M. Bruce, MD; and her grandson, Carl T. Bruce, Washington University School of Medicine, Class of 2015.

**Robert W. Butcher, MD Scholarship.** Established in 2012 by an anonymous donor.

**Ruth Elizabeth Calkins Scholarship Fund.** Established by Dr. Delevan Calkins in honor of his granddaughter.

**Dr. Richard Brookings and Mr. Robert Carter Medical School Scholarship.** Established through a bequest of Robert S. Brookings.

**Gilbert L. Chamberlain, MD Scholarship Fund.** Created in 1971 by Dr. Gilbert L. Chamberlain to be used to aid worthy students in acquiring their medical education.

**Cecil M. Charles – Nu Sigma Nu Medical Student Scholarship Fund.** Established by the Nu Sigma Nu Medical Fraternity in memory of Dr. Charles.

**Tien Hsin Cheng, MD Endowed Scholarship in Medicine.** Established in 2007 by Dr. Tien Hsin Cheng, MD ’76, for deserving medical students with financial need.
Dr. Kehar S. Chouke Loan. Established by the estate of Dr. Kehar Singh Chouké.

Class of 1945 Scholarship. Established by the alumni from the Class of 1945 in honor of their 45th reunion.

Class of 1954 Scholarship In Memory of Dan Nathans. Established in 2000 by the alumni from the Class of 1954 in memory of their classmate, Daniel Nathans, who was awarded the Nobel Prize in Medicine in 1978. Members of the Nathans family also contributed to the establishment of the fund.

Class of 1956 Scholarship. Established in 1996 by members of the Class of 1956 in honor of their 40th reunion.

Class of 1959 50th Reunion Scholarship. Established in 2008 by members of the Class of 1959 in honor of their 50th reunion.

Class of 1960 Scholarship. Established in 2010 by the members of the Class of 1960 in honor of their 50th reunion.


Class of 1964 Scholarship. Established in 1993 by the alumni from the Class of 1964 to support scholarships.

Class of 1968 Scholarship. Established in 1998 by the alumni from the Class of 1968 in honor of their 30th reunion to support student scholarships.


Class of 1971 Scholarship. Established in 1999 by members of the Class of 1971 in honor of their 25th reunion.

Class of 1972 Scholarship. Established in 1999 by members of the Class of 1972 in honor of their 25th reunion.


Class of 1974 Scholarship in Honor of Dr. Jonathan Mann. Established in 2002 by members of the Class of 1974 for their 25th reunion and to honor the memory of their classmate, Dr. Jonathan Mann, a pioneering AIDS researcher, who died in the Swissair Flight 111 accident in 1998.

Class of 1975 Scholarship. Established in 2000 by members of the Class of 1975 in honor of their 25th reunion.


Class of 1977 Scholarship. Established in 2002 by members of the Class of 1977 in honor of their 25th reunion.


Class of 1979 Scholarship. Established in 2003 by members of the Class of 1979 in honor of their 25th reunion.


Class of 1981 Scholarship. Established in 2005 by members of the Class of 1981 in
Class of 1982 Scholarship. Established in 2006 by members of the Class of 1982 in honor of their 25th reunion.


Class of 1984 Scholarship. Established in 2008 by members of the Class of 1984 in honor of their 25th reunion.

Class of 1985 Scholarship. Established in 2016 by members of the Class of 1985.

Class of 1986 Scholarship. Established in 2011 by members of the Class of 1986 in honor of their 25th reunion.

Grace Strong Coburn Scholarship. Created in 1962 through the bequest of Mrs. Grace Strong Coburn for scholarships in the School of Medicine.

Jack W. Cole, MD Scholarship Fund. Established in 2002 by Mrs. Ruth Kraft Cole, in memory of her late husband, a 1944 graduate of WUSM, and to recognize Dr. Cole's deep appreciation for the education he received. Preference will be given to a student pursuing a career in academic medicine.

T. Griswold Comstock Scholarships. Established under the will of Marilla E. Comstock for students who would otherwise be unable to obtain a medical education.

Robert Emmet Connor Family Scholarship Fund. Established in 2010 by Dr. Robert Connor in appreciation for the medical education he received at Washington University.

Clark and Mildred Cox Scholarship for Women. Established in 1998 with a donation from the Clark Cox Trust.
Arpad Csapo, MD Memorial Scholarship Fund. Established in 1982 by Elise Csapo in memory of her husband, and by his friends and colleagues to provide assistance for students who have shown promise in fields relating to reproductive medicine.

William H. and Elizabeth Gray Danforth Scholars Program. Established in 1998 in honor of Chancellor Danforths retirement. The Scholarship recipients must demonstrate outstanding academic promise and a record of community service that reflects Dr. Danforths values and actions.

Harriet Arey and John D. Davidson Scholarship. Established in 2000 by Harriet Arey and John D. Davidson for scholarships in the School of Medicine.

Davie Family Endowed Scholarship. Established by Joseph Davie, MD '68, and his family to support scholarships for deserving medical students.

Paul H. and Ruth K. DeBruine Endowed Scholarship. Established in 1994 by Dr. and Mrs. Paul DeBruine in honor of his 35th medical school reunion to provide scholarship support to academically well-qualified and financially deserving medical students.

The Melvin DeHovitz Scholarship. Established by the estate of Mr. DeHovitz in honor of his mother, Jeanette DeHovitz.

Distinguished Alumni Scholarship. These scholarships are made available by generous donations from our alumni. The Washington University Medical Center Alumni Association Executive Council names the scholarships for alumni each year to honor their outstanding contributions and leadership.

Distinguished Faculty Scholarship. These scholarships are for students who have challenged themselves and excelled academically, demonstrated leadership, engaged in or shown a commitment to community service, demonstrated their commitment to bringing diverse people together, and enhanced service to disadvantaged groups. In addition, it links each of the scholarship recipients with a faculty mentor who has contributed to the diversity of the medical school.
Distinguished Student Scholarship. These scholarships are awarded to students who are selected primarily on the basis of merit (demonstrated superior intellectual and personal achievements, and an assessment of the applicant’s character, attitude, motivation, and maturity.)

Dr. Charles Drabkin Scholarship. Created in 1964 to provide financial assistance to medical students.


Eichner-Dominguez Family Scholarship. Established in 2005 by Lora Eichner, MD ’93, to make it easier for students to attend medical school.

Dr. Howard Eisen and Dr. Judith Wolf Scholarship. Established in 2013 by Dr. Howard Eisen and Dr. Judith Wolf, who both completed their residencies at Washington University School of Medicine. Provides support to medical students based on need or merit.

Dr. and Mrs. Max Elliott Scholarship. Established in 2000 by Dr. Elliott, MD ’64, to assist medical students.

Robert B. Fickel, DDS Scholarship Fund. Established by a 1941 graduate of Washington University School of Dental Medicine.

Carl Fisch Scholarship Fund. Created in memory of Dr. Fisch by his daughter, Marguerite F. Blackmer. Provides support to students who demonstrate financial need.

Flance Medical Scientist Traineeship. Established in honor of faculty member and alumnus I. Jerome Flance, MD ’35 by the Harry Edison Foundation for support of a student in the Medical Scientist Training Program.

Ann Randolph Flipse, MD Scholarship in Medicine. Established in 2007 by Dr. Ann
Randolph Flipse to support deserving medical students with a preference for students whose undergraduate degree was in English, history, philosophy, music, arts or a graduate degree in the humanities.

**George F. Gill Scholarship in Pediatrics.** Instituted in memory of a former clinical professor of pediatrics.

**Helen H. Glaser Scholarship for Women Medical Students.** Established in 1999 by Robert J. Glaser, M.D., emeritus trustee and former faculty member, in memory of his wife, Helen H. Glaser, MD ’47.

**Anne T. and Carl Goetsch Scholarship.** This fund was established in 2003 through the bequest of Dr. Anne T. Goetsch, MD ’41, HS44, and Dr. Carl Goetsch, HS ’43, to support medical students.

**Norman M. and Eleanor H. Gross Scholarship Fund.** Established in 2001 through a bequest from Mr. Gross to provide financial assistance to qualified medical students.

**Paul H. and Lila L. Guttman Scholarship Fund.** Established in 1976 to provide financial assistance to qualified medical students.

**Paul O. and Nancy P. Hagemann Scholarship Fund.** Established by Dr. and Mrs. Hagemann to assist academically well-qualified students with documented financial need.

**Donald R. and Mary N. Harkness Family Scholarship.** Established in 2004 by Drs. Donald and Mary Harkness, both MD ’58, in memory of their daughter, Laurel, MD ’86.

**Lee B. and Virginia G. Harrison Scholarship.** Established in 1996 for scholarships for students who intend to pursue a career in internal medicine or family practice. Dr. Harrison was a 1927 graduate of the School of Medicine.

**Thomas James Hartford, Jr. Scholarship.** Established in 2008. Priority is given to a
medical student who is considering a career in health administration.

**Harvielle-Bailey Scholarship for Medicine or Surgery.** Established in 1970 under the will of Miss Isabel Bailey Harvielle as a memorial to Dr. Charles Poplin Harvielle and Dr. Steele Bailey, Jr., alumni of the School.

**Ronald C. and Nell W. Hertel Endowed Scholarship for the School of Medicine.** Established in 1995 and endowed in 2005 in memory of Mrs. Nell Hertel to provide financial aid to medical students.

**Raymond F. Holden, Jr. and Gertrude K. Holden Scholarship.** Established in 2009 by the Estate of Dr. Raymond F. Holden, Jr., MD ’33, to provide scholarship support to medical students.

**Allan O. and Doris M. Holtzman Scholarship.** Established by Dr. David and Mrs. Tracy Holtzman in honor of Dr. Holtzman's parents.

**Donald J. Horsh Scholarship.** Established in 1985 to honor Dr. Donald J. Horsh, former Associate Professor and Deputy Director for the Health Administration Program. Provides support to medical students.

**Dr. and Mrs. Charles Y. (Yueh-Gin Gung) Hu Scholarship.** Established in 2002 to provide a scholarship to medical students.

**Dr. Grace Huse Memorial Fund.** Provides scholarship awards for deserving Washington University medical students.

**Justan Icks Scholarship.** Established in 2008 by anonymous donor to support students with high academic achievement.

**Jackson Johnson Scholarship.** Provided through a bequest in 1930 from Jackson Johnson.
Dr. Lorraine A. Johnsrud Scholarship. Established in 1983 as a memorial to Lorraine from her classmates, friends, and family to assist deserving medical students in the funding of their medical expenses.

Henry J. Kaiser Family Foundation – Medical Century Club Scholarship Endowment. Following the foundation’s generous gift in 1980 for medical student scholarships, the Medical Century Club accepted the challenge to raise new scholarship funds to match an additional gift from the foundation.

Jay and Ronnie Kaiser Endowed Scholarship. Established in 2004 by Dr. Jay Kaiser, MD ’72, and Mrs. Ronnie Kaiser in appreciation of the financial aid Dr. Kaiser received as a student and to provide support for medical students.

George D. Kettelkamp Scholarship. Established in 1969 by Mrs. Kettelkamp in memory of her husband, an alumnus of the School of Medicine.

M. Kenton King, MD Scholarship. Created by the Executive Faculty to honor Dr. King at the time of his retirement in 1989 as Dean of the School of Medicine after having served in that position for 25 years.

Saulo Klahr Endowed Scholarship. Established in 2010 by Mrs. M. Carol Klahr in memory of her husband, Dr. Saulo Klahr, a WUSM professor of kidney disease for 46 years, to provide scholarship support to medical students.

Ira J. Kodner Scholarship. Established in 2014 to honor Dr. Ira Kodner, MD, Professor Emeritus of Surgery.

Albert F. Koetter, MD Scholarship Fund. Established in 1978 by Mrs. Stella Koetter Darrow in memory of her father, an alumnus and former faculty member of the School of Medicine.

Nicholas T. Kouchoukos, MD ’61 and Judith B. Kouchoukos Scholarship. Established in 2011 by Dr. Nicholas T. and Mrs. Judith B. Kouchoukos, to provide scholarship
support to medical students.

**Helen Hoerr Kurtz Endowed Scholarship in the School of Medicine.** Established by the estate of Mrs. Helen Hoerr Kurtz.

**Anne L. Lehmann Scholarship Fund.** Established in 1983 to grant continued scholarship support to medical students.

**Life Insurance Medical Scholarship Fund.** Created in 1972 from residual funds in the Life Insurance Medical Research Fund. Scholarship support is now awarded to students in the MD degree program.

**Maude L. Lindsey Memorial Scholarships.** Created in 1976 to assist students in the School of Medicine.

**John R. Lionberger, Jr. Medical Scholarship Endowment Fund.** Created in 1982 by Dr. John R. Lionberger to be used to aid worthy students in acquiring their medical education.

**E.A. Marquard Memorial Student Scholarship.** Established in 1994 from the E. Alfred Marquard Memorial Student Loan Fund to provide scholarships for deserving medical students.

**Alma Mavis Scholarship.** Created in 1988 under the will of Alma Mavis to assist students intending to practice family medicine.

**Eliza McMillan Scholarship.** Provides assistance to young women in any of several schools of the University to secure an education.

**Medical Alumni Scholarship Fund.** Awarded on the basis of academic achievement and financial need.

**Edith and Martin Meltzer Scholarship.** Established in 2004 by the Meltzer Family
Foundation to honor Dr. Gerald Meltzer’s MD ’63, parents, who established the foundation.

**Dr. Charles Miller, Jr. and Florence Noland Miller Scholarship.** Established in 2014 to support medical students.

**Roy B. and Viola R. Miller Memorial Fund.** Created in 1963 through the bequest of Roy B. Miller to provide scholarships for medical students.

**The Warren S. and Dorothy J. Miller Scholarship Fund.** Established in 1982 through the bequest of Dorothy J. Miller to provide scholarships for any students engaged in studies leading to the degree of Doctor of Medicine.

**Joseph J. and Ernesta G. Mira Scholarship Fund.** Established in 1988 by Dr. and Mrs. Mira to provide assistance to students from the Alton, Illinois area. Available to others when there are no students from the Alton/Madison County area.

**George and Elizabeth Ann Neilson Scholarship.** Established by the estate of George and Elizabeth Neilson.

**David and Janine Nelson Scholarship in Medicine.** Established in 2011 by Dr. David Nelson, a 1963 graduate of Washington University School of Medicine, and his wife, Janine.

**Nancy S. Newlin, MD and Henry H. Newlin, JD Scholarship Fund.** Established by Dr. Newlin and her late husband.

**Norland Endowed Scholarship.** Established in 2015 by Dr. Charles C. Norland, a 1959 graduate of Washington University School of Medicine, and Mrs. Dorothy Norland.

**Mr. and Mrs. Spencer T. Olin Fellowships for Women.** Provides for annual financial support to female graduates of an undergraduate institution in the United States in any of several disciplines. Application deadline is February 1.
Spencer T. and Ann W. Olin Medical Fellowships. Created in an effort to help fill the continuing shortage of physicians who pursue careers in biomedical research, the awards are primarily for students in the Medical Scientist Training Program.

Dr. Roy W. Osterkamp Memorial Scholarship Fund. Established in 2003 by Mrs. Linda Osterkamp Desloge and Mrs. Lila Osterkamp Haberberger, in memory of their father, Dr. Roy W. Osterkamp, DE ’36. Preference will be given to a student pursuing a career in a medical field related to dental medicine, such as maxillo-facial surgery. If no student shares this interest, it will be awarded based on need.

F. Thomas Ott (MD ’65) and Mary Miller Ott (MSN ’68) Scholarship. Established in 2010 by Dr. F. Thomas and Mrs. Mary Miller Ott to provide scholarship support to medical students.

Dr. Sidney F. (Class of ’29) and Dora K. Pakula Scholarship. Established in 2001 by Dr. and Mrs. Lawrence C. Pakula in memory of Dr. Pakula's parents to support student scholarships.

Mary Langston Parker Scholarship. Established in 2014 by The Parker Family to honor Dr. Mary Langston Parker, MD53, Professor Emerita of Preventive Medicine and past director of Student Health Services.

William B. Parker Scholarship. Established in 1976 by the School of Medicine in honor of William B. Parker's 51 years of service.

The Robert W. and Elise Hampton Parsons Scholarship Fund. Established in 2014 by Dr. Robert W. Prasons, MD54, to support medical students.

William A. Peck, MD Scholars in Medicine. Established in 2002 to recognize Dr. Peck's 14 years of service to the Medical Center and Washington University community. University trustees, faculty, staff, alumni, and friends honored Dr. Peck with gifts to this scholarship.
**Peterson Group Scholarship.** Established in 2014 by Peterson Group to provide financial support to medical students.

**Philpott Family Scholarship.** Established in 1995 by the Philpott family to provide support for medical students with financial need and excellent academic achievement.

**Pi Beta Phi – Charles Ruggieri Scholarship Fund.** Established in 1985 by the Washington University Alumni of the Pi Beta Phi medical fraternity to honor Charles Ruggieri and to assist deserving medical students enrolled in Washington University School of Medicine with the funding of their medical education.

**The Virginia Keck, George M. (M.D. ’32) and George K. (M.D. ’64) Powell Medical Student Scholarship Fund.** Established in 1984 by Mrs. George M. Powell in grateful appreciation for the medical education provided to her husband and son by Washington University School of Medicine, which so positively affected the lives of the Powell families.

**Henry and Louise Reller Scholarship.** To be given to medical students in the name of the parents of Louise Reller.

**Gennaro Resta Scholarship.** Established in 2014 by Dr. Regina M. Resta (Class of 1985) and Dr. Michael A. Kolodziej (Class of 1984) to honor Dr. Resta’s father.

**Lyman K. Richardson, MD Scholarship Fund.** Established in 1993 by Mrs. Ellen Richardson to provide scholarship support to medical students.

**John E. Rittmann Scholarship.** Established in 2015 by Dr. John E. Rittman, a 1962 graduate of Washington University School of Medicine.

**Samuel Jennings Roberts Scholarship Fund.** Created to provide scholarships for any students engaged in study leading to the degree of Doctor of Medicine.

**Robert Allen Roblee Scholarship Fund.** Established in 1948 through a gift of Mrs.
Joseph H. Roblee for students in the School of Medicine.

**Thomas W. and Elizabeth J. Rucker Scholarship Fund.** Created in 1956 through the bequest of Eugenia I. Rucker, in memory of her mother and father.

**J. Max Rukes Scholarship Fund.** Established in 1987, the fund provides scholarship support to deserving medical school students, with a preference for those who are interested in endocrinology.

**Joseph H. Scharf Scholarship Fund.** Provided in 1949 through the bequest of Dr. Joseph H. Scharf.

**Robert G. and Maxine W. Scheibe Scholarship.** Established in 1999 by Robert G. Scheibe, a 1960 Washington University graduate who also received his medical degree here in 1964 and his wife, Maxine, who is a 1966 graduate of the Washington University School of Nursing.

**William H. and Ella M. Schewe Scholarship.** Established to provide financial assistance to worthy students in the medical school.

**Dr. David Schlessinger Endowed Scholarship.** Created in 2006 by Dr. Dan Longo in honor of his mentor, Dr. Schlessinger, who was a Professor of Molecular Microbiology, Professor of Genetics and Professor of Microbiology at Washington University School of Medicine.

**Dr. Gustav and Mrs. Miriam Schonfeld Scholarship.** Established in 2010 by Dr. Gustav and Mrs. Miriam Schonfeld to support medical students. Dr. Schonfeld, MD60, was past chair of the Department of Internal Medicine and physician-in-chief at Barnes-Jewish Hospital.

**Edna Schrick, MD Scholarship Fund.** Established in 1992 by Dr. Schrick to provide scholarship support.
Mordecai E. Schwartz Endowed Scholarship. Established in 2006 by Dr. Mary R. Schwartz, Dr. David Cech and Alexander I. Schwartz in memory of their father, who was committed to the training of future physicians.

Edward L. Schweich Scholarship. Established in 2010 by Mr. and Mrs. Henry L. Schweich, in memory of Edward L. Schweich, for medical student scholarship support.

Senior Merit Scholarship. Established by an anonymous alumnus of the School of Medicine, it provides a scholarship to a senior student who has earned a distinguished record of academic and personal achievements during the first three years in the medical school.

Charlie W. Shaeffer, Jr. Endowed Scholarship Fund. Established in 2008 by Charlie Shaeffer (MD ‘64) and his wife, Claire, for medical students, based on academic merit and/or financial need.

Dr. John B. Shapleigh Scholarship Fund. Established in 1926 through the bequest of Dr. John B. Shapleigh and supplemented by contributions from Mrs. Shapleigh and Miss Margaret Shapleigh.

Alexander Balridge Shaw Scholarship Fund. Created in 1958 through the bequest of Roy A. Shaw in memory of his father, Dr. Alexander Balridge Shaw.

William T. Shearer and Lynn Des Prez Diversity Scholarship. Created by William T. Shearer, MD ’70, and his wife, Lynn Des Prez. Scholarships are awarded with a preference for under-represented students.

Dr. Edward Hiroshi Shigeoka Scholarship Fund. Created in 1988 by Dorothy F. Shigeoka in memory of her husband, Dr. Edward Hiroshi Shigeoka, to help disadvantaged and deserving students pursue their careers in medicine.

Ernie Simms Scholarship Fund. Founded in 1984 by friends, colleagues and former students of Professor Simms in recognition of his contributions to scholarly research
and teaching in the Department of Microbiology and Immunology.

**Dr. and Mrs. Vergil N. Slee Endowed Scholarship Fund.** Established in 2012 through a bequest from 1941 graduate of the School of Medicine, Dr. Vergil N. Slee and his wife.

**Stanley B. Smith, MD Scholarship.** Established in 2001 in memory of Samuel and Dora Smith, Dr. Smith’s parents, to support student scholarships.

**Dr. Dwight H. Stone Scholarship.** Established by Mr. Dwayne Stone in honor of his brother, Dr. Dwight H. Stone, a 1959 graduate of the School of Medicine.

**Beulah B. Strickling Scholarship Fund.** Established in 1960 with a bequest from Mrs. Beulah B. Strickling.

**Marleah Hammond Strominger Scholarship.** Established in 1971 by Donald Strominger, MD and supported by family and friends of Marleah Hammond Strominger. The recipient shall be a motivated student with need for financial assistance.

**Mary and Ernst Stuehrk Scholarship Fund.** Established in 1987 to assist medical students with documented financial need.

**Edwin H. and Virginia M. Terrill Scholarship Fund.** Established in 1964 with the bequest of Dr. Edwin H. Terrill, an alumnus.

**Betty L. Thompson Scholarship Endowment.** Established in 2001 by Anthony Thompson, in honor of his mother, Betty.

**Mildred Trotter Scholarship Fund.** For students with documented financial need, the fund was established in 1979 by Dr. and Mrs. Paul Guttman, and supplemented by former students of Dr. Trotter, as a tribute to her many years of teaching in the Department of Anatomy.
Hiromu Tsuchiya Scholarship Fund. Created to provide scholarships in the School of Medicine.

Tuholske-Jonas-Tuholske Medical Scholarship Fund. Established in 1974 by Rose T. Jonas in memory of her father, husband and brother. The recipient shall be a senior student preparing to enter the field of surgery, obstetrics and gynecology, or internal medicine.

Cornelia Van Prooyen, MD Scholarship Fund. Established in 1987, the fund provides scholarship support and other financial assistance to female medical students.

George S. and Aspasia N. Vellios Scholarship. Established by Frank Vellios, MD ’46, in honor of his parents. Scholarships are awarded to deserving medical students with financial need.

Louis H. Waltke and Marie Waltke Memorial Fund for Medical Education. Created in 1984 to provide scholarships and fellowships at the School of Medicine.

Dr. Robert A. Weiss Scholarship. Established by Dr. and Mrs. Robert Weiss.

George and Irene Wolf Medical Scholarship Fund. Established by the donors to benefit students in the School of Medicine.

Pamela F. Gallin Yablon, MD Scholarship. Established in 2008 by Dr. Pamela F. Gallin Yablon and Mr. Leonard H. Yablon to support medical students.

Dr. Mitchell and Elaine Yanow Scholarship Fund. Established in 2002 by the children of Dr. and Mrs. Yanow to honor the memory of their parents and to provide support for deserving medical students.

George Zografakis Memorial Scholarship Fund. Created by the family and friends of Dr. Zografakis, a distinguished faculty member in the Department of Surgery.
Loan funds

Auer-Rosenfeld Memorial Loan Fund. Established by Mrs. Elizabeth Auer to be used for educational loans to students.

Dr. John C. Boetto Loan Fund. Established in 1993 by a bequest from Mrs. Josephine D. Boetto as a memorial to her son to provide loans for deserving medical students.

Otto W. Brandhorst Loan Fund. Created in 1985 by the estate of Fern Crawford. This fund supports loans to students in the School of Medicine.

Dr. Harold A. Budke Loan. Established in 1998 to provide financial assistance to needy and deserving medical students.

Harold A. Budke, MD, Loan Fund II. Established in 2001 with a bequest from the estate of Etta Elise Wedemeyer to provide loans to needy and deserving female students who will practice family medicine, internal medicine or obstetrics-gynecology medicine.

Class of 1947 Loan Fund. Established in 1996 by members of the class of 1947 in honor of their 50th reunion.

Jess K. Goldberg Memorial Loan Fund by Ophelia H. Kooden and Violet G. Sachs. Created in 1970 to provide zero-interest loans for medical students in memory of the donors’ brother who passed away while attending medical school.

Health Professions Student Loan Fund. Established by federal legislation for medical students with a demonstrated financial need. Loans are available for long terms at favorable rates.

William Randolph Hearst Medical Scholars Loan Fund. In 1989, the Hearst Foundation provided funding for a new and innovative loan program which provides interest-free loans to students in their last year of study.
Ursula Hecker Loan Fund. Established in 1967 by a bequest from Ursula Lee Hecker for the use and benefit of worthy, deserving and needy medical students.


Horncrest Foundation — School of Medicine Loan Fund. In 1982, the trustees of the Horncrest Foundation approved a proposal on behalf of the School of Medicine to match up to a generous annual cap for five year loan funds solicited by the School. The campaign was extremely successful and now provides loan funds to students with documented financial need.

W. K. Kellogg Foundation Loan Fund. Provides financial assistance to medical students in need of such aid.

Gustel and Edith H. Kiewitt Scholarship Loan Fund. Provides loan funds for medical students.

Medical Scholars Loan Program. Established in 1985 by members of the William Greenleaf Eliot Society, this fund provides an interest-free source of long-term student loans. Annual contributions from alumni and friends support this perpetual and growing resource upon which current and future medical students will draw.

George W. Merck Memorial Loan Fund. Established in 1959 by The Merck Company Foundation, the original purpose of the loan was modified in 1983 to provide loans to graduating students which would help bridge the transition from student to resident physician.


Dr. Lloyd L. Penn and Goldie H. Penn Student Loan. Dr. Penn, MD ’33 established the
fund in 1977 to aid well-qualified and deserving students.

**Perkins Student Loan.** A federal program (formerly National Direct Student Loan) to provide loans to students with financial need. Permits repayment over an extended period at a favorable interest rate.

**Dr. William C. and Elva Pratt Loan Fund.** Established in 1982 for medical students with demonstrated financial need.

**G.H. Reinhardt Memorial Scholarship Loan Fund.** Established in 1947 through the bequest of G. H. Reinhardt.

**Aline Rixman Loan Fund.** Created in 1940 by William Rixman in memory of his wife, the fund is used to alleviate unexpected financial emergencies of medical students.

**James L. and Dorothy Rouner Loan Fund.** Established in 1997 by Dr. James and Mrs. Dorothy Rouner to be used for medical students pursuing a career in primary care-general internal medicine.

**Caroline O. Schlesinger Loan Fund.** Established in 1969 to provide financial support for medical students.

**School of Medicine Student Loan Fund.** Established to make loans to students with documented financial needs.

**Washington University Medical Center Alumni Association Loan Fund.** Provides emergency loans to medical students.

**The Alan A. and Edith L. Wolff Loan Fund.** Established in 1993 by Mrs. Edith L. Wolff to provide loans to students with demonstrated financial need who are in their final year of study for the Doctor of Medicine degree.
Applied Health Behavior Research Admission

Please visit the Applied Health Behavior Research website for admissions information.

Further information:

- Financial Assistance
- Standards for Satisfactory Academic Progress for Financial Aid Eligibility

Audiology and Communication Sciences Admission

Please visit the Program in Audiology and Communication Sciences website for admissions information.

Further information:

- Financial Assistance
- Standards for Satisfactory Academic Progress for Financial Aid Eligibility
Biology and Biomedical Sciences Admission

Please visit the Division of Biology and Biomedical Sciences website for admissions information.

Biomedical Engineering Admission

Please visit the Biomedical Engineering website for admissions information.

Biostatistics Admission

Please visit the Division of Biostatistics website for admissions information.

Further information:

- Financial Assistance
- Standards for Satisfactory Academic Progress for Financial Aid Eligibility
Clinical Investigation Admission

Please visit the Clinical Research Training Center website for admissions information.

Further information:

- Financial Assistance
- Standards for Satisfactory Academic Progress for Financial Aid Eligibility

Doctor of Philosophy Admission

Please visit the Division of Biology and Biomedical Sciences website for admissions information.

Genetic Epidemiology Admission
Please visit the Division of Biostatistics website for admissions information.

Further information:

• Financial Assistance

• Standards for Satisfactory Academic Progress for Financial Aid Eligibility

Occupational Therapy Admission

Please visit the Program in Occupational Therapy website for admissions information.

Further information:

• Financial Assistance

• Standards for Satisfactory Academic Progress for Financial Aid Eligibility

Physical Therapy Admission

Please visit the Program in Physical Therapy website for admissions information.

Further information:

• Financial Assistance
Population Health Sciences Admission

Please visit the Master of Population Health Sciences website for admissions information.

Further information:

- Financial Assistance
- Standards for Satisfactory Academic Progress for Financial Aid Eligibility

Public Health

Please visit the Master of Public Health website for admissions information.

Student Life
Students at Washington University of School of Medicine meet the highest academic standards and also possess many talents outside of their studies. With full support and encouragement from the School of Medicine, its students initiate and run a number of student organizations; their missions run the gamut from serving the community to professional development to pursuing personal interests in the arts. Students also participate in intramural sports and fully enjoy all that the city of St. Louis has to offer.

Intramural Programs

Students enrolled in Washington University School of Medicine enjoy an active and diverse Intramural (IM) Program. The IM Program offers students the opportunity to participate in a wide range of sports. Utilizing the state-of-the-art facilities in the University's Athletic Complex, medical students pursue personal athletic interests and enjoy interaction with students enrolled in both undergraduate and graduate degree programs. The IM Program provides an excellent opportunity to socialize with colleagues as well as other graduate students. Differences in curricular demands among participants are considered in scheduling games so that neither academic nor athletic goals are compromised.

The School has always made a strong showing in both the mixed and graduate school division.

For further information about intramural sports, visit the Recreation website.
Student Groups

Students at Washington University School of Medicine are active participants in medical student organizations on the local, state and national levels. The American Medical Student Association (AMSA), the Student National Medical Association (SNMA), the American Medical Women's Association (AMWA), the Asian-Pacific American Medical Students Association (APAMSA), the Medical Student Section of the American Medical Association (AMA-MSS), the Missouri State Medical Association (MSMA), the Organization of Student Representatives (OSR) in the Association of American Medical Colleges (AAMC) and the Student Organized Community Clinic (SOCC) provide forums for addressing the educational, social and political concerns of medical students. The School of Medicine supports student participation in these national organizations and provides partial funding for travel and other expenses on an annual basis. Medical Student Government (MSG) represents the student interests, supports social and educational activities and expands the perspectives of the future graduates of the medical school.

Visit the Office of Medical Student Affairs for a complete list of student groups.

Academic Societies

To foster communication between students and faculty, three academic societies — The Joseph Erlanger and Evarts Graham Society, The Carl and Gerty Cori Society, and The Oliver Lowry and Carl Moore Society — meet independently throughout the academic year to enjoy a social hour, dinner and conversation. The societies promote
a collegial environment for the medical school's diverse faculty and student body. Medball, held in March of each year, is hosted in part by the academic societies and provides a formal social evening with medical faculty and medical students.

For a complete list of academic societies, visit the Office of Medical Student Affairs.

Washington University Medical Center Housestaff Auxiliary (WUMCHA)

WUMCHA, the Washington University Medical Center Housestaff Auxiliary (a department of Barnes-Jewish Hospital) is an organization made up of medical students, residents, fellows, attending physicians, as well as the spouses, partners and “significant others” of those affiliated with Washington University Medical Center, including Barnes-Jewish and St. Louis Children’s hospitals, the School of Medicine and Mallinckrodt Institute of Radiology. The purpose of the organization is to provide friendship and social support among its members. In addition to sponsoring numerous recreational and educational activities, WUMCHA provides a welcome guide containing information about relocating to St. Louis and area attractions. Annual dues are $35. Information about membership and applications can be obtained by contacting wumchamembership@gmail.com, or by visiting WUMCHA online.

Community Service Experience
Participation in a host of community service projects nurtures students’ altruistic nature and provides an alternative educational experience. University-sponsored, student-run, community-based service activities include the Perinatal Project, which provides information concerning well-baby care and prenatal care to women from lower socioeconomic groups.

Students Teaching AIDS to Students (STATS) allows trained medical students to provide sixth- and seventh-graders with information about AIDS. The combined efforts of medical students, faculty, middle school teachers, parents and speakers with AIDS have made STATS a very successful program. The Geriatrics Outreach Program helps prepare students for the challenges and rewards of working with older patients.

Pediatric Outreach Program (POP) matches children in the St. Louis area who are suffering from chronic illnesses and the siblings of these children with big brothers and big sisters from Washington University School of Medicine. Community CPR trains medical students to become instructors in CPR for the medical school curriculum and in the community of St. Louis.

The Mental Health Outreach Program (MHOP) works to increase the awareness of mental health issues among medical students and the general public. The Family Medicine Interest Group works with the local community by providing health screenings and nutritional classes. SPOTS (Sun Protection Outreach Teaching by Students) is piloted to teach middle school students about the dangers of skin cancer and how to protect themselves from the sun.

A newer group, the Public Health Interest Group (PHIG) is a student organization committed to partnering in the St. Louis community to include health screenings, nutrition outreach and public policy discussions. The Smoking Cessation Project works with the American Lung Association Freedom from Smoking Program and students are trained in counseling smoking cessation groups.
Student Publications

Students organize and spearhead several publications at the School of Medicine. The *Dis-Orientation Guide* is produced annually as a student-to-student guide to the curriculum and the city. *Hippocrene* is a literary magazine published once a year where you will find poetry, short stories, essays and photographs submitted by members of the WUSM community.

St. Louis

Situated at the confluence of two great North American rivers — the Mississippi and the Missouri — the St. Louis region has been a favored destination since Lewis & Clark began their historic westward “Corps of Discovery” here in 1804.

Today, the pioneers of St. Louis are the engineers, scientists, business leaders, educators, artists and other innovative and creative professionals who are working at the forefront of a multitude of fields and endeavors. Thanks in large part to Washington University, other regional universities and key Fortune 500 corporations, St. Louis has developed into a national hub for important research and business development, especially in the fields of biotechnology and plant science.

Consistently ranked among the nation's most affordable and best places to live and raise a family, the St. Louis region offers many opportunities to watch or participate in a wide range of sports, recreational activities and cultural events. Not far from St. Louis' urban core are the beautiful rolling hills of the Ozark Mountain region and outdoor activities such as hiking, canoeing and spelunking in some of Missouri's more
than 6,000 caves.

**Cultural opportunities**

New St. Louisans discover the rich cultural life here in theaters, galleries, museums and festivals. The *Saint Louis Symphony*, among the finest in the nation, performs at historic Powell Hall. Symphony members bring their skills to the community through teaching and chamber concerts as well. In the downtown area, the rich St. Louis traditions in jazz, blues and ragtime music are continued in a number of lounges and clubs. The *Community Music School of Webster University* offers community music education to all ages, and *COCA* (Center of Creative Arts) is the largest multidisciplinary arts institution in the metropolitan area.

The *Opera Theatre of St. Louis* has been enormously successful, nationally and internationally, bringing English-language versions of the classics and presentation of contemporary operas to the stage. The *Repertory Theatre of St. Louis* has an extensive annual season, which includes experimental works and traditional dramas. The Stages St. Louis Theatre Co., *Kirkwood Theatre Guild, West End Players Guild, Act. Inc.* and the *Saint Louis Black Repertory Company* enrich the dramatic offerings available in the immediate area. On campus, Edison Theatre offers the highest quality in national and international programs in theater, dance and music. For open-air summer entertainment, the *Shakespeare Festival of St. Louis* and *The Muny*, both in Forest Park, are prime destinations.

Broadway comes to St. Louis at the *Fox Theatre*, a renovation of a 1929 example of exotic cinema temple art. Galleries sprinkled throughout the area bring current visual arts to St. Louis, while antique shops remind us of the past. The *St. Louis International Film Festival* takes place every fall. Supplementing the standard movie fare available throughout the metropolitan area are two cinemas close to campus, the *Hi-Pointe* and the Tivoli, both offering excellent foreign and independent films.

When the *Saint Louis Art Museum* was built for the 1904 World's Fair, much of the Washington University collection was housed in it. Ties with the Art Museum remain
very close. Students in art and in business intern at the Art Museum, working in arts management and gallery organization. St. Louis also features Laumeier Sculpture Park, which displays large-scale sculptures by artists of international renown.

St. Louis has two major history museums as well: the Missouri History Museum in Forest Park and the Jefferson National Expansion Memorial under the Gateway Arch.

Recreation

For recreation, St. Louisans may use any of the numerous parks that dot the metropolitan area. In Forest Park, which lies between the two Washington University campuses, are the Art Museum, The Muny, Missouri History Museum, the Saint Louis Zoo, municipal golf courses, tennis and handball courts, a skating rink, and acres of paths, picnic areas, gardens and wooded groves. Tower Grove Park is in south St. Louis, and adjacent is the Missouri Botanical Garden, world famous for its research, collections and facilities.

Farther afield, St. Louis residents find outdoor adventure in the countryside beyond the city. In the Ozark Mountains, on the rivers of Missouri, on the lakes of neighboring Illinois, variety abounds. Camping, hiking, floating, rock climbing and caving are among the many possibilities within a few hours’ drive of St. Louis. For those who like to sail, there is Carlyle Lake in Illinois. And for those with rod and reel, Missouri streams are made to order.

The Washington University Athletic Complex provides outstanding resources to athletes at every level of ability. Open to all members of the University community, it includes an eight-lane, 25-meter pool, two gymnasiums, weight rooms, racquetball courts, outdoor tennis courts and a track complex. Built on the site of the 1904 Olympic Games, this facility offers recreational opportunities year-round for students, faculty and staff.

For the spectator, St. Louis is a great sports town. For more than a century, it has hosted one of the oldest traditions in baseball — the St. Louis Cardinals. Dizzy Dean
and the Gashouse Gang, Stan Musial, Lou Brock, Ozzie Smith and Mark McGwire are all part of Cardinal history. The current Busch Stadium opened in spring of 2006 and played host to the 2009 All-Star Game.

The St. Louis Blues hockey team moved here in 1967 and enjoys loyal fans. St. Louis also supports a number of semi-pro sports teams.

**Employment and university ties with St. Louis**

St. Louis is a great place to work; job opportunities are varied and abundant. Many companies are distinguished for their excellent working conditions, and commuting is easier than in many other large cities.

Many major corporations are located here, as are a variety of retail, transportation and banking organizations. Among the top firms are Ameren, Boeing, Edward Jones, Emerson Electric, Enterprise Rent-a-Car and Express Scripts. Many support services have grown up around these corporations — including law, accounting, data processing, advertising, public relations and design firms, as well as photographic and audio-visual studios.

Employing more than 20,000 people, the Washington University Medical Center (WUMC) is made up of the School of Medicine, the Alvin J. Siteman Cancer Center, Barnes-Jewish Hospital and St. Louis Children’s Hospital. The medical center generates an annual economic impact of nearly $4.3 billion for the St. Louis area, according to an economic model maintained by the St. Louis Regional Commerce and Growth Association.

The John M. Olin School of Business at Washington University enjoys a rich and varied partnership with the business community. As a laboratory for internship opportunities, entrepreneurship study, and student practicums offered through Olin’s Center for Experiential Learning, St. Louis plays an integral role in the education of business students. In turn, Olin creates value for area businesses by matching top Olin talent with pivotal positions in their firms.
Similarly, the **School of Law** has close ties with the St. Louis legal community and, through its clinical program, offers internships in private and local government offices and in state and federal courts. In addition, the law school is fortunate in the active and interested role of the local bar associations in the development of the school’s special programs.

**The George Warren Brown School of Social Work** also is linked in many ways to the St. Louis social work community. Students find practicum assignments throughout the area, and both students and faculty do research and consult with local agencies.

A strong partnership exists between technology-based businesses and industries in St. Louis and the **School of Engineering & Applied Science**. There is a network of more than 80 faculty members associated with Department of Biomedical Engineering, representing numerous divisions of the university, including many from the School of Medicine.

In addition to their ties to local business, both the Danforth Campus and the School of Medicine at Washington University are dedicated to the support of K-12 education. Students from the medical school participate in a variety of outreach programs, including Students Teaching AIDS to Students (STATS), designed to teach awareness and responsible behavior to junior high school students; the **Young Scientist Program**, an interactive learning experience that brings high school students to the medical center; and health and preventive programs on drug and sex education.

In short, Washington University enjoys a special relationship with St. Louis.

**Interesting St. Louis-area facts**

St. Louis has many nicknames, including the “Gateway City,” “Gateway to the West,” “The Mound City,” “St. Louie,” “River City,” and “The Lou.”

There are more free, world-class attractions in St. Louis than any place in the nation outside of Washington, DC.
The Saint Louis Zoo was the first municipally supported zoo in the world and a pioneer in the use of open enclosures, placing animals in natural environments without bars.

Some of the world's favorite foods were popularized and introduced to a wide audience at the 1904 World's Fair in St. Louis. The ice cream cone, iced tea and hamburgers all became food favorites there. It is said that the fair was the first place where hot dogs met French's mustard.

The Eads Bridge over the Mississippi River, near the present site of the Gateway Arch, was the first arched steel truss bridge in the world. When it was first proposed, it was scoffed at as impossible to build. Completed in 1874, it is still in use today.

In 1904, the first World Olympics in the United States and the Western Hemisphere was held in St. Louis at Washington University's Francis Field.

The Cathedral Basilica of St. Louis contains the largest collection of mosaic art in the world.

In 1876, St. Louis hosted the first national political convention west of the Mississippi.

In 1927, a group of St. Louis businessmen gave financial backing to the first solo transatlantic flight from New York to Paris. The pilot was Charles Lindbergh and the plane was named “The Spirit of St. Louis.”

St. Louis' McDonnell Douglas Corporation, now Boeing, designed and built the space capsule that carried the first men into space in the 1960s.

C.L. Grigg, a soft drink salesman, introduced a drink to St. Louisans in 1929 that would eventually become known as 7-Up.
Services

The School of Medicine is fully dedicated to providing an outstanding learning environment in which students are supported in meeting their individual professional goals. Services include:

Office of Diversity Programs: Offers programs and services to prepare medical students to become leaders in a global society.

The Office of Education: Supports School of Medicine educational programs at all levels, including graduate, postgraduate and continuing medical education.

Office of Student Financial Planning: Guides students through the process of understanding and applying for financial aid.

The Office of Medical Student Education: Supports all aspects of medical student education for students, faculty and staff.

Office of Medical Student Affairs: Provides support services in areas of physical and mental wellness, academics, mentoring and shadowing, and extracurricular activities.

Office of the Registrar: Offers information about obtaining transcripts, access to student records, and tuition payment.

Protective Services: Protects the Washington University School of Medicine campus and certain off-campus properties.

Transportation Services: Offers campus parking passes, free passes for MetroLink and MetroBus, and access to shared WeCar services.
Student Health Services: Provides quality medical care, including preventive services, for all students and their covered family members

Financial Aid/Student Financial Planning

For information on financial planning, please visit the Office of Student Financial Planning website.

Housing

Those who come to St. Louis to be associated with Washington University School of Medicine find apartments, houses, condos, lofts, and short-term housing that range in price from $700 to $2,200 per month, all in the immediate area. Apartment Referral Services, located on North Campus, maintains listings of housing appropriate for students, faculty and staff. For information, contact Apartment Referral Services at ars@wustl.edu, Campus Box 1016, 700 Rosedale Ave., St. Louis, MO 63112 or (314) 935-5092. Visit both Quadrangle Housing and Parallel Properties for more information about Washington University-owned housing options.

Olin Residence Hall

The Spencer T. Olin Residence Hall, at 4550 Scott Ave. at the Washington University Medical Center, has accommodations for approximately 144 single men and women
from all programs at the School of Medicine. The building was made possible by generous gifts from Spencer T. Olin, alumni and friends of the School of Medicine. Olin Hall is planned for the convenience of students in the medical or paramedical sciences and includes shared cooking facilities, a gymnasium, weight room and state-of-the-art workout facility, laundry room and penthouse with a recreational area and large-screen television with satellite system. Every effort is made to provide an atmosphere that not only aids residents in meeting their study obligations, but also recognizes their privileges as graduate students. We are dedicated to making your Washington University experience one that you will remember both in and outside the classroom by hosting events that spark your interest with community events. Our professional on-site staff is dedicated to serving your needs!

Phone: 314-362-3230 (normal business hours), 314-362-3100 (after hours)
Website: http://facilities.med.wustl.edu/olin-residence-hall/
Email: olinresidence@wusm.wustl.edu

Facilities

**Danforth Chapel**: Non-denominational chapel available for student use.

**Reber Library**: Available for student use for studying and leisure reading. DVD and book rental is also available for resident use. The library includes over 400 DVD's and more than 500 books for free rental.

**Student Lounge**: Available to all students for leisure and/or studying. The lounge is equipped with comfortable furniture and a large screen television with a state of the art satellite system. The multi-purpose room is available for music practice and small student or class gatherings.

**Penthouse**: The private 11th floor Penthouse offers striking views of the city and serves as a recreational area for students. Complete with ping pong, shuffleboard, and pool tables, along with a large screen television with satellite system, the Penthouse is a place to kick back and relax. The Penthouse is only available to Olin Students at this
Dining Facilities: Dining facilities are located throughout campus. The Shell Cafe', is located just seconds from Olin Hall. The Shell Cafe', serves hot breakfast and lunch as well as snacks and drinks. Food trucks are also occasionally available just outside Olin's front door. Full kitchens are located on every other floor of Olin Hall and include an oven, stove, microwave, and ice maker.

Additional Amenities: Located on the ground floor is a large gymnasium perfect for a basketball or volleyball game with friends. Coin laundry is also available on site. The second floor has a state of the art work out facility reserved for medical school students.

Accommodations

Room types available at Olin Hall are singles, large singles, and suites. Single rooms are 12-1/2' x 10' 4-1/2", Large Singles are 15' x 11' and Suites are two rooms consisting of one 10-1/2' X 10-1/2' and one 11' by 10-1/2'.

Each room is provided with an X-long twin bed, chest of drawers, built-in desk, desk chair, and study lamp. All rooms are air conditioned and have mini blinds for privacy. You will be required to provide your own sheets (extra-long twin 36" x 80"), pillow, blanket, towels, rug, fan, alarm clock, and anything else that will make your room feel more like home.

Single and large single rooms consist of a wash basin and medicine cabinet with common bathroom facilities on each floor. Suites consist of a bedroom, study room big enough for a couch or futon, and a private bathroom with full size tub shower, sink, and toilet.

Every other floor within the dorm contains a fully equipped kitchen for use by students. Students may bring a refrigerator (4-cubic feet or smaller), microwaves, and coffee pots for convenience in their rooms.
Network service is provided to the resident free of charge. Phone and cable are available at the student’s expense.

Parking

Parking for a limited number of cars, at a monthly or yearly fee, is available at the Clayton-Taylor garage located just east of the Olin Residence Hall. For more information, please contact the Facilities Service Center at 314-362-3100 or wusmfacilities@wusm.wustl.edu.

Rates for 2016-2017

School Year: August-Mid May (Nine months)

Current Resident
Single Room: $5,193
Large Single: $6,228
Solo Suite: $7,569

12 month contract
Single Room: $6,672
($556 per month)
Large Single: $8,040
($670 per month)
Solo Suite: $9,768
($814 per month)
Medical Student Carrels, Lockers and Mail

Medical student carrels

The Farrell Learning and Teaching Center (FLTC) offers study carrels at no cost for every first- and second-year student. The carrels are equipped with personal desk space, secure storage and data ports. Third-floor carrels and keys are distributed to all incoming medical students during 1st year orientation. Rising 2nd year students will receive new carrels on the 4th floor subsequent to an email notification at the end of their 1st year. (i.e., old keys from prior year will need to be returned.) A $10 fee is assessed for lost keys..

Lockers

Student lockers with combination padlocks are available for use on the third and fourth floors of the Farrell Learning and Teaching Center. Locker assignments are made by the Registrar’s Office for a nominal fee to cover the cost of the padlock. Only padlocks issued by the Registrar’s Office may be used. Students interested in being assigned a locker should email the Registrar’s office.

Postal mail

If the Office of Student Services or the Registrar’s office receives postal mail for a medical student, the student will be notified via email about the delivery. First-class student postal mail sent to the School of Medicine for first- and second-year students will be put in student mailboxes located on the third and fourth floors of the FLTC. This can serve as a temporary mailing address until new students are settled in St. Louis. It is important that mail addressed and sent to the School of Medicine include both student name and year, as follows:
Voter Registration

The Gephardt Institute for Civic and Community Engagement has partnered with TurboVote to offer online voter registration in all 50 states, including text and email reminders before elections. All members of the WashU community are encouraged to use this convenient service.

TurboVote handles online voter registration in all states that support it, and will facilitate paper registration in states that require it (they will mail you a completed form to sign and send in!). Once you sign into TurboVote (a free service), you may change your address and re-register in a new municipality at any time.

If you are already registered as a voter, you may sign in to request text and email reminders before elections.

WashU Votes

Washuvotes.wustl.edu is the central hub for all things Election 2016 at Washington University in St. Louis. On the site, you will find a calendar of important dates and events related to the election, details about how to apply for funding of debate related programs, and important voter registration information. Like our page on Facebook to receive live updates about Election 2016 at WashU.
Resources

For more information about selecting which state to register in or checking the status of your voter registration, please visit washuvotes.wustl.edu/registration.

You may also register directly through the Missouri Secretary of State website.

If you have any questions or would like to get involved with our voter engagement efforts, please email washuvotes@wustl.edu.

Office of Diversity Programs

For more information on diversity at the School of Medicine, please visit the Office of Diversity Programs website.

Office of Education

For more information on education at the School of Medicine, please visit the Office of Education website.
Office of Medical Student Education

For more information about medical student education, please visit the Office of Medical Student Education website.

Office of Medical Student Affairs

For more information about medical student affairs, please visit the Office of Medical Student Affairs website.

Parking and Transportation (UPass and Enterprise CarShare)

Hourly, daily and permit parking is available in the 2300-space School of Medicine Clayton Garage (corner of Clayton and Taylor avenues) and also in 800 WUSM spaces in the Duncan-Central Garage. Parking in patient or visitor spaces by faculty, staff or students is strictly prohibited at all times. Parkers must establish parking to park in the garages or lots during business hours Monday through Friday, 7 a.m. to 4 p.m.
Additional information, maps and fees are available the Parking and Transportation section of the Facilities Management Department website. Requests for parking information can be directed to the Facilities Integrated Service Center (FISC) on the First Floor of Olin Hall.

For those who occasionally drive to the medical school, you can purchase a Prepaid Exit Pass for the Clayton Garage. The exit pass can be purchased in advance at the FISC desk.

Shuttle service is available for transportation from one site to another within the Medical Campus in accordance with specific shuttle schedules. If additional information, maps or shuttle schedules are needed, please visit the Facilities website.

Students living in the Central West End or Skinker/DeBaliviere neighborhood can ride the dedicated shuttle service during the evening hours. The brochure can be found online.

If you are a registered full-time student of Washington University, Washington University School of Medicine, or a benefit-eligible employee of the same, you can register for a U-PASS online. There is no charge for the U-PASS.

For those needing a car to run an errand or for overnight, we have a car-sharing program. Simply print the agreement and within three to six business days after membership approval, you will be issued your personal key fob and customer PIN number. Then go online and reserve a time.

Registrar's Office
Security

Security at the School of Medicine is the responsibility of **WUSM Protective Services**. Uniformed Protective Services Officers are on duty 24 hours a day, seven days a week to provide for personal safety, reduce the opportunity for crime, apprehend law violators, provide crime prevention and awareness training and assist in enforcement of University rules and regulations. Armed Response Officers and unarmed Public Safety Officers are radio-dispatched. They respond immediately to telephone calls made to (314) 362-4357. Officers patrol the campus on foot, on bicycles and in marked mobile units. Contract Agency guards staff a few fixed posts to supplement the in-house officers.

The Medical School access control program makes the campus accessible after hours and on weekends. Faculty, staff and students are issued a photo identification badge that identifies the wearer as a member of the medical school community. The badge has a magnetic strip that activates the computerized door lock entrances to the School’s buildings. These entrances have two-way intercoms for direct communication with Protective Services’ Communications Officers, as do direct-ring telephones located outside selected campus buildings and “Code Blue” emergency telephones on surface parking lots and in the garages.

Each year Protective Services publishes a summary of statistical information concerning campus crime, as required by federal law, on the WUSM Facilities website. This information may be found under “**Campus Crime Statistics 2013-2014-2015**.” A daily crime log, information on crime prevention tips and the many services and
programs provided by Protective Services also appear on the web. For a printed copy of the annual security report, contact Washington University School of Medicine, Protective Services Department, Campus Box 8207, 660 S. Euclid Ave., St. Louis, MO 63110, or by calling (314) 362-0460. You can also print out the report online.

Student Health Services

**Director:** Karen S. Winters, MD  
**Information/Appointments:** (314) 362-3523  
**Billing/Benefits:** (314) 362-2346

For a complete description of benefits please visit the Student Health Services website.

The Student Health Service provides a complete service for full-time students registered in the School of Medicine. The WUSM Student Health Service provides preventative and therapeutic health benefits through a mandatory self-funded program of services available to all full time medical degree seeking students and their eligible dependents. The goal of the Student Health Service is to deliver efficient, accessible, high-quality essential medical care in order to prevent and treat health problems that may interfere with a student’s education and professional goals while attending WUSM. The Student Health Service is under the direction of Karen S. Winters, MD. Benefits provided through this service include: ambulatory patient services, emergency services, ambulance services, hospitalization, maternity and newborn care, on and off campus mental health, including behavioral health treatment, prescription drugs, allergy services, physical therapy services, dermatology
services, rehabilitative and habilitative services and devices, laboratory service, x-rays, preventive and wellness services, and chronic disease management, vision and dental care, and pediatric services. Students also receive disability and life insurance. Most medical care will be provided at no cost, except for applicable deductibles or co-pays.

The Student Health Service is a multidisciplinary facility conveniently located on campus and dedicated to providing quality health care to WUSM students and their covered family members. The well-qualified staff consists of physicians, nurses, psychologists, and other medical support personnel. The Student Health Service offers easy access to medical and psychiatric care so that physical and emotional problems will not interfere with university life.

The Health Service is open Monday through Friday from 8:00 a.m. to 4:00 p.m. The Student Health Service is closed Saturday, Sundays and University holidays. Services are available by appointment at 4525 Scott Ave., Suite 3420. The Health Service offers an after-hour phone service monitored by Dr. Winters. Students may call 362-3526 after hours for non-urgent care.

There are no lifetime or annual limits on Essential Health Benefits that the Student or Covered Dependent may claim from Student Health Services. However, covered services that are Non-Essential Health Benefits are subject to a $2,000,000 per person annual benefit limit on all benefits covered by Student Health Services. Once you have reached the annual benefit limit, you will be responsible for 100% of all Non-Essential Health Benefits. The responsibility of the Student Health Service for hospitalization and emergency care will end 30 days after an individual ceases to be an officially enrolled student.

The Health Service pre-screens every incoming student prior to their arrival at the School to ensure all federal requirements have been met regarding communicable diseases. Entering students are required to have a medical examination and tuberculosis testing within one year of matriculation and to provide proof of immunity to measles (rubeola), rubella and mumps, varicella, hepatitis B and a tetanus-diphtheria (tdap at least one dose required since 2005). The Health Service tracks all
immunizations during and prior to enrollment. Statements of Health for internships and practicums are provided.

**Spouses, dependents**

Students may enroll their eligible dependents in the Student Health Service by paying an additional Student Health Service access fee. Students may enroll dependents into this program only at the following times: At the time the student enrolls in WUSM (at student matriculation), or within thirty-one (31) days of a Qualifying Event. If a student elects to enroll his or her eligible dependents at matriculation, coverage for dependents will become effective on the same date the covered student's benefits become effective, provided enrollment for the dependents occurs on or before the deadline. No enrollment for dependents is allowed after the deadline unless a Qualifying Event occurs. Dependent coverage terminates when the student's coverage terminates or when the dependent no longer meets the definition of a Dependent as described above, if earlier.

**Dental care**

Benefits provided by Student Health Service for injury to a sound natural tooth only. Coverage for injury to a sound natural tooth is 100% of the first $300 of expenses, and 80% of the balance, not to exceed $1,000 as a result of any one accident. Student Health Services will provide a list of private dentists upon request.

In addition to the benefit provided by Student Health Service, all eligible full-time students registered in the medical and allied professional schools of the Medical Campus and their enrolled dependents will be covered by a prepaid dental plan through Assurant Employee Benefits Heritage. All full-time students are covered automatically, with the coverage premium paid for by WUSM Student Health Service. There are no enrollment forms for the student to complete. However, you will NOT officially have coverage until a participating dentist is selected. To select a participating dentist, you may call Assurant Customer Service at (800) 443-2995 or visit their web site at www.assurantemployeebenefits.com. You must select a participating general
dentist in Assurant’s Heritage network before you can use your benefits. This plan is available to your family members as well for the yearly premium; see Student Health Benefit office for details.

Counseling services

Students at the Medical Center may have concerns over poor concentration, ineffective study habits, anxiety over their performance, low self-esteem, relationships, grief or depression. The psychiatry and clinical psychology staff members are available to help students cope with these concerns. Initial evaluations are made at the Student Health Service. Subsequent care may be at the Medical Campus or a designated physician’s office. Call 362-3523 for more information. All records are confidential and may not be reviewed by anyone without the student's written consent.

In addition, Student Health Service provides a Student Assistance Program (SAP) for all enrolled students and their immediate family members. This prepaid benefit is offered as a way to help our Students resolve issues that may have an impact upon their personal lives and their school performance.

The SAP provides confidential, professional assistance to full-time enrolled students and their family members to help resolve problems that are affecting their personal life or school performance. The program is managed by ENI, a nationally known professional consulting firm specializing in SAP services.

Students can contact ENI 24 hours a day, seven days a week to arrange a confidential appointment with an SAP specialist. SAP specialists have professional training and expertise in a wide range of issues such as academic problems, eating disorders, credit problems, adjusting to school, marriage and family problems, alcohol and drug abuse, emotional and psychological concerns, financial difficulties, stress and much more.

The SAP can be reached by calling (800) 327-2255 and selecting prompt #3.

Disability insurance
All students are covered by group disability insurance. A student who is completely disabled for six consecutive months is eligible to receive $500 per month benefit. Coverage increases to $1,500 per month in the third year. Individual disability policies are issued to fourth-year students, increasing the total monthly benefit to $2,000. Individual policies are portable, guaranteed issue and can be increased after graduation up to a maximum $4,700 per month benefit. Call 362-2346 for more information.

**Life insurance**

All eligible full-time students registered in the Washington University Medical School and allied professional schools are covered automatically, premium paid for by WUSM Student Health Service. An enrollment form listing your beneficiaries is required to complete enrollment. In brief, the term life insurance plan and AD&D plan for medical students and affiliated programs provided by Guardian is as follows: term life plan provides $10,000 of term life insurance and the AD&D plan $10,000 of accidental death and dismemberment protection. A detailed description of the plan is available at Student Health Services.

Upon graduation, you can convert the amount of your term life insurance to a participating whole life plan underwritten by Guardian.

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**The School of Medicine's official course catalog**

The Bulletin of Washington University School of Medicine presents the academic policies, services, and course and degree program offerings of the school. It also includes academic calendars, leadership and directories for faculty, students and staff.
Departments

Washington University School of Medicine has 20 academic departments, all of which support the School's tripartite mission of conducting outstanding patient care, education and research. The School excels applying a multidisciplinary approach to all its endeavors, allowing faculty to easily cross administrative boundaries to address medicine's biggest challenges.

For more information about the faculty, please visit Faculty at a Glance.

For more information about department research, please visit Research Activities.

For more information about departmental educational activities, please visit the departmental links at left.

Department of Anesthesiology

Anesthesiology is a medical specialty encompassing a broad range of medical and scientific activities. The clinical practice of anesthesiology includes:

1. assessment of, consultation for and preparation of patients for anesthesia and surgery;

2. provision of insensitivity to pain during surgical, obstetric, therapeutic and
diagnostic procedures;
3. monitoring and restoration of physiologic homeostasis during the perioperative period, as well as homeostasis in the critically ill or seriously injured patient;
4. diagnosis and treatment of painful syndromes; and
5. clinical management and teaching of cardiopulmonary resuscitation (CPR).

The realm of scientific investigation in anesthesiology also spans a broad range. Scientific efforts at the cellular and molecular levels are directed to understanding the molecular mechanisms of anesthesia and analgesia. Clinical research in anesthesia includes broad epidemiological approaches to identifying indicators of outcome as well as prospective clinical studies examining new technologies, anesthetic agents and methods.

The Department of Anesthesiology presents the student with the opportunity to:

1. acquire and apply pharmacologic knowledge related to anesthetic, narcotic, paralytic and sedative drugs and to drugs affecting the autonomic nervous system;
2. understand and apply the basic principles of airway management and mechanical ventilation;
3. understand and apply the principles of cardiopulmonary resuscitation;
4. understand and apply the technical skills and anatomic and pharmacologic knowledge used in performing regional nerve blocks;
5. learn and apply the fundamental principles of acute and chronic pain management; and
6. learn and apply the basic principles of critical care medicine.

Anesthesiology bridges the gap between basic science and clinical medicine. It provides experience in the clinical evaluation and management of patients, and in applied physiology and pharmacology. The Department of Anesthesiology offers
student experiences in the operating room, the intensive care unit, the pain clinic and the laboratory.

This clerkship introduces all of the basic aspects of anesthetic practice, including preoperative assessment, intraoperative anesthetic administration, placement and interpretation of invasive and noninvasive physiologic monitoring, airway management and regional anesthetic administration. Students taking this clerkship work one-on-one with attending anesthesiologists and are an integral part of the anesthetic care team. By the end of the clerkship, the student should be able to provide (under supervision) anesthesia for an uncomplicated surgical procedure. This rotation offers a unique opportunity for the student to work directly with attending physicians and to acquire fundamental skills (airway management, invasive monitoring, regional anesthesia) applicable to all aspects of acute medicine.

Students who have taken the anesthesia clerkship in the third year may elect to repeat this rotation in the fourth year. These students will be exposed to more complicated cases and techniques, and will be given increased responsibility for perioperative patient management. Students who have taken the clerkship in the third year also may elect to take an elective in the subspecialty areas of Cardiothoracic Anesthesiology, Pediatric Anesthesiology, Obstetric Anesthesiology or Anesthesia for Neurosurgery. Visit Department of Anesthesiology Courses for more information. Students taking these electives will be exposed to surgical cases of increased complexity requiring specialized invasive monitoring and anesthetic techniques.

Four-week electives are also offered in surgical critical care and cardiothoracic critical care. In these electives, the student is an integral part of the intensive care team. Students learn techniques of mechanical ventilation, hemodynamic monitoring, resuscitation and vasoactive drug treatment while managing all aspects of patients assigned to their care.

The clerkship in pain management offers the student the opportunity to participate in comprehensive, multidisciplinary management of acute, chronic and cancer pain problems. Students will be expected to assist in the care of both inpatients and
outpatients. Students will learn fundamental aspects of pain management, which should provide the knowledge with which to manage routine acute and cancer pain in their subsequent practice.

Special electives in basic science research as it applies to anesthesiology can be arranged with the principal investigators in the Department of Anesthesiology, in the Anesthesiology Research Unit and the Washington University Pain Center under the direction of Rob Gereau, PhD or the Division of Clinical and Translational Research under the direction of Evan Kharasch, MD, PhD.

These laboratories focus on various aspects of molecular neurobiology, including ion channel structure and function; G-protein molecular biology; molecular mechanisms of volatile anesthetic action; genetics of anesthetic responsiveness; and the molecular, cellular and genetic basis of acute and chronic pain. Arrangements for these special electives are made through the specific investigators: Walter A. Boyle III, MD; Zhou-Feng Chen, PhD; Alex S. Evers, MD; Narasimhan Gautam, PhD; Richard S. Hotchkiss, MD; Christopher J. Lingle, PhD; Joseph H. Steinbach, PhD; Michael Bruchas, PhD; Yu-Qing Cao, PhD; or Robert W. Gereau, PhD. In addition, opportunities exist for clinical research in the Clinical Research Division, under the direction of Evan Kharasch, MD. PhD.

For more information

Please visit the Department of Anesthesiology website for more information.

MD Courses - Anesthesiology

Fourth year
 Electives

M10 805 ANESTHESIOLOGY
Instructor(s): Jake Aubuchon, MD; Tracey Stevens, MD; and Thomas Cox, MD
Location: Barnes-Jewish Hospital, South Campus; Department of Anesthesiology, Third Floor
Elective Contact: Maurice Rackley, 314-362-2446
Other Information: Please contact the department student secretary, Maurice Rackley, 314-362-2446 prior to the elective for specific instructions. Students should meet in the Clinical Simulation Center, 3rd floor Barnes-Jewish Hospital Service Building, 8:30 a.m. first day of elective.
Enrollment limit per period: 2
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This clinical elective is designed to familiarize the student with basic aspects of anesthesiology practice. The primary teaching method is patient care in a clinical setting (one-on-one). The student will learn the basics of preoperative evaluation of surgical patients, the use of intraoperative monitoring in patient management and postoperative care. During the 4 week rotation, the student will learn airway management skills, practical perioperative fluid and electrolyte therapy, along with general and regional anesthetic techniques. As an integral part of the anesthesia care team, the student will participate actively in the anesthetic management of surgical patients. The student’s specific requests to be assigned to certain types of cases will be honored as time and availability dictate. The rotation will include 3 clinical simulator sessions using a simulator mannequin for practical management of airway problems, resuscitation and trauma emergencies. By the end of the rotation, the student should be able to independently (under supervision) provide anesthesia for uncomplicated surgical procedures. NOTE: Presence and participation in the three Friday Simulator Sessions and the Presentation on the last day of the rotation are required to receive a grade. If there is a conflict with attendance, prior arrangements can be made to accommodate the student.

Student time distribution: Inpatient 85%, Conferences/Lectures 15%; Subspecialty Care
Major teaching responsibility: Jake Aubuchon, MD
Patients seen/weekly: 15

On call/weekend responsibility: Medical students are required to take one call shift during their rotation, either in the main operating rooms or in the obstetrical suite any evening or weekend during the rotation.

M10 811 CARDIOTHORACIC ANESTHESIOLOGY
Instructor(s): Rashmi Rathor, MD, 314-362-5111
Location: Barnes-Jewish Hospital, South Campus
Elective Contact: Lydia Swink, 314-362-1196
Other Information: Students should meet at the offices of the Division of Cardiothoracic Anesthesia, 3rd Floor Barnes-Jewish Service Building, 9:30 a.m. first day of elective.
Enrollment limit per period: 2
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This clinical elective offers practical experience in the perioperative assessment and management of surgical patients undergoing cardiothoracic procedures. The student, as an integral part of the cardiothoracic anesthesia team that is composed of faculty members, fellows and residents, will learn basic principles of airway management and lung ventilation, essential aspects of pharmacologic treatment of hemodynamic abnormalities and cardiac dysrhythmias, and management of intraoperative coagulation disturbances. Emphasis will be placed on the interpretation of intraoperative hemodynamic data, echocardiographic finding (TEE), and laboratory results. During this rotation, the student will also gain practical experience in endotracheal intubation as well as the placement of intravenous lines and invasive monitoring lines, including radial artery and pulmonary artery catheters. Students will learn how to use these parameters in clinical decision making during anesthesia. At the conclusion of the rotation, the student will have a better understanding of invasive monitoring and data interpretation, as well as a more systematic approach to the
management of intra- and post-operative hemodynamic, pulmonary and coagulation abnormalities. The students are expected to attend the didactic sessions of CTA and the Department of Anesthesiology. A presentation will be assigned.

Student time distribution: Inpatient 100%; Subspecialty Care 100%
Major teaching responsibility: Rashmi Rathor, MD
Patients seen/weekly: 15
On call/weekend responsibility: None

M10 812 PEDIATRIC ANESTHESIA
Instructor(s): Kelly Chilson, MD; Gary Hirshberg, MD; Tessa King, MD; and David Murray, MD, 314-454-6215
Location: 5th Floor, St. Louis Children’s Hospital
Elective Contact: Kelly Chilson, MD, 314-454-6215, John McAllister, MD
Other Information: Students should contact Samantha Gurney, 314-454-4572, one week prior to the start of the elective.
Enrollment limit per period: 3
Valid start weeks for 4-week blocks are: Weeks 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This clinical elective is designed to teach the theory and practice of pediatric anesthesiology and pain management. It features individualized instruction with faculty who specialize in the perioperative care of pediatric patients. The elective consists of four weeks of active participation with pediatric anesthesiologists at St. Louis Children’s Hospital and St. Louis Shriners Hospital learning preanesthetic assessment, the performance of routine anesthetics (which includes instruction and practice in pediatric airway skills), learning other technical skills such as intravenous line placement and the management of post-anesthesia care and pain therapies. The final week may be tailored to meet the student’s individual interests, needs and career goals. Possibilities include exposure to sedation and anesthesia for procedures outside of the operating rooms, and to subspecialties including cardiovascular anesthesia, neurosurgical anesthesia, and acute and chronic pediatric pain management. Students also will have an opportunity to learn the management of some common medical emergencies in the Clinical Simulation Center.
Student time distribution: Inpatient Surgery 5%, Outpatient Surgery 80%, Conferences/Lectures 15%; Subspecialty Care 100%

Major teaching responsibility: Attending, fellows and senior anesthesiology residents; students will generally spend most of each day with a single attending or senior anesthesiology trainee (fellow or resident).

Patients seen/weekly: 25

On call/weekend responsibility: None

**M10 819 CARDIOTHORACIC CRITICAL CARE**

Instructor(s): Charl de Wet, MD, Course Master; Michael Avidan, MD; Keki Balsara, MD; Heidi Coco, DO; Julianne Donnelly, MD; Daniel Emmert, MD; TJ Graetz, MD; Mohammad Helwani, MD; Faraz Masood, MD; Clare Ridley, MD, and Adnan Sadiq, MD

Location: Barnes-Jewish Hospital, Southwest Tower

Elective Contact: Maureen Arends, 314-747-4155

Other Information: Students should meet in the Cardiothoracic Intensive Care Unit, 5600 ICU, 5th Floor Southwest Tower Physician Workroom, 6:30 a.m. first day of elective.

Enrollment limit per period: 3

Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This clinical elective offers practical experience in the postoperative management of cardiothoracic patients. The student will be fully integrated into the intensive care team and have the opportunity to contribute to the management of critically ill patients. Students will be afforded the opportunity to follow specific patients over the course of their stay on the ICU, during which time they will gain insight into holistic management of patients with multi-organ dysfunction. The CTICU environment is both challenging and exciting. Cardiorespiratory physiology and pharmacology will be demonstrated at the patients’ bedside, an invaluable and unforgettable learning experience. Students will have numerous opportunities to learn and sometimes assist with procedures, such as central lines, chest tubes, bronchoscopy and pulmonary artery catheter insertion. Principles of management and resuscitation of hemodynamically unstable patients following surgery will be emphasized. Students
will also see and help manage patients on ventricular assist devices, ECMO and following heart and lung transplantation. At the conclusion of the rotation, the student will have a better understanding of shock, sepsis, multi-organ failure, organ system support and compassionate withdrawal of life support. In addition to bedside teaching, there will be informal teaching sessions on a wide variety of topics as well as teaching on interpreting cardiac echo exams. Students will be encouraged to present on their patient at morning ward rounds, during which constructive feedback and interactive teaching will occur. Students will present on a topic related to one of their patients at the end of the block.

Student time distribution: Inpatient 100%; Subspecialty Care 100%
Major teaching responsibility: CTICU attendings
Patients seen/weekly: 21
On call/weekend responsibility: During the 4-week rotation, you are asked to take a weekday call (day of your choice). You will come in at 4:00 p.m. and leave the next morning after you have presented your patients on morning rounds. In addition during the 4-weeks rotation, you are asked to take a weekend call (again your choice) Saturday or Sunday shift 6:00 a.m. to 7:00 p.m.

M10 820 CRITICAL CARE
Instructor(s): Heidi Coco, DO, Course Master, 314-362-1196; Enyo Ablordeppey, MD; Chukwuma Apakama, MD; Walter Boyle, MD; Grant Bochicchio, MD; Sara Buckman, MD; Julianne Donnelly, MD; Eleanor Drew, MD; Anne Drewry, MD; Stephen Eaton, MD; Daniel Emmert, MD; Alex Evers, MD; Brian Fuller, MD; Thomas J. Graetz, MD; Mohammad Helwani, MD; Richard Hotchkiss, MD; Kareem Husain, MD; Obeid Ilahi, MD; Jacob Keeperman, MD; Paul Kerby, MD; Justin Knittel, MD; John Kirby, MD; John Mazuski, MD; Tiffany Osborn, MD; Christopher Palmer, MD; Patricia Penkoske, MD; Clare Ridley, MD; Adnan Sadiq, MD; Doug Schuerer, MD; William Symons, MD; Isaiah Turnbull, MD; Jessica Zenga, MD; Brian Wessman, MD
Location: Barnes-Jewish Hospital, South Campus
Elective Contact: Barbara McKinney, 314-747-3581
Other Information: Students should meet in the 4400 Surgical Intensive Care Unit, 4th Floor of Barnes-Jewish Hospital at 7:00 a.m. on the first day of the elective.
Enrollment limit per period: 4
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Students on this rotation are integral members of the multidisciplinary intensivist-led critical care team in the Surgical Intensive Care Unit (SICU). Students learn an organ systems-based approach for evaluation and management of critically ill and injured patients, and application of evidence-based principles in delivery of state-of-the-art critical care. Emphasis is placed on critical care knowledge and techniques used at the bedside in the clinical management of serious traumatic and surgical conditions. Students become familiar with resuscitation and cardiopulmonary support, including methods for non-invasive and invasive hemodynamic monitoring, and techniques for airway management and pulmonary support in respiratory failure. Basic knowledge and skills in the management of neurologic injuries, liver and/or renal failure, and life-threatening infections in the surgical patient are also taught, as is the importance of treatments to alleviate anxiety and pain, maintain fluid and electrolyte balance, and provide adequate nutrition. Practical experience is gained in placement of vascular access devices, interpretation of laboratory data, and use of guidelines, protocols and quality assurance tools in the management of critically ill patients.

Student time distribution: Inpatient 80%, Conferences/Lectures 20%; Subspecialty Care 100%
Major teaching responsibility: ICU Attendings and Fellows
Patients seen/weekly: 50
On call/weekend responsibility: Variable

M10 821 PAIN MANAGEMENT
Instructor(s): Folasade Oladapo, MD, 314-747-0202
Location: Barnes-Jewish Hospital, South Campus
Elective Contact: Folasade Oladapo, MD, 314-747-0202, oladapof@anest.wustl.edu
Other Information: Students should report to 14th Floor CAM Building, 8:00 a.m. first
day of elective.
Enrollment limit per period: 1
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Acute pain is the most common symptom of medical illness and is ubiquitous after major surgery. Chronic pain is the leading cause of worker disability. Severe pain afflicts most people with advanced cancer. Learning the fundamentals of pharmacologic, interventional, and multidisciplinary pain management is important for all areas of clinical medicine. Rotation is based at Barnes-Jewish Hospital with focus adjusted to meet student's interest and career plans.

Student time distribution: Inpatient 30%, Outpatient 60%, Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attendings
Patients seen/weekly: 70
On call/weekend responsibility: No on-call responsibility

M10 822 ANESTHESIA FOR NEUROSURGERY
Instructor(s): René Tempelhofer, MD, 314-362-2330 and M. Angele Theard, MD, 314-362-1460
Location: Barnes-Jewish Hospital, South Campus
Elective Contact: René Tempelhofer, MD, 314-362-2330
Other Information: Students should meet on 3rd Floor Barnes-Jewish Hospital, South Campus, Department of Anesthesiology, 7:00 a.m. first day of elective. Enrollment limit per period: 1
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Students will help care for patients having challenging neurosurgical procedures. Students will become familiar with complex procedures, brain monitoring, cardiovascular support and airway management and will be exposed to all kinds of neurosurgical pathology. Student must be prepared to participate in the intricate anesthetic management of patients undergoing surgery in our novel intraoperative
MRI rooms. For those interested, clinical research projects are ongoing and student participation is encouraged.

Student time distribution: Inpatient 80%, Conferences/Lectures 20%; Subspecialty Care 100%
Major teaching responsibility: Attending, fellow, and senior resident
Patients seen/weekly: 8
On call/weekend responsibility: None

M10 823 OBSTETRICAL ANESTHESIA
Instructor(s): Swarup Varaday, MD, 314-362-6252
Location: Barnes-Jewish Hospital, South Campus
Elective Contact: Swarup Varaday, MD, 314-362-6252 or 314-362-2628
Other Information: Students should report to 5400 Labor and Delivery, 7:00 a.m. first day of elective. Enrollment limit per period: 1
Valid start weeks for 2 or 4-week blocks are: Weeks 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, and 43.

The medical students will learn the different analgesia/anesthetic options for the labor patient. They will also learn how the physiological adaptations of pregnancy influence anesthetic management. They will be actively involved in the parturient's management, i.e., starting an IV, placement of spinal, epidural or CSE (combined spinal epidural) anesthetics. They will also attend the OB anesthesia conferences and interview patients in labor (with an OB anesthesia attending).

Student time distribution: Inpatient 90%, Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attending, Senior Resident
Patients seen/weekly: 20
On call/weekend responsibility: None (optional)
Faculty — Anesthesiology

Alex S Evers, Henry E Mallinckrodt Professor of Anesthesiology (primary appointment)
Head of the Department of Anesthesiology
Professor of Developmental Biology
Professor of Medicine
BS Yale University 1974

Enyo Ama Ablordeppey, M PH, MD, Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Emergency Medicine in Medicine
M PH University of Pittsburgh 2007
MD University of Pittsburgh 2007

Sirajuddin Agha, Assistant Professor of Anesthesiology (primary appointment)
Gustav Akk, PHD, Assistant Professor of Anesthesiology (primary appointment)
BS Moscow State University 1991
PHD State Univ of NY Buffalo 1997

Ream Al-Hasani, PHD, Instructor in Anesthesiology (primary appointment)
PHD University of Surrey 2009

Umeshkumar Athiraman, MD, Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)
MD M.G.R. Medical University 2013

Jacob D AuBuchon, Assistant Professor of Anesthesiology (primary appointment)
Michael Simon Avidan, MBBCH, Professor of Anesthesiology (primary appointment)
Professor of Surgery (Cardiothoracic Surgery)
MBBCH University of the Witwatersra 1991

Arbi Ben Abdallah, PHD, Assistant Professor of Anesthesiology (primary appointment)
PHD Washington Univ in St. Louis 2011

George Richard Benzinger III, MD, Associate Professor of Anesthesiology (primary appointment)
MD University of Chicago 2000

Adam J. Bloom, PHD, Assistant Professor of Psychiatry (primary appointment)
Assistant Professor of Anesthesiology
PHD Washington Univ in St. Louis 2006

Laila M Bottros, MD, Assistant Professor of Anesthesiology (primary appointment)
MD Ain Shams University 1977

Michael M Bottros, Assistant Professor of Anesthesiology (primary appointment)
Walter A Boyle III, MD, Professor of Anesthesiology (primary appointment)
Assistant Professor of Developmental Biology
Professor of Surgery (General Surgery)
MD University of CA San Francisco 1977

Sarah Michelle Brown, Assistant Professor of Pediatrics (primary appointment)
Assistant Professor of Pathology and Immunology
Instructor in Anesthesiology

Michael Raymond Bruchas, PHD, Associate Professor of Anesthesiology (primary appointment)
Associate Professor of Neuroscience
PHD Creighton University 2004
Yuqing Cao Associate Professor of Anesthesiology (primary appointment)
Laura Francesca Cavallone Associated Professor of Anesthesiology (primary appointment)
Zhao Feng Chen Professor of Anesthesiology (primary appointment)
Professor of Psychiatry
Ziwei Chen, PHD, MS, MBBS Assistant Professor of Anesthesiology (primary appointment)
PHD Peking University 2001
MS Dalian Medical University 1998
MBBS Dalian Medical University 1995
Kelly Lynne Chilson, MD Associate Professor of Anesthesiology (primary appointment)
MD University of MO St Louis 1999
Heidi Atwell Coco, DOST Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
BS Truman State University 2000
DOST Kirksville College of Osteopat 2005
Albert Murray Cohen, MD Assistant Professor of Anesthesiology (primary appointment)
MD Baylor University 1977
Zachary Robert Cohen, MD Assistant Professor of Anesthesiology (Pending Executive Faculty Approval) (primary appointment)
MD University of Illinois 2010
Douglas Floyd Covey, MA Professor of Pharmacology in Developmental Biology (primary appointment)
Professor of Anesthesiology
Professor of Psychiatry
BS Loyola College 1967
MA Johns Hopkins University 1969
Thomas E Cox, MD Professor of Anesthesiology (primary appointment)
BA Johns Hopkins University 1981
MD University of Virginia 1985
Sarah Marie Dance, MD Instructor in Anesthesiology (primary appointment)
MD Univ of Nebraska Med Center 2009
Bakul Dave, MD Assistant Professor of Anesthesiology (primary appointment)
MD1 University of Toledo 1997
MD BJ Medical College 1984
Victor G Davila-Roman, MD Professor of Medicine (primary appointment)
Professor of Radiology
Professor of Anesthesiology
MD University of Puerto Rico 1981
BS University of Puerto Rico 1977
Charl Johan De Wet Associate Professor of Anesthesiology (primary appointment)
Associate Professor of Surgery (Cardiothoracic Surgery)
George J Despotis Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Anesthesiology
BA Greenville College 1981
Michael N Diringer, MA MD Professor of Neurology (primary appointment)
Professor of Anesthesiology
Professor of Occupational Therapy
Professor of Neurological Surgery
MA University of Louisville 1978
MD University of Kentucky 1982

Julianne Elizabeth Donnelly, MD Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
MD University of Kansas 2009

Anne Meredith Drewry, MD Assistant Professor of Anesthesiology (primary appointment)
MD Washington Univ in St. Louis 2006

Julie Kosto Drobish, MD Assistant Professor of Anesthesiology (Pending Executive Faculty Approval) (primary appointment)
BS Pennsylvania State University 2006
MD Washington Univ in St. Louis 2009

Nicole Marie Durko, DOST Assistant Professor of Anesthesiology (primary appointment)
DOST Midwestern University 2001
BS St Xavier University 1995

Daniel Emmert, MD Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
MD Saint Louis University 2005

James J Fehr Ill Professor of Anesthesiology (primary appointment)
Professor of Pediatrics
Steven Edward Feit, MD Assistant Professor of Anesthesiology (primary appointment)
MD University of MO Columbia 1982
BA Indiana State University 1978

Beverly J. Field, PHD, B MUS Associate Professor of Anesthesiology (primary appointment)
Associate Professor of Psychiatry
BA University of MO Columbia 1987
PHD Washington Univ in St. Louis 1993
B MUS Southern Illinois University 1972

Mitchell Evan Fingerman, MD Assistant Professor of Anesthesiology (primary appointment)
MD University of Connecticut 2004

Rosemary Foster, MD Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)
MD Saint Louis University 2013

David Alan Friedman, MD Assistant Professor of Anesthesiology (primary appointment)
BS University of Kansas 1981
MD University of Kansas 1985

Brian M Fuller, MD Assistant Professor of Emergency Medicine in Medicine (primary appointment)
Assistant Professor of Anesthesiology
Assistant Professor of Anesthesiology
MD University of Alabama 2003
BA University of Alabama 1998

Narasimhan Gautam, MS, PHD Professor of Anesthesiology (primary appointment)
Professor of Genetics
MS School Not Listed 1979
BS School Not Listed 1977
PHD University of Bombay 1985

Preeta George Instructor in Anesthesiology (primary appointment)
Robert W Gereau, PHD Dr Seymour and Rose T Brown Professor of Anesthesiology (primary appointment)

Professor of Neuroscience
PHD Emory University 1995
BS Southwest Missouri St University 1991

Erin A Gibbons Assistant Professor of Anesthesiology (primary appointment)

Jason R Gillihan, MD Assistant Professor of Anesthesiology (primary appointment)
MD Southern Illinois University 2006

Yehuda Ginosar, MD Professor of Anesthesiology (primary appointment)
MD University of London 1986

Thomas James Goblirsch, MD Assistant Professor of Anesthesiology (primary appointment)
MD Loyola University Chicago 1985
BS University of Notre Dame 1980

Judith P Golden, PHD Assistant Professor of Anesthesiology (primary appointment)
PHD Saint Louis University 1994
BS Hofstra University 1984

Vivian Maria Gonzalez-Perez, PHD Instructor in Anesthesiology (primary appointment)
PHD University of Valparaiso 2009

Thomas J Graetz, MD Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
MD Saint Louis University 2005

Barry A Graff, MD Assistant Professor of Anesthesiology (primary appointment)
BA Macmurray College 1973
MD Saint Louis University 1976

Russell J.I. Groener, MBCHB Associate Professor of Anesthesiology (primary appointment)
MBCHB University of Cape Town 1983

Anthony Herbert Guarino, MA, MD Associate Professor of Anesthesiology (primary appointment)
MA Yale University 1988
MD University of Maryland 1992
BA Yale University 1986

Ryan C Guffey, MD Assistant Professor of Anesthesiology (primary appointment)
MD Wayne State University 2007

Duncan Lee Hamilton, MD Instructor in Anesthesiology (primary appointment)
MD University of Nottingham 1992

Edward B. Han, PHD Assistant Professor of Neuroscience (primary appointment)
Assistant Professor of Anesthesiology
PHD University of CA San Diego 2004
BS Cornell University 1995

Charles B Hantler, MA, MD Professor of Anesthesiology (primary appointment)
MA Davenport University 1973
MD Davenport University 1977
BS Davenport University 1971

Simon Haroutounian, PHD, MA Assistant Professor of Anesthesiology (primary appointment)
PHD Hebrew University 2011
MA Hebrew University 2005

Jason M Held, PHD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Anesthesiology
PHD University of San Francisco 2006
BS Duke University 2001
Daniel Luke Helsten, MD
Associate Professor of Anesthesiology (primary appointment)
MD University of Kentucky 2001
BS University of Kentucky 1997
Mohammad Anas Helwani, MD
Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
MD Damascus University 1998
Robert E Herold, MD
Assistant Professor of Anesthesiology (primary appointment)
BA Wabash College 1970
MD Washington Univ in St. Louis 1974
Gary E Hirshberg, MD
Professor Emeritus of Anesthesiology (primary appointment)
BA Princeton University 1968
MD Hahnemann University 1972
Richard S Hotchkiss
Professor of Anesthesiology (primary appointment)
Professor of Surgery (General Surgery)
Professor of Developmental Biology
Professor of Medicine
Hawpeng Stephen Hsu, MS, MD
Assistant Professor of Anesthesiology (primary appointment)
BA Georgia St University 1991
MS Emory University 1993
MD Taipei Medical University 1983
Hongzhen Hu, PhD
Associate Professor of Anesthesiology (primary appointment)
PHD Ohio State University 2004
Rocco Hueneke
Assistant Professor of Anesthesiology (primary appointment)
Catherine Ifune, MD, PhD
Associate Professor of Anesthesiology (primary appointment)
MD Washington Univ in St. Louis 1997
PHD Washington Univ in St. Louis 1990
BS California Institute Technolo 1985
Susan Allison Ironstone, MD
Assistant Professor of Anesthesiology (primary appointment)
MD Tel-Aviv University 2009
Selma E.h.o. Ishag, PhD, MD
Assistant Professor of Anesthesiology (primary appointment)
PHD University of Khartoum 1996
MD University of Khartoum 1987
Daniel Thomas Kane, MD
Assistant Professor of Anesthesiology (primary appointment)
MD Washington Univ in St. Louis 1989
Ivan M Kangrga, MD
Professor of Anesthesiology (primary appointment)
MD University of Belgrade 1982
Menelaos Karanikolas, MD
Associate Professor of Anesthesiology (primary appointment)
MD Athens University Med School 1988
Jacob Brian Keeperman, MD
Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Emergency Medicine in Medicine
MD Loyola University Chicago 2006
Rainer Kentner, MD
Assistant Professor of Anesthesiology (primary appointment)
MD University of Tuebingen 1987
Paul William Kerby, MBBS
Assistant Professor of Anesthesiology (primary appointment)
BS King's College London 2001
MBBS King's College London 2004
Nicholas Kessides, MD
Instructor in Anesthesiology (primary appointment)
Evan David Kharasch, PHD  Russell and Mary Shelden Professor of Anesthesiology (primary appointment)
Professor of Biochemistry and Molecular Biophysics
PHD Northwestern University Med 1983

Shahrdad Khodamoradi, MD  Assistant Professor of Anesthesiology (primary appointment)
MD Washington Univ in St. Louis 1990

Brian Kim, MD  Assistant Professor of Medicine (Dermatology) (primary appointment)
Assistant Professor of Anesthesiology
Assistant Professor of Pathology and Immunology
MD University of Washington 2007
BS Haverford College 2001

Tessa Marie King, MD  Assistant Professor of Anesthesiology (primary appointment)
MD University of Kansas 1997
MD1 University of Kansas 1997
BA School Not Listed 1993

Justin Knittel  Assistant Professor of Anesthesiology (primary appointment)

Helga Komen  Instructor in Anesthesiology (primary appointment)

Joseph F Kras, DDENT, MD  Associate Professor of Anesthesiology (primary appointment)
DDENT Loyola University Chicago 1982
MD Hahnemann University 1991

Catherine P Krucylak, MD  Assistant Professor of Anesthesiology (primary appointment)
BA Rutgers University 1982
MD U Medical-Dental Of New Jersey 1986

Hing Hung H Lai, MD  Associate Professor of Surgery (Urologic Surgery) (primary appointment)
Associate Professor of Anesthesiology
MD Cornell University 1999

Anand Lakshminarasimhachar, MBBS  Assistant Professor of Anesthesiology (primary appointment)
MBBS Bangalore University 1994

Chakrapol Lattanand, MD  Assistant Professor of Anesthesiology (primary appointment)
MD Hahnemann University 2000

Chris Cheng-Fu Lee, PHD, MD  Associate Professor of Anesthesiology (primary appointment)
PHD Beijing Medical University 1991
MD Hubei Medical University 1985

Christopher J Lingle  Professor of Anesthesiology (primary appointment)
Professor of Neuroscience
BS University of Oregon 1972

Qianjin Liu, MD, PHD  Assistant Professor of Anesthesiology (primary appointment)
MD Nanjing Medical University 1983
PHD Saint Louis University 1997

Qin Liu, PHD  Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Ophthalmology and Visual Sciences
PHD Chinese Academy of Sciences 2004
BS Wuhan University 1998

Ellen M Lockhart  Professor of Anesthesiology (primary appointment)
Vice Chairman of Anesthesiology

Tanying Mao, MD  Instructor in Anesthesiology (primary appointment)
MD Baylor College of Medicine 2010

**John D McAllister, MD**

Professor of Anesthesiology (primary appointment)

Professor of Pediatrics

MD University of Manitoba 1980
BS University of Manitoba 1982

Molly Ann McCormick

Assistant Professor of Anesthesiology (primary appointment)

Heather McKenzie

Assistant Professor of Anesthesiology (primary appointment)

**Konrad Meissner, MBBS**

Adjunct Instructor in Anesthesiology (primary appointment)

MBBS University of Leipzig 1998

**Sara Hargarten Mesick, MD**

Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)

MD Washington Univ in St. Louis 2012

Durga Prasanna Mohapatra, PHD

Associate Professor of Anesthesiology (primary appointment)

PHD University of Erlangen 2011

Robert Paul Moore, MD

Assistant Professor of Anesthesiology (primary appointment)

MD Washington Univ in St. Louis 2004

Jose Moran-Concepcion, PHD

Associate Professor of Anesthesiology (primary appointment)

Associate Professor of Neuroscience

PHD University of Barcelona 1998

**Jeremiah J Morrissey, PHD**

Professor of Anesthesiology (primary appointment)

PHD Saint Louis University 1974
BA Macmurray College 1969

David J Murray, MD

Carol B. and Jerome T. Loeb Professor of Anesthesiology (primary appointment)

MD University of Saskatchewan 1978
BS University of Saskatchewan 1973

Peter Nagele

Associate Professor of Anesthesiology (primary appointment)

Associate Professor of Genetics

Joan M Niehoff, MD

Associate Professor of Anesthesiology (primary appointment)

MD University of MO Columbia 1982
BA University of MO Kansas City 1982

Carl Helge Nielsen, MD

Professor of Anesthesiology (primary appointment)

MD University of Copenhagen 1979

Daniel C Nieva, MD

Assistant Professor of Anesthesiology (primary appointment)

MD University of Iowa 2003

Sydney Marie Nykiel-Bailey

Assistant Professor of Anesthesiology (primary appointment)

BS Saint Louis University 2001

Patrick Ross O’Neill

Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)

Folasade Oladapo, MD

Assistant Professor of Anesthesiology (primary appointment)

MD U Medical-Dental Of New Jersey 2008

Ben Julian Palanca

Assistant Professor of Anesthesiology (primary appointment)

BS University of Washington 1997

Chris M Palmer, MD

Assistant Professor of Anesthesiology (primary appointment)

Assistant Professor of Emergency Medicine in Medicine

BS Virginia Tech 2004

MD SUNY - Empire State College 2008

Patricia A. Penkoske

Instructor in Anesthesiology (primary appointment)
Mitchell R Platin, MD  Assistant Professor of Anesthesiology (primary appointment)

Adrianne Rae Poe, PhD  Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)

Debra D Pulley, MD, MME  Associate Professor of Anesthesiology (primary appointment)

Carlos Angel Puyo, MD  Assistant Professor of Anesthesiology (primary appointment)

Lesley Kathryn Rao, MD  Assistant Professor of Anesthesiology (primary appointment)

Rashmi R Rathor, MD  Assistant Professor of Anesthesiology (primary appointment)

Jebadurai Ratnaraj, MD  Assistant Professor of Anesthesiology (primary appointment)

Eduardo Reina, MD  Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)

Micheal Todd Rice, MD  Assistant Professor of Anesthesiology (primary appointment)

Clare H Ridley, MD  Assistant Professor of Anesthesiology (primary appointment)

Evan Ward Roller, MD  Assistant Professor of Anesthesiology (Pending Executive Faculty Approval) (primary appointment)

Adnan Sadiq, MD  Assistant Professor of Anesthesiology (primary appointment)

Angela K Saettele, MD  Assistant Professor of Anesthesiology (primary appointment)

Charles R Schrock, MD  Associate Professor of Anesthesiology (primary appointment)

James Serot  Assistant Professor of Anesthesiology (primary appointment)

Rajiv K Shah, MD  Assistant Professor of Anesthesiology (Pending Executive Faculty Approval) (primary appointment)

Sonia Malhotra Shahrawat, MD  Instructor in Anesthesiology (primary appointment)

Anshuman Sharma, MD  Professor of Anesthesiology (primary appointment)
Andrew John Shepherd, PhD  Instructor in Anesthesiology (primary appointment)
PHD University of Manchester 2006

John Charles Spitler, MD  Assistant Professor of Anesthesiology (primary appointment)
BS University of MO Columbia 1998
MD University of MO Columbia 2003
Tracey Wagner Stevens  Assistant Professor of Anesthesiology (primary appointment)

Robert A Swarm  Professor of Anesthesiology (primary appointment)
Martha Zorko Szabo  Assistant Professor of Anesthesiology (primary appointment)

Rene Tempelhoff, MD  Professor of Anesthesiology (primary appointment)
Professor of Neurological Surgery
MD University of Lyon 1974

Raghu P Terkonda, MD  Assistant Professor of Anesthesiology (primary appointment)
MD University of MO Columbia 1987
BS University of MO Columbia 1983

Marie Angele Theard, MD  Assistant Professor of Anesthesiology (primary appointment)
MD University of Illinois 1989

Andrea Vannucci, MD  Associate Professor of Anesthesiology (primary appointment)
MD University of Milan 1989

Swarup Varaday, MBBS  Assistant Professor of Anesthesiology (primary appointment)
MBBS Andhra University 1989

Gershon Ram Volotzky, MD  Assistant Professor of Anesthesiology (primary appointment)
MD Tel-Aviv University 1979

Ashley Brooke Weinhold, MD  Instructor in Anesthesiology (primary appointment)
MD University of Arkansas 2011

Timothy P Welch, MD  Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Pediatrics
MD University of Cincinnati 2004

Brian T Wessman, MD  Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Emergency Medicine in Medicine
MD Commonwealth College 2005
BS College of William and Mary 2000

Troy S Wildes, MD  Associate Professor of Anesthesiology (primary appointment)
BS Illinois Wesleyan University 1998
MD Washington Univ in St. Louis 2002

Anke Christiane Winter, MD, MS  Assistant Professor of Surgery (Public Health Sciences) (primary appointment)

Assistant Professor of Anesthesiology
MD RWTH Aachen University, 2006
MS Harvard University 2010

Brett D Wolff, MD  Associate Professor of Anesthesiology (primary appointment)
BA Indiana University Bloomington 1981
MD Indiana University Bloomington 1985

Xiaoming Xia, PhD  Assistant Professor of Anesthesiology (primary appointment)
BS Fudan University 1984
PHD Vollum Institute OHSU 1998

Branden Edward Yee, MD  Assistant Professor of Anesthesiology (primary appointment)
BS Tufts University 2004
MD Tufts University 2008
Xiaobin Yi, MD\textbf{Associate Professor of Anesthesiology} (primary appointment)
MD Hunan Medical University 1985
Alexander H Young, MD\textbf{Assistant Professor of Anesthesiology} (primary appointment)
MD University of Arkansas 1990
BA University of Mississippi 1986
Anna Rebecca Young\textbf{Assistant Professor of Anesthesiology} (primary appointment)
Paul Battista Zanaboni, PHD, MD\textbf{Associate Professor of Anesthesiology} (primary appointment)
PHD Saint Louis University 1990
MD Saint Louis University 1992
Jessica Ann Zenga, MD\textbf{Assistant Professor of Anesthesiology} (primary appointment)
MD Saint Louis University 2006
Yu Zhou, PHD, MS\textbf{Instructor in Anesthesiology} (primary appointment)
PHD State Univ of NY Buffalo 2005
MS Zhejiang Medical University 1999
BS Wuhan University 1996
No entries found

\section*{Department of Biochemistry and Molecular Biophysics}

The faculty of the Department of Biochemistry and Molecular Biophysics perform research in a broad spectrum of biomedically relevant areas, including DNA and RNA structure and enzymology; protein folding, misfolding and aggregation; cellular mechanics, membrane receptor-mediated signaling, and hemostasis, thrombosis and vascular biology. The Department offers training opportunities at the crossroads of biochemistry, biophysics, systems biology, computational science and pharmacological sciences.

The Department's approaches to research often focus on understanding the energetics, structure and mechanisms of biological processes. Investigators employ a variety of experimental methods such as X-ray crystallography, NMR, optical spectroscopy, thermodynamics and rapid kinetics, in combination with computational
approaches, to unravel the molecular underpinnings of processes of relevance to health and disease. Novel single-molecule methods are providing new insight into the molecular details of enzyme mechanisms and macromolecule dynamics. High-throughput screening of chemical libraries and synthetic medicinal chemistry to develop small molecule probes of biological systems provide new avenues for translational research and the development of experimental therapeutics.

The faculty in the Department organize and teach basic science courses in the medical school curriculum, including The Molecular Foundations of Medicine course. In the graduate school curriculum, the faculty teach courses in Nucleic Acids and Protein Synthesis (Bio 548), Chemistry and Physics of Biological Molecules (Bio 5357), and Macromolecular Interactions (Bio 5312). The overarching theme of these courses is to understand the principles of the molecular interactions that underlie the biological process of health and disease. Students in the School of Medicine and the Graduate School of Arts & Sciences are eligible for these courses and may elect to pursue biomedical research under the direction of our faculty. A full listing of advanced courses topics can be found at biochem.wustl.edu/studentinfo/courses.

**For more information**

Please visit the Department of Biochemistry and Molecular Biophysics website for more information.

**MD Courses — Biochemistry and Molecular Biophysics**

**First year**
M15 502 MOLECULAR FOUNDATIONS OF MEDICINE
Instructor: Linda J. Pike, PhD, 362-9502
This course is designed primarily for medical students and will cover fundamental aspects of biochemistry and cell biology. The course begins with a treatment of protein structure and the principles of enzyme kinetics. This leads to a description of the basic pathways for the synthesis and metabolism of carbohydrates and lipids, with a focus on how the body maintains glucose homeostasis and provides energy under various metabolic stresses. This leads into a discussion of membrane structure and the function of cellular organelles in biological processes, culminating in the replication of DNA and the control of cell proliferation. Non-medical students should register under L41 (Bio) 5319. Please note that Molecular Foundations of Medicine runs on the medical school calendar and thus starts on August 16.

Fourth year

Electives

Descriptions of the elective courses are listed under the Division of Biology and Biomedical Sciences. In some instances, these courses are offered in alternate years. The faculty member in charge of the course should be contacted for specific times.

L41 (Bio) 5312 MACROMOLECULAR INTERACTIONS
L41 (Bio) 5318 DNA REPAIR
L41 (Bio) 5357 CHEMISTRY AND PHYSICS OF BIOLOGICAL MOLECULES
L41 (Bio) 548 NUCLEIC ACID AND PROTEIN BIOSYNTHESIS

Note — The number preceding the course title indicates that the course carries credit in the Graduate School of Arts & Sciences.
We are developing a new way to sequence DNA, under the “$1000 Genome Project”. This project involves the addition of experimental fluorescent probes to DNA polymerase, with the goal of watching a single molecule flicker as it copies DNA. Student involvement may be at the level of making mutations and purifying mutant enzymes, testing ways to prepare the templates, or testing observations of working molecules.

T7 RNA polymerase is used to express our proteins, and we have double and triple mutants of it that improve expression of problematic proteins, but we only have theory as to how they work better: we think they are slower, and that slower is better. Student involvement may be in constructing comparative strains that use the enzyme, and measuring the speed somehow, in vivo and in vitro.

Molecular biology of DNA replication, DNA damage response mechanisms, and DNA repair in eukaryotes.

Carl Frieden, PhD
2nd Floor McDonnell Science Building

Eric A. Galburt, PhD
2nd Floor McDonnell Science Building
314-362-5201
Use of single-molecule biophysical techniques such as magnetic and optical trapping to study DNA transcription.

Roberto Galletto, PhD
2nd Floor McDonnell Science Building
314-362-4368
Mechanistic studies of DNA motor proteins and telomere binding proteins; single-molecule approaches.

Kathleen Hall, PhD
2nd Floor North Building
314-362-4196
RNA structure/function. RNA protein interactions. NMR spectroscopy.

Timothy M. Lohman, PhD
2nd Floor North Building
314-362-4393
Biophysical chemistry of proteins, nucleic acids and their mechanism of interaction. Mechanisms of DNA unwinding and translocation by helicases and SSB proteins.

Garland R. Marshall, PhD
2nd Floor Cancer Research Building, Center for Chemical Genomics
314-935-7911
Targeting Epigenetic Control in Pathology. A major concern regarding the use of therapeutics targeting the epigenetic control of gene expression is undesirable side effects, particularly those associated with fetal development. Despite the intense
interest in targeting histone deacetylases (HDACs, eleven zinc-based enzymes expressed in humans) for multiple therapeutic applications and the fact that two non-specific HDACIs are already FDA-approved in oncology, isoform-specific HDACIs are not available. Professor Marshall and his collaborators in Rome have a comprehensive program to develop isoform-specific inhibitors for applications for reversing HIV latency with Professor Lee Ratner for treatment of HIV, with Dr. Michael D. Onkin for treatment of uveal melanoma, and for potential antiparasitics with Professors Dan Goldberg, Eva Istvan, Makedonka Mitreva and Audrey Odom. Two uniquely specific inhibitors of HDAC6 have already been discovered in the Marshall lab in the past month.

The research involves bioinformatics to identify homologs of HDACs in parasites, molecular modeling to generate homology models of target proteins, virtual screening to identify potential inhibitors and bioassays to quantitate efficacy. Projects can be customized to fit individual preferences.

Linda Pike, PhD
1st Floor South Building
314-362-9502
Mechanism of EGF and ErbB receptor function. We use a combination of radioligand binding and molecular imaging via luciferase fragment complementation to study the interactions of ErbB family receptors. The goal is to gain insight into structure/function relationships within these receptors to better understand how to target them therapeutically.

Gregory Bowman, PhD
253C McDonnell Medical Sciences Building
314-352-7433
Systems Biophysics. We combine simulation and experiment to understand the conformational changes proteins undergo and how these changes allow information to flow, both within single proteins and within networks of interacting proteins. Two major application areas are (1) understanding hidden allosteric sites and the opportunities they present for drug design and (2) understanding the molecular
mechanisms of vision, especially the origins of inherited forms of blindness. To facilitate these applications, we also develop enhanced sampling algorithms for simulating long timescale dynamics of proteins and nucleic acids.

Faculty — Biochemistry and Molecular Biophysics

John A Cooper, PHD Professor of Cell Biology and Physiology
Head of the Department of Biochemistry
Professor of Biochemistry and Molecular Biophysics
BS Brown University 1977
PHD Johns Hopkins University 1983

Samuel I Achilefu, PHD Michel M Ter-Pogossian Professor of Radiology (primary appointment)
Professor of Biochemistry and Molecular Biophysics
PHD University of Nancy I 1991

Gaya K Amarasinghe, PHD Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Biochemistry and Molecular Biophysics
Associate Professor of Molecular Microbiology
PHD University of Maryland 2001

Usha P Andley, MS Professor of Ophthalmology and Visual Sciences (primary appointment)
Assistant Professor of Biochemistry and Molecular Biophysics
BS Delhi University 1970
MS Delhi University 1972

Jacques Ulrich Baenziger, MD Professor Emeritus of Biochemistry and Molecular Biophysics
(primary appointment)
Prof Emeritus of Biochem & Molecular Biophysic (primary appointment)
MD Washington Univ in St. Louis 1975
BA New College of Florida 1969

Wayne Morris Barnes, PHD Associate Professor of Biochemistry and Molecular Biophysics
(primary appointment)
BA University of CA Riverside 1969
PHD Univ of Wisconsin Madison 1974

Gregory R. Bowman, PHD Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)
BS Cornell University 2006
PHD Stanford University 2010
Thomas J. Brett  
Assistant Professor of Medicine (primary appointment)  
Assistant Professor of Cell Biology and Physiology  
Assistant Professor of Biochemistry and Molecular Biophysics  
BS North Dakota State University 1992

Peter M Burgers, PHD, MS  
Marvin A. Brennecke Professor of Biological Chemistry (primary appointment)  
PHD Leiden University 1977  
MS Leiden University 1972

Sudha Mahajan Cowsik, MS, PHD  
Instructor in Biochemistry and Molecular Biophysics (primary appointment)  
MS Panjab University 1970  
PHD Institute of Medical Science 1976  
BS Panjab University 1969

Allan Doctor  
Professor of Pediatrics (primary appointment)  
Associate Professor of Biochemistry and Molecular Biophysics

Roland Ellwood Dolle  
Associate Professor of Biochemistry and Molecular Biophysics (primary appointment)  
Thomas E Ellenberger, DVM, PHD  
Professor of Biochemistry and Molecular Biophysics (primary appointment)  
Chairman of the Executive Council of the Division of Biology and Biomedical Sciences  
DVM Iowa State University 1983  
PHD Harvard University 1989

Elliot L Elson, PHD  
Emeritus Professor of Biochemistry and Molecular Biophysics (primary appointment)  
Prof Emeritus of Biochem & Molec Biophysics (primary appointment)  
PHD Stanford University 1966  
BA Harvard University 1959

William A Frazier III  
Professor of Biochemistry and Molecular Biophysics (primary appointment)  
Professor of Cell Biology and Physiology  
Professor of Biomedical Engineering  
BA Johns Hopkins University 1969

Daved H Fremont, PHD  
Professor of Pathology and Immunology (primary appointment)  
Professor of Biochemistry and Molecular Biophysics  
BS Univ of Wisconsin Madison 1986  
PHD University of CA San Diego 1993

Carl Frieden, PHD  
Professor of Biochemistry and Molecular Biophysics (primary appointment)  
BA Carleton College 1951  
PHD Univ of Wisconsin Madison 1955

Eric A Galburt, PHD  
Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)  
PHD University of Washington 2002

Roberto Galletto, MS, PHD  
Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)  
MS University of Genova 1996  
PHD University of Texas Galveston 2002

Gregory I Goldberg, PHD  
Professor of Medicine (Dermatology) (primary appointment)  
Professor of Biochemistry and Molecular Biophysics  
PHD Weizmann Institute of Science 1977
Michael Jonathan Greenberg, Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)  
Kathleen Hall, PHD, Professor of Biochemistry and Molecular Biophysics (primary appointment)  
BS University of Minnesota 1974  
PHD University of CA Berkeley 1985  
Kathryn Ming Hart, Instructor in Biochemistry and Molecular Biophysics (primary appointment)  
James J Havranek, PHD, Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)  
PHD Stanford University 2008  
Maxenia Garcia Ilagan, Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)  
Assistant Professor of Developmental Biology  
James W Janetka, Associate Professor of Biochemistry and Molecular Biophysics (primary appointment)  
BS University of Illinois 1990  
Evan David Kharasch, PHD, Russell and Mary Shelden Professor of Anesthesiology (primary appointment)  
Professor of Biochemistry and Molecular Biophysics  
Stuart A Kornfeld, David C and Betty Farrell Professor of Medicine (primary appointment)  
BA Dartmouth College 1958  
Alexander Kozlov, MS, PHD, Instructor in Biochemistry and Molecular Biophysics (primary appointment)  
MS Moscow State University 1983  
PHD Moscow State University 1994  
Andrzej Modest Krezel, PHD, MS, Associate Professor of Biochemistry and Molecular Biophysics (Pending Executive Faculty Approval) (primary appointment)  
PHD Univ of Wisconsin Madison 1991  
MS University of Warsaw 1986  
Daisy W Leung, PHD, Assistant Professor of Pathology and Immunology (primary appointment)  
Assistant Professor of Biochemistry and Molecular Biophysics  
PHD University of Texas Southwest 2005  
BS Amherst College 1997  
Weikai Li, PHD, MS, Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)  
PHD Yale University 2004  
MS University of Tenn Chattanooga 1998  
BS East China Univ of Sci & Tech 1993  
Timothy M Lohman, Brennecke Professor of Biophysics in Biochemistry and Molecular Biophysics (primary appointment)  
BA Cornell University 1973  
Garland R Marshall, Professor of Biochemistry and Molecular Biophysics (primary appointment)  
Professor of Biomedical Engineering  
BS California Institute Technolo 1962  
Stephen M Moerlein, MA, PHARMD, Associate Professor of Radiology (primary appointment)  
Associate Professor of Biochemistry and Molecular Biophysics  
MA Washington Univ in St. Louis 1979
Joseph B Monahan Adjunct Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)
Michael D Onken, PHD Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)
PHD Washington Univ in St. Louis 2000
BA Washington Univ in St. Louis 1990
Linda J Pike, PHD Alumni Endowed Professor of Biochemistry and Molecular Biophysics (primary appointment)
PHD Duke University 1980
BS University of Delaware 1975
Katherine P Ponder, MD Professor of Biochemistry and Molecular Biophysics (primary appointment)
BS Stanford University 1979
MD Washington Univ in St. Louis 1983
J. Evan Sadler, MD, PHD Professor of Medicine (primary appointment)
Professor of Biochemistry and Molecular Biophysics
MD Duke University 1979
PHD Duke University 1978
Andrea Soranno Assistant Professor Biochemistry and Molecular Biophysics (Pending Executive Faculty Approval) (primary appointment)
Niraj Harish Tolia, PHD Associate Professor of Molecular Microbiology (primary appointment)
Associate Professor of Biochemistry and Molecular Biophysics
PHD Watson Sch of Biological Scien 2004
BS Imperial College 1999
Gabriel Waksman, MS, PHD Adjunct Professor of Biochemistry and Molecular Biophysics (primary appointment)
BS School Not Listed 1979
MS School Not Listed 1980
PHD School Not Listed 1982
Katherine Anne Henzler Wildman, PHD Adjunct Associate Professor of Biochemistry and Molecular Biophysics (primary appointment)
PHD University of Michigan 2003
No entries found

Department of Cell Biology and Physiology
Cell biology is one of the primary disciplines in medical research, influencing all areas of basic and clinical investigation. The future holds great opportunities in cell biology research due to inventories of the genes and proteins from which cells are built, new experimental techniques and various model organisms. Further discoveries about the cell biology of human genes will continue to translate into therapeutics. Also on the horizon is a better understanding of how proteins and sets of proteins (e.g., macromolecular complexes) are assembled and integrated to produce function.

The **Department of Cell Biology and Physiology** is ranked among the top 10 cell biology departments in the country, and the research carried out by its faculty covers a broad range of fields within cellular physiology and molecular cell biology. A unifying theme is the study of fundamental processes and their regulation. These cellular processes include genome maintenance, apoptosis, cell cycle control, dynamic cell motility, angiogenesis, signal transduction and membrane trafficking, presynaptic processes, prion protein misfolding, RNA metabolism, and the structure and function of ion channels. The department’s research activities provide a foundation for studies in cancer biology, immunobiology, developmental biology, neurobiology and vascular biology. Its faculty use model organisms as well as human stem cells and a variety of techniques such as deep-etch electron and confocal microscopy to carry out their research. Cellular imaging is a particular strength of the department.

The **Department of Cell Biology and Physiology** oversees the **Cell and Organ Systems** course, which is designed to provide first-year medical students with a foundation for their further study of clinical and applied physiology. The Molecular Cell Biology course for first-year graduate students conveys an understanding of fundamental cell biology research strategies and principles. In addition, advanced courses open to medical and graduate students provide for more detailed study of specific areas of cell biology, physiology and cellular biophysics.

**For more information**

Please visit the [Department of Cell Biology and Physiology website](#) for more information.
MD Courses — Cell Biology and Physiology

First year

M75 503 CELL AND ORGAN SYSTEMS BIOLOGY
Instructor: Robert W. Mercer, PhD, 362-6924
This course integrates and extends the basic principles of cell biology and physiology to the functions of the major organ systems of the body: muscle, cardiovascular, renal, respiratory, gastrointestinal and endocrine. Limited space is available for nonmedical students with instructor’s permission. This course is cross-listed in the Department of Neuroscience.

Selectives

M04 537 SIMULATIONS IN CARDIOVASCULAR PHYSIOLOGY
Instructors: David Murray, MD, 747-2136; Robert Moore, MD, 747-2136
The purpose of this selective is to demonstrate and explore cardiovascular physiology and cardiovascular control mechanisms using high fidelity, full-size electromechanical mannequins. By simulating events such as arrhythmias, hemorrhage, myocardial infarction and heart failure, students will explore how altering chronotropism, preload, afterload and contractility lead to changes in blood pressure, heart rate, central venous pressures and cardiac output. The course includes five interactive simulation laboratory sessions. During these sessions at the Howard and Joyce Wood Simulation Center, simulations will be used to demonstrate how ECG, arterial, venous, ventricular and pulmonary capillary wedge pressures, cardiac output, stroke volume, heart rate,
systemic and pulmonary vascular resistance are measured and monitored in clinical practice. In these small-group sessions, students will explore how alterations in chronotropism, preload, inotropism and afterload lead to a variety of cardiovascular events. The sessions will also be used to demonstrate a variety of the cardiovascular control mechanisms such as the Frank-Starling response and baroreceptor-mediated reflex responses.

M04 596 ION CHANNELS AND DISEASE
Instructor: Colin G. Nichols, PhD, 362-6630
Ion channels are present in all cells and direct intracellular events by controlling the membrane electrical activity. Many widely used clinical drugs act by altering the behavior of ion channels, including epilepsy, diabetes, cardiac arrhythmias and cystic fibrosis. We will consider the basis of ion channel diseases and ion channel modulation therapies. Students will research a topic of choice in the library over two to three weeks and then present their findings to the whole class. After the initial course meeting, we will not meet formally for three weeks, and will then meet once per week for presentations.

Fourth year

Electives

Descriptions of the following courses may be found under Division of Biology and Biomedical Sciences.

L41 (Bio) 5062 CENTRAL QUESTIONS IN CELL BIOLOGY
L41 (Bio) 5068 FUNDAMENTALS OF MOLECULAR CELL BIOLOGY
L41 (Bio) 5122 CELL-MATRIX INTERACTIONS
L41 (Bio) 5132 CELL MOTILITY AND CYTOSKELETON JOURNAL CLUB

Note — The number preceding the course title indicates that the course carries credit in the Graduate School of Arts & Sciences. See course descriptions in the Graduate Programs section of this catalog.
Research — Cell Biology and Physiology

(M75 900)
Cross-listed with L41 (Bio) 590

Kendall J. Blumer, PhD
506 McDonnell Science Building
314-362-1668
Signaling mechanisms in cardiovascular and neurological disorders.

Sergej Djuranovic, PhD
514 McDonnell Science Building
314-362-9706
Molecular mechanisms of translational control. Research examines the cellular processes that are regulated by changes in RNA metabolism.

Phyllis I. Hanson, MD, PhD
4625 Cancer Research Building
314-747-4233
Study of protein-protein and protein-membrane interactions involved in neuronal and synaptic membrane trafficking using biochemical, biophysical, and cell biological techniques.

James E. Huettner, PhD
6600 Cancer Research Building
314-362-6628
Excitatory amino acid receptors and synaptic transmission in the central nervous
system; neural differentiation of embryonic stem cells.

Vitaly Klyachko, PhD
9405 BJC Institute of Health
314-362-5517
The mechanisms and regulation of neurotransmitter release at individual synapses; the functional roles of presynaptic processes in synaptic plasticity and information processing.

Robert P. Mecham, PhD
4606 Cancer Research Building
314-362-2254
Understanding the complex process of extracellular matrix assembly and organization, including studying the intracellular pathways used to transport matrix components to the cell surface and identifying helper or accessory proteins that facilitate trafficking and matrix assembly. Cell-matrix interactions in development and cellular mechanisms associated with connective tissue remodeling in vascular disease and heritable diseases of connective tissues.

Michael M. Mueckler, PhD
416 McDonnell Science Building
314-362-4160

Colin G. Nichols, PhD
9405 BJC Institute of Health
314-362-6630
Ion channel biology. Multiple levels of analysis from the molecular basis of channel function to in vivo physiology and disease
The intracellular and intercellular dynamics of cells within the islet of Langerhans play a key role in the regulation of blood glucose levels. The islet is made up of different cell types, but very little is known about the interplay between the different cell types and how this affects their secretion of various hormones. The islet ß-cells secrete insulin in response to increased blood sugar, and also in response to neurotransmitters and hormones. Glucagon also plays a key role in blood glucose homeostasis, and it is secreted by the islet a-cells. High glucose levels inhibit glucagon secretion from a-cells within the islet, but not from dispersed a-cells, but the mechanism underlying this phenomenon has not been defined. We use quantitative live cell microscopy to measure single cell parameters within intact islets held within microfluidic devices in order to expose them to spatially heterogeneous levels of various stimuli. The resulting data are fit using mathematical models of islet functional dynamics, which we are continually modifying to better fit the observed islet physiology.

Molecular mechanism of BCl-2 family protein function, intracellular channels, biophysics of lipids, proteins and their interaction in cells and nanotechnology.

Delineation of the molecular mechanisms by which aged stromal cells contribute to tumorigenesis and the molecular mechanisms that ensure high fidelity telomere replication and genomic stability.
Biological consequences of yeast prions—in both their capacity to function as a novel epigenetic elements, and in their utility to serve as a tractable model for the analysis of protein misfolding and aggregation that occurs in several neurodegenerative disorders.

Zhongsheng You, PhD
514 McDonnell Science Building
314-362-9893
Studies of the cellular responses to DNA damage and their cancer relevance, focusing on the functional interplays between the DNA damage checkpoint, DNA repair and chromatin structure.

Peng Yuan, PhD
9608 BJC Institute of Health
314-747-3793
Structure and function of ion channels and transporters. Ion channels and transporters play essential roles in human physiology and disease. How do channels and transporters recognize their specific substrate ions? How do they respond to various stimuli including chemical ligand, temperature, membrane voltage, and mechanical force? How do they interact with the lipid membrane where they reside? To answer these fundamental questions, we use multidisciplinary approaches including X-ray crystallography, biochemistry, biophysics, and electrophysiology. Dysfunction of these membrane proteins could lead to a variety of diseases such as asthma, hypertension, cancer, heart failure, diabetes, chronic pain, and many more. The long-term goal is to provide detailed mechanistic understanding of ion channels and transporters, which will offer novel strategies for drug development and better treatment of diseases.
Faculty — Cell Biology and Physiology

David William Piston, PHD, MS
Professor of Cell Biology and Physiology (primary appointment)
Head of the Department of Cell Biology and Physiology
PHD University of Illinois 1989
BS Grinnell College 1984
MS University of Illinois 1985

Dana Ray Abendschein, PHD
Associate Professor of Medicine (primary appointment)
Associate Professor of Cell Biology and Physiology
PHD Purdue University 1978
BS State University of New York 1974

Yousef Abu-Amer, MS
Professor of Orthopaedic Surgery (primary appointment)
Professor of Cell Biology and Physiology
BS Hebrew University 1985
MS Hebrew University 1987

Nada A Abumrad, PHD
Robert C Atkins Professor of Obesity Research in Medicine (primary appointment)
Professor of Cell Biology and Physiology
BS American University of Beirut 1972
PHD State University of New York 1978

Jeffrey Michael Arbeit, MD
Professor of Surgery (Urologic Surgery) (primary appointment)
Professor of Cell Biology and Physiology
BS Boston University 1972
MD Rush University 1976

Steven Bassnett, PHD
Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Cell Biology and Physiology
BS University of Wales 1982
PHD University of East Anglia 1987

Carlos Bernal-Mizrachi, MD
Associate Professor of Medicine (primary appointment)
Associate Professor of Cell Biology and Physiology
MD Universidad del Valle Med Sch 1990

Kendall Jay Blumer, PHD
Professor of Cell Biology and Physiology (primary appointment)
BA Rice University 1977
PHD Duke University 1986

Ron Bose, PHD
Associate Professor of Medicine (primary appointment)
Associate Professor of Cell Biology and Physiology
PHD Cornell University 1998
PHD1 Cornell University 1998

Thomas J. Brett
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
Assistant Professor of Biochemistry and Molecular Biophysics
BS North Dakota State University 1992

Thomas J Broekelmann, MS
Instructor in Cell Biology and Physiology (primary appointment)
MS University of MO St Louis 1982
George John Broze Jr, MD  
Professor of Medicine  
Professor of Cell Biology and Physiology  
Professor of Pathology and Immunology  
MD University of Washington 1972  

Harold Burton, PHD  
Professor of Neuroscience  
Professor of Radiology  
Professor of Biomedical Engineering  
Professor of Cell Biology and Physiology  
PHD Univ of Wisconsin Madison 1968  
BA University of Michigan 1964  

Anil Govind Cashikar, MS  
Assistant Professor of Cell Biology and Physiology  
MS Madurai Kamaraj University 1991  
BS Bangalore University 1989  

Feng Chen, PHD  
Associate Professor of Cell Biology and Physiology  
BS Fudan University 1991  
PHD University of Utah 1998  

Roberto Civitelli, MD  
Sydney M and Stella H Schoenberg Professor of Medicine  
Professor of Orthopaedic Surgery  
Professor of Cell Biology and Physiology  
BS University of Siena 1980  
MD University of Siena 1980  

F. Sessions Cole, MD  
Park J White, M.D. Professor of Pediatrics  
Vice Chair of the Department of Pediatrics  
Professor of Cell Biology and Physiology  
Assistant Vice Chancellor for Children's Health, Washington University School of Medicine  
MD Yale University 1973  
BA Amherst College 1969  

John A Cooper, PHD  
Professor of Cell Biology and Physiology  
Head of the Department of Biochemistry  
Professor of Biochemistry and Molecular Biophysics  
BS Brown University 1977  
PHD Johns Hopkins University 1983  
Clarissa S. Craft  
Assistant Professor of Medicine  
Assistant Professor of Cell Biology and Physiology  

Brian J. DeBosch, PHD, MD  
Assistant Professor of Pediatrics  
Assistant Professor of Cell Biology and Physiology  
PHD Washington Univ in St. Louis 2008  
MD Washington Univ in St. Louis 2008  
BS University of Michigan 2001  
Panyue Deng  
Assistant Professor of Cell Biology and Physiology  
Abhinav Diwan  
Associate Professor of Medicine  
Associate Professor of Cell Biology and Physiology  

Sergej Djuranovic, PHD  
Assistant Professor of Cell Biology and Physiology  
PHD University of Tubingen 2007
Susan K. Dutcher, PHD Professor of Genetics (primary appointment)
Professor of Cell Biology and Physiology
Interim Director of the McDonnell Genome Institute
PHD University of Washington 1980
BA Colorado College 1974
Sarah K England, PHD Professor of Obstetrics and Gynecology (primary appointment)
Professor of Cell Biology and Physiology
Alan A and Edith L Wolff Professor of Medicine
PHD Medical College of Wisconsin 1993
BA Carleton College 1988
Roberta Faccio, PHD Professor of Orthopaedic Surgery (primary appointment)
Professor of Cell Biology and Physiology
PHD University of Bari 2000
Thomas W Ferkol, MD Professor of Pediatrics (primary appointment)
Professor of Cell Biology and Physiology
Alexis Hartmann MD Professor of Pediatrics
MD Ohio State University 1985
BA Case Western Reserve Univ 1981
James Alexander John Fitzpatrick, PHD Associate Professor of Neuroscience (primary appointment)
Associate Professor of Cell Biology and Physiology
PHD University of Bristol 2003
William A Frazier III Professor of Biochemistry and Molecular Biophysics (primary appointment)
Professor of Cell Biology and Physiology
Professor of Biomedical Engineering
BA Johns Hopkins University 1969
Subhadra C Gunawardana, PHD Associate Professor of Cell Biology and Physiology (primary appointment)
PHD Cornell University 2002
Dennis E Hallahan, MD Professor of Radiation Oncology (primary appointment)
Professor of Cell Biology and Physiology
Professor of Pathology and Immunology
Elizabeth H and James S McDonnell III Distinguished Professor of Medicine
Head of the Department of Radiation Oncology
Professor of Molecular Microbiology
MD Rush University 1984
BS University of Illinois 1980
Phyllis I Hanson, PHD Professor of Cell Biology and Physiology (primary appointment)
Gerty T Cori Professor
PHD Stanford University 1993
BA Yale University 1985
Didier Hodzic, PHD Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
Assistant Professor of Cell Biology and Physiology
BS University of Liege 1991
PHD University of Liege 1998
Michael J Holtzman Selma and Herman Seldin Professor of Medicine (primary appointment)
Professor of Cell Biology and Physiology
Keith A Hruska, MD Professor of Pediatrics (primary appointment)
Professor of Cell Biology and Physiology
Professor of Medicine
BS Creighton University 1965
MD Creighton University 1969

Paul W. Hruz, PHD, MD Associate Professor of Pediatrics (primary appointment)
Associate Professor of Cell Biology and Physiology
PHD Medical College of Wisconsin 1993
MD Medical College of Wisconsin 1994
BS Marquette University 1987

James E Huettner, PHD Professor of Cell Biology and Physiology (primary appointment)
Professor of Biomedical Engineering
PHD Harvard University 1987
BS Indiana University 1980
BA Indiana University 1981

Samuel Klein, MD, MS Danforth Professor of Medicine (primary appointment)
Professor of Cell Biology and Physiology
BA Brandeis University 1974
MD Temple University 1979
MS Mass Inst of Technology (MIT) 1984

Vitaly A Klyachko, PHD, MS Associate Professor of Cell Biology and Physiology (primary appointment)
Associate Professor of Biomedical Engineering

Sandor J Kovacs, MD, MS, PHD Professor of Medicine (primary appointment)
Adjunct Professor of Physics
Professor of Biomedical Engineering
Professor of Cell Biology and Physiology
MD University of Miami 1979
MS California Institute Technolo 1972
PHD California Institute Technolo 1977
BS Cornell University 1969

Gregory D Longmore, MD, MS Professor of Medicine (primary appointment)
Professor of Cell Biology and Physiology
MD McGill University 1983
BS University of Western Ontario 1977
MS University of Toronto 1979

Mohamed Mahjoub Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology

Elaine Michelle Majerus, MD Associate Professor of Medicine (primary appointment)
Associate Professor of Cell Biology and Physiology
BA Washington Univ in St. Louis 1986
MD Saint Louis University 1998
BS Washington Univ in St. Louis 1986

Douglas L. Mann, MD Tobias and Hortense Lewin Professor of Medicine (primary appointment)
Professor of Cell Biology and Physiology
Bess Adkins Marshall, MD
Professor of Pediatrics (primary appointment)
Professor of Cell Biology and Physiology
BS Vanderbilt University 1982
MD Vanderbilt University 1986

Audrey McAlinden, PhD
Associate Professor of Orthopaedic Surgery (primary appointment)
Associate Professor of Cell Biology and Physiology
PHD University of London 1998

Robert Paul Mecham, PhD
Alumni Endowed Professor of Cell Biology and Physiology (primary appointment)
Professor of Medicine
Professor of Biomedical Engineering
Professor of Pediatrics
BS Vanderbilt University 1982
MD Vanderbilt University 1986

Robert W Mercer, PhD
Professor of Cell Biology and Physiology (primary appointment)
BA San Jose State University 1974
PHD Syracuse University 1980

Jeffrey H Miner, PhD
Professor of Medicine (primary appointment)
Professor of Cell Biology and Physiology
PHD California Institute Technolo 1991

Kelle Harbert Moley
James Crane Professor of Obstetrics and Gynecology (primary appointment)
Associate Professor of Cell Biology and Physiology
Vice Chairman for Basic Research, Department of Obstetrics and Gynecology
BA Wellesley College 1984

Mike Max Mueckler, PhD
Professor of Cell Biology and Physiology (primary appointment)
Professor of Medicine
BA Univ of Wisconsin Madison 1976
PHD Univ of Wisconsin Madison 1982

Colin G Nichols, PhD
Professor of Cell Biology and Physiology (primary appointment)
Carl F Cori Professor
BS University of Leeds 1982
PHD University of Leeds 1985

Daniel Scott Ory, MD
Professor of Medicine (primary appointment)
Professor of Cell Biology and Physiology
Alan A and Edith L Wolff Professor of Cardiology
MD Harvard University 1986
BA Harvard University 1982

Slavica Pavlovic Djuranovic, DIP, PhD
Instructor in Cell Biology and Physiology (primary appointment)
DIP UNIVERSITY OF BELGRADE 2001
BS UNIVERSITY OF BELGRADE 1999
PHD University of Tubingen 2006

Helen Piwnica-Worms, PhD
Adjunct Professor of Cell Biology and Physiology (primary appointment)
BA St Olaf College 1979
PHD Duke University 1984
Jasmina Profirovic, PHD Adjunct Assistant Professor of Cell Biology and Physiology (primary appointment)
PHD University of Illinois Chicago 2005
BS University of Belgrade 1997
Maria Sara Remedi, PHD, MS Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
PHD University of Cordoba 1999
MS University of Cordoba 1989
BS University of Cordoba 1987
Robyn Roth Instructor in Cell Biology and Physiology (primary appointment)
BS MO State U (formerly SW MO St) 1979
Monica Sala-Rabanal Instructor in Cell Biology and Physiology (primary appointment)
Linda J Sandell, PHD, MS Mildred B Simon Research Professor of Orthopaedic Surgery (primary appointment)
Professor of Cell Biology and Physiology
PHD Northwestern University 1980
MS University of Denver 1971
Erica Lynn Scheller, DDENT Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
DDENT University of Michigan 2011
BS Michigan State University 2004
Paul Henry Schlesinger, MD, PHD Associate Professor of Cell Biology and Physiology (primary appointment)
MD University of Chicago 1970
PHD University of Chicago 1973
BS University of Illinois 1966
Julie K Schwarz, MD, PHD Associate Professor of Radiation Oncology (primary appointment)
Associate Professor of Cell Biology and Physiology
MD Washington Univ in St. Louis 2004
PHD Washington Univ in St. Louis 2004
Clay F Semenkovich, MD Irene E and Michael M Karl Professor of Endocrinology and Metabolism in Medicine (primary appointment)
Professor of Cell Biology and Physiology
BA University of Virginia 1977
MD Washington Univ in St. Louis 1981
Sheila Stewart-Wigglesworth, PHD Professor of Cell Biology and Physiology (primary appointment)
Professor of Medicine
BS University of Minnesota 1990
PHD University of CA Los Angeles 1996
Steven M Strasberg, MD Pruett Professor of Surgery (General Surgery) (primary appointment)
Associate Professor of Cell Biology and Physiology
MD University of Toronto 1963
Xiong Su, PHD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
PHD Washington Univ in St. Louis 2004
BS Beijing University 1998
Robert W Thompson, MD Professor of Surgery (General Surgery) (primary appointment)
Professor of Cell Biology and Physiology
Department of Developmental Biology

The principal research activities of the Department of Developmental Biology are focused on attaining a mechanistic understanding of animal development, encompassing the earliest cell fate specification and movement processes that shape the early embryo, organogenesis, stem cell biology and engineering, tissue homeostasis and repair, and aging. Students and postdoctoral fellows work closely
with faculty and staff on research projects and participate in weekly journal clubs and seminars at which recent literature and ongoing research are discussed.

The Developmental Biology Faculty employ a variety of model organisms and cell-based systems to answer key outstanding questions about the fundamental mechanisms of development and to apply this knowledge to pathogenic mechanisms leading to human birth defects and disease, and improve future therapies. We take a broad view of developmental biology, with our research groups studying diverse developmental processes including early embryogenesis, organogenesis, and aging, and applying multidisciplinary approaches that include forward and reverse genetics, epigenetics, molecular and chemical, and computational methods. Embryogenesis is a fascinating process during which a fertilized egg undergoes divisions to form a mass of pluripotent cells that signal to one another to establish embryonic polarity, diverse cell types, and organs, and that also undergo massive cell migrations and rearrangements to sculpt the embryonic body. Research is also carried out on the processes involved in tissue degeneration, repair and regeneration, the biology of embryonic and adult stem cells, and cellular reprogramming. It is a particularly opportune time for developmental biology research, as recent technological breakthroughs in both animal model systems and genomics afford insights into developmental processes at the epigenetic, genetic and molecular levels, and enable the monitoring of cell behaviors in vivo. We are discovering genes that are responsible for birth defects and defining connections between many adult human diseases and their origins during embryogenesis. The studies of stems cells, cellular reprogramming, and regeneration are bringing us closer to curing human diseases, repairing damaged organs, and extending the boundaries of aging.

Research in the Department occurs in a highly collegial atmosphere and involves interdisciplinary collaborations between the members of the department, as well as investigators from different departments and centers throughout the School of Medicine, as well as the College of Arts and Science, and the School of Engineering. Developmental Biology Faculty have leading roles in several research centers, including the Center of Regenerative Medicine, the Center for Membrane Excitability,
the Cardiovascular Research Center, and the Hope Center. The Department has a rich tradition of mentoring undergraduate, graduate and medical students, and postdoctoral fellows. We are committed to creating a research environment in which our trainees reach their maximal scientific potential and career goals, while addressing key outstanding questions and making important discoveries.

Please visit the Department of Developmental Biology website for more information.

MD Courses — Developmental Biology

First year

Selective

M04 500C DEVELOPMENTAL BIOLOGY AND DISEASE
Instructor: Kerry Kornfeld, MD, PhD, 747-1480
This course presents discoveries arising from research in the broad field of developmental biology and focuses on how these discoveries are contributing to understanding, diagnosis and the treatment of human disease.

Research — Developmental Biology

Fourth year
Irving Boime, PhD
3rd Floor McDonnell Sciences Building
362-2556
Secretion, targeting and structure-function of the human placental and pituitary glycoprotein hormones.

Douglas F. Covey, PhD
3rd Floor McDonnell Sciences Building
362-1726
Medicinal chemistry of steroids.

Aaron DiAntonio, MD, PhD
6301, 4515 McKinley Research Building
362-9925
Neurodevelopment, neurodegeneration, and axon regeneration in Drosophila and mouse.

Gregory A. Grant, PhD
3rd Floor North Building
362-3367
Mechanism of allostERIC regulation in enzymes.

Shin-Ichiro Imai, MD, PhD
Room 362A McDonnell Medical Sciences Building
362-7228
Molecular mechanisms of aging and longevity in mammals, particularly focusing on the tissue-specific functions of the mammalian NAD-dependent deacetylase Sirt1 and the physiological significance of systemic NAD biosynthesis mediated by Nampt (nicotinamide phosphoribosyltransferase) in an intimate connection between metabolism and aging.
Kerry Kornfeld, MD, PhD
3rd Floor Cancer Research Building
747-1480

Kristen Kroll, PhD
Room 320, McDonnell Sciences Building
362-7045
Transcriptional networks that regulate the formation of neurons in early embryos and embryonic stem cells. Role of chromatin regulatory complexes in controlling pluripotency and differentiation.

Craig Micchelli, PhD
Room 328, McDonnell Sciences Building
362-7036
Our lab studies the regulation of stem cell biology in development, homeostasis, and disease.

Kelly Monk, PhD
360 McDonnell Sciences Building
362-3825
Mechanisms of myelin formation, demyelination, and remyelination in zebrafish and mouse.

Samantha Morris, PhD
3316, 4515 McKinley Research Building
747-8618
Stem Cell and Developmental Biology. Our research focuses on dissecting the gene regulatory networks that define cell identity, using the developing embryo and tissue regeneration as a guide to engineer fate in vitro.

Jeanne M. Nerbonne, PhD
9900 CSRB
Structure, function and regulation of voltage-dependent ion channels in the cardiovascular and nervous systems. Regulation of membrane excitability in health and disease.

David M. Ornitz, MD, PhD
3rd Floor South Building
362-3908

Regulation of cardiovascular, lung, skeletal, and inner ear development, injury response, and regeneration by Fibroblast Growth Factors.

John H. Russell, PhD
3rd Floor McDonnell Sciences Building
362-2558

Mechanisms of lymphocyte-mediated inflammation and pathogenesis in the central nervous system.

Lila Solnica-Krezel, PhD
3911A South Building
362-8768

Genetic Regulation of Vertebrate Embryogenesis. Genetic mechanisms that regulate cell fates and movements during early vertebrate development using forward and reverse genetics in the zebrafish model and human embryonic stem cells.

Andrew Yoo, PhD
361E, McDonnell Sciences Building
362-1811


Zachary Pincus, PhD
5304, 4515 McKinley Research Building
747-5520
Inter-individual variability in aging and lifespan. Developmental origins of longevity and adult health. Quantitative microscope and image analysis of C. elegans.

Faculty — Developmental Biology

Lilianna Solnica-Krezel, MS Professor of Developmental Biology (primary appointment)
Head of the Department of Developmental Biology
Alan A and Edith L Wolff Professor of Developmental Biology
MS Medical University of Warsaw 1985

Rajendra Apte, PhD, MD Paul A. Cibis Distinguished Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Developmental Biology
Professor of Medicine
PHD University of Texas Southwest 1997
MD University of Bombay 1993

Thomas J Baranski, PhD, MD Associate Professor of Medicine (primary appointment)
Associate Professor of Developmental Biology
BS Univ of Wisconsin Madison 1985
PHD Washington Univ in St. Louis 1992
MD Washington Univ in St. Louis 1992

Luis Francisco Zirnberger Batista, PhD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Developmental Biology
BS University of SAO Paulo 2003
PHD University of SAO Paulo 2008

Irving Boime, PhD, MS Professor of Developmental Biology (primary appointment)
Professor of Reproductive Biology in Obstetrics and Gynecology
PHD Washington Univ in St. Louis 1970
MS Purdue University 1966
BS St Louis College of Pharmacy 1964

Angela N Bowman, PhD Assistant Professor of Developmental Biology (primary appointment)
BA University of Pennsylvania 2006
PHD Stanford University 2012

Walter A Boyle III, MD Professor of Anesthesiology (primary appointment)
Assistant Professor of Developmental Biology
Professor of Surgery (General Surgery)
MD University of CA San Francisco 1977

Shiming Chen, PHD Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Developmental Biology
BS Beijing University 1981
PHD State University of New York 1992
Zhoufeng Chen Professor of Anesthesiology (primary appointment)
Professor of Psychiatry
Professor of Developmental Biology
Richard A Chole, MD, PHD Professor of Otolaryngology (primary appointment)
Professor of Developmental Biology
Professor of Audiology and Communication Sciences
MD University of Southern Calif 1969
PHD University of Minnesota 1977
Douglas Floyd Covey, MA Professor of Pharmacology in Developmental Biology (primary appointment)
Professor of Anesthesiology
Professor of Psychiatry
BS Loyola College 1967
MA Johns Hopkins University 1969
Nicholas O Davidson, MBBS Professor of Medicine (primary appointment)
Professor of Developmental Biology
MBBS King's College London 1974
Aaron DiAntonio, M PHIL Professor of Developmental Biology (primary appointment)
Alan A and Edith L Wolff Professor of Developmental Biology
M PHIL Cambridge University 1989
BA Harvard University 1988
Todd Druley, MD, PHD Assistant Professor of Pediatrics (primary appointment)
Assistant Professor of Genetics
Assistant Professor of Developmental Biology
MD University of Illinois Chicago 2002
BS University of Illinois 1994
PHD University of Illinois Chicago 2002
Alex S Evers Henry E Mallinckrodt Professor of Anesthesiology (primary appointment)
Head of the Department of Anesthesiology
Professor of Developmental Biology
Professor of Medicine
BS Yale University 1974
George W Gokel, PHD Adjunct Professor of Molecular Biology and Pharmacology (primary appointment)
PHD University of Southern Calif 1971
Jeffrey I Gordon, MD Professor of Pathology and Immunology (primary appointment)
Dr Robert J Glaser Distinguished University Professor
Director of the Center for Genome Sciences
Professor of Medicine
Professor of Developmental Biology
BA Oberlin College 1969
Gregory Alan Grant, PhD, Professor of Biochemistry in Medicine (Dermatology) (primary appointment)

Professor of Developmental Biology
PHD Univ of Wisconsin Madison 1975
BS Iowa State University 1971

Richard Warren Gross, PhD, AB, MD, Professor of Medicine (primary appointment)

Professor of Developmental Biology

Professor of Chemistry
PHD Washington Univ in St. Louis 1982
AB Columbia University 1972
MD New York University 1976

Farshid Guilak, MS, MPH, Professor of Orthopaedic Surgery (primary appointment)

Professor of Developmental Biology

Professor of Biomedical Engineering
MS Rensselaer Poly Institute 1987
MPH Columbia University 1990
BS Rensselaer Poly Institute 1985

Charles A. Harris, Assistant Professor of Medicine (primary appointment)

Assistant Professor of Developmental Biology

David Michael Holtzman, MD, Andrew B. and Gretchen P. Jones Professor of Neurology (primary appointment)

Head of the Department of Neurology

Professor of Developmental Biology
MD Northwestern University 1985
BS Northwestern University 1983

Richard S Hotchkiss, Professor of Anesthesiology (primary appointment)

Professor of Surgery (General Surgery)

Professor of Developmental Biology

Professor of Medicine

Maxenia Garcia Ilagan, Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)

Assistant Professor of Developmental Biology

Shin-Ichiro Imai, Professor of Developmental Biology (primary appointment)

Charles Kaufman, PhD, MD, Assistant Professor of Medicine (Pending Executive Faculty Approval) (primary appointment)

Assistant Professor of Developmental Biology

PhD University of Chicago 2003
MD University of Chicago 2005
BA Washington Univ in St. Louis 1997

Albert H Kim, MA, PhD, MD, Assistant Professor of Neurological Surgery (primary appointment)

Assistant Professor of Neurology

Assistant Professor of Developmental Biology

BA Harvard University 1994
MA Washington Univ in St. Louis 1999
PHD New York U. School of Medicine 2002
MD New York U. School of Medicine 2003
Raphael Kopan, MS, PHD
Adjunct Professor of Developmental Biology (primary appointment)
MS Tel Aviv University 1984
PHD University of Chicago 1989

Stephen K Kornfeld, PHD, MD
Professor of Developmental Biology (primary appointment)
PHD Stanford University 1991
MD Stanford University 1991

Paul Thomas Kotzbauer
Associate Professor of Neurology (primary appointment)
Associate Professor of Developmental Biology

Kristen Louise Kroll, PHD
Associate Professor of Developmental Biology (primary appointment)
PHD University of CA Berkeley 1994
BA Northwestern University 1988

Kory J. Lavine, PHD, MD
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Developmental Biology
PHD Washington Univ in St. Louis 2008
BS University of Rochester 2001
MD Washington Univ in St. Louis 2008

Yangjian Liu
Instructor in Developmental Biology (primary appointment)

Fanxin Long, PHD
Professor of Orthopaedic Surgery (primary appointment)
Professor of Developmental Biology
Professor of Medicine
PHD Tufts University 1997

Liang Ma, PHD
Associate Professor of Medicine (Dermatology) (primary appointment)
Associate Professor of Developmental Biology
PHD University of CA Los Angeles 1995
BA University of CA Berkeley 1989

Craig Anthony Micchelli, PHD
Associate Professor of Developmental Biology (primary appointment)
PHD Univ of Wisconsin Madison 1999
BS Univ of Wisconsin Madison 1993

Jason C Mills, MD, AB, PHD
Professor of Medicine (primary appointment)
Professor of Developmental Biology
Professor of Pathology and Immunology
MD University of Pennsylvania 1997
BA Washington Univ in St. Louis 1989
AB Washington Univ in St. Louis 1989
PHD University of Pennsylvania 1997
MD1 University of Pennsylvania 1997

Kelly Renee Monk, PHD
Associate Professor of Developmental Biology (primary appointment)
PHD University of Cincinnati 2006

Samantha A Morris, PHD
Assistant Professor of Developmental Biology (primary appointment)
Assistant Professor of Genetics
BS1 University of London 2002
PHD Cambridge University 2007

Aubrey R Morrison, MBBS
Professor of Medicine (primary appointment)
Professor of Developmental Biology
MBBS University of London 1970

Philip Needleman, PHD
Adjunct Professor of Molecular Biology and Pharmacology (primary appointment)
Jeanne M Nerbonne, PHD Professor of Medicine (primary appointment)
Alumni Endowed Professor of Molecular Biology and Pharmacology in Developmental Biology
BS Framingham State College 1974
PHD Georgetown University 1978
David M Ornitz, PHD, MD Alumni Endowed Professor of Developmental Biology (primary appointment)
PHD University of Washington 1987
BS University of CA Davis 1981
MD University of Washington 1988
Zachary Scott Pincus Assistant Professor of Genetics (primary appointment)
Assistant Professor of Developmental Biology
Stacey L. Rentschler, MS, PHD, MD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Developmental Biology
MS Mount Sinai School of Medicine 2000
PHD Mount Sinai School of Medicine 2002
MD Mount Sinai School of Medicine 2004
Deborah C Rubin, MD Professor of Developmental Biology
MD Albert Einstein College of Med 1981
BS Mass Inst of Technology (MIT) 1977
David Rudnick, MD Associate Professor of Pediatrics (primary appointment)
Associate Professor of Developmental Biology
BS University of Illinois 1987
MD Washington Univ in St. Louis 1994
John Hall Russell Professor of Developmental Biology (primary appointment)
Associate Dean for Graduate Education for the Division of Biology and Biomedical Sciences
BS Juniata College 1968
Scott Saunders, PHD, MD Associate Professor of Pediatrics (primary appointment)
Associate Professor of Developmental Biology
PHD Stanford University 1990
MD Stanford University 1990
BS University of Minnesota 1983
Jean E. Schaaffer Virginia Minnich Distinguished Professor of Medicine (primary appointment)
Professor of Developmental Biology
BA Harvard Radcliffe 1982
Laura Graves Schuettbelz, PHD Assistant Professor of Pediatrics (primary appointment)
Assistant Professor of Developmental Biology
PHD Northwestern University 2000
Alan L Schwartz, PHD, MD Alumni Endowed Professor of Pediatrics (primary appointment)
Professor of Developmental Biology
PHD Case Western Reserve Univ 1974
MD Case Western Reserve Univ 1976
Diane S Sepich, PHD Assistant Professor of Developmental Biology (primary appointment)
PHD University of Oregon 1994
BS University of San Diego 1981
Jimmann Shin Instructor in Developmental Biology (primary appointment)
BS Kyung Pook National University 2002
Thaddeus S. Stappenbeck, PHD, MD
Conan Professor of Laboratory and Genomic Medicine (primary appointment)
Professor of Developmental Biology
BA Northwestern University 1987
PHD Northwestern University 1994
MD Northwestern University 1995
Christopher Michael Sturgeon, PHD
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Developmental Biology
PHD University of British Columbia 2006
David B Wilson, PHD
Professor of Pediatrics (primary appointment)
Professor of Developmental Biology
PHD Washington Univ in St. Louis 1986
Yongjun Yin, PHD
Instructor in Developmental Biology (primary appointment)
PHD Hebrew University 2004
Andrew Seungjo Yoo, PHD, MS
Assistant Professor of Developmental Biology (primary appointment)
PHD Columbia University 2005
BS McGill University 1995
MS University of British Columbia 1997
Jun Yoshino, PHD, MD
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Developmental Biology
PHD Keio University 2004
MD Keio University 2000
Bo Zhang
Assistant Professor of Developmental Biology (primary appointment)
BS Inner Mongolia University 2004
No entries found

James S. McDonnell Department of Genetics

The Department of Genetics is at the forefront of the rapidly developing field known as genomic (or personalized) medicine, in which genetic and epigenetic analysis coupled with clinical information enables treatments to be tailored specifically to the individual patient. The rapid evolution of sequencing technologies, genome engineering, automated cellular imaging and mass spectrometry methods to rapidly perform proteomic and metabolomics studies, coupled with powerful computational tools, is revolutionizing the biological sciences. Investigators in the department are developing
new methods of genomic analysis including technology and software, epigenomics and copy number variation as well as studies of disease pathways using model organisms, to identify and study genes responsible for human disease and treatment responses. The department supports a broad program of preclinical and graduate instruction in genetics, with research opportunities ranging from studies of transcriptional networks, population genetics, protein evolution, neurological disorders, developmental genetics, models of human disease, genome architecture, statistical genetics and computational biology, genome technologies, and infertility.

A significant portion of the first-year course in basic medical sciences is devoted to human and clinical genetics, with emphasis on how genomic information will transform the practice of medicine. This includes specialized selective courses in addition to the core genetic curriculum. Advanced training in clinical genetics and in genetic research is available from the faculty in the Department of Genetics and from geneticists with principal appointments in many other departments within the School of Medicine.

Advanced courses and seminars are offered that focus on the genetics of complex disease, gene expression, genome engineering, induced pluripotent stem cells, single cell genomics, molecular genetics, genetic epidemiology, computational biology, developmental genetics, microbial genetics, cancer genetics and population and evolutionary genetics. Extraordinary opportunities for research training and experience are available in all of these areas and at all levels. The programs are tailored to meet the needs of medical students, graduate students and both MD and PhD postdoctoral fellows pursuing advanced training in biomedical research.

For more information

Please visit the Department of Genetics website for more information.
MD Courses — Genetics

First year

M30 511 MEDICAL GENETICS
Instructor: Sabrina Nunez, PhD, snunez@dom.wustl.edu, 747-0835
Medical genetics is both a science and a clinical area or specialty of medicine, and the boundary between research and clinical application is increasingly blurred. The pace in which genomic and epigenomic tools are being developed is unprecedented. And these tools result in continual conceptual advancements, which inevitably affect how we approach the study of disease risk, diagnosis and management in all areas of medicine, not just medical genetics. We are moving into a time when the interpretable data from the examination of individual genomes will be incorporated to all other clinical data to assess individual risks and guide clinical management and decision-making. This course is intended as the first step towards life-long training in medical genetics and genomics.

The course begins with a number of sessions devoted to basic principles of genetics. Drawing on this foundation we move on to discuss genomic and epigenomic tools and learn from leaders in their fields about the big questions in genetics and genomics (i.e. microbiome research, cancer genomics, current clinical uses of exome sequencing, etc.) and how the tools are being used to answer these questions. Students are exposed to the use of genetic and genomic databases and information resources; which will allow them to keep up with new information and critically appraise validity and clinical utility. We begin to discuss the implication of this shift to the “genomic era”, particularly regarding ethical aspects, regulatory aspects, equal access, healthcare costs and patient education. Clinical geneticists actively participate in the course and use a series of genetic disorders to help students apply their knowledge; focusing mainly on genetic etiology, pattern of inheritance, inheritance risk and molecular diagnostic testing. Frequent patient interviews further enhance the exposure to clinical genetics. Overall the course aims to enhance genetic and genomic literacy, which is an
essential first step in preparing students to participate in the multidisciplinary teams that effectively make cutting edge genetic and genomic research results accessible to patients.

This course is cross listed with L41 (Bio 550).

Fourth year

Electives

L41 (Bio) 5285 FUNDAMENTALS OF MAMMALIAN GENETICS
L41 (Bio) 5488 GENOMICS
L41 (Bio) 5491 ADVANCED GENETICS
L41 (Bio) 5495 COMPUTATIONAL MOLECULAR BIOLOGY
L41 (Bio) 5483 HUMAN LINKAGE AND ASSOCIATION ANALYSIS

Special topics courses/journal clubs

For complete descriptions, see Division of Biology and Biomedical Sciences.
L41 (Bio) 5235 GENETICS JOURNAL CLUB
L41 (Bio) 5484 GENOMICS AND DEVELOPMENT OF C. ELEGANS JOURNAL CLUB
L41 (Bio) 5487 GENETICS AND GENOMICS OF MEDICINE
L41 (Bio) 5489 HUMAN GENETICS JOURNAL CLUB
L41 (Bio) 5496 SEMINAR IN COMPUTATIONAL MOLECULAR BIOLOGY

Note — The number preceding the course title indicates that the course carries credit in the Graduate School of Arts & Sciences.
Research — Genetics

(M20 900)
Cross-listed with L41 (Bio 590)

Barak Cohen, PhD
SMRB – Scott McKinley Research Building, room 4308
314-362-3674

Don Conrad, PhD
SMRB – Scott McKinley Research Building, room 6213
314-362-4379
Our group has a long-standing interest in developing new methods for characterizing the origin and functional impact of human genetic variation. Recently completed projects have covered the following topics: mapping of copy number variants, measurement of sex-specific mutation rate and variation in mutation rate among decomposing the relative impact of different types of mutation (SNPs, indels, CNVs, etc.) on gene expression variation and disease susceptibility. Currently, we have a number of active projects that address fundamental unsolved problems related to human reproduction. First (1) we are trying to unravel the genetic basis for a common form of male infertility, non-obstructive azoospermia, using oligonucleotide arrays and exome sequencing. The short-term goal of this project is to define causal mutations in the >400 cases in which we have access. Our ultimate goal is to provide an unbiased view of the genetic architecture of the disease and establish a definitive reference panel of causal mutations that clinicians can use to facilitate diagnosis of spermatogenic failure. Second (2) we are using sperm DNA from a longitudinal cohort of semen donors to study the processes of mutation and selection within the population of germ cells of individuals. There are a number of other potential projects...
ranging from topics of medical relevance such as the biology of the placenta and maternal-fetal compatibility to more basic questions regarding genome biology and evolution. Training in this elective will be primarily computational, and can cover skills such as population genetic analysis, rare-variant association study methodology and other aspects of statistical genetics. However, parties interested in using other approaches to address the topics discussed here are welcome.

Joseph Dougherty, PhD
SMRB – Scott McKinley Research Building, room 6316
314-286-0752
Our laboratory utilizes a variety of techniques spanning from human molecular genetics and informatics to mouse behavioral neuroscience and neuroanatomy. We develop and employ mouse models of psychiatric disorder, particularly those that mimic genetic variations we’ve identified from human patient populations, with the goal of trying to understand the cellular and molecular underpinnings of these disorders.

Susan K. Dutcher, PhD
SMRB – Scott McKinley Research Building, room 5301
314-362-2765
Studies on the role of centrioles and basal bodies in ciliary signaling, assembly, and motility using molecular genetics, computational, and biochemical approaches.

Justin Fay, PhD
SMRB – Scott McKinley Research Building, room 4305
314-747-1808
Population and evolutionary genetics, evolution of gene regulation in yeast, human evolution.

Stephen L. Johnson, PhD
711 McDonnell Science Building
314-362-0362
Growth control and morphogenesis in vertebrate development. Focus on genes and
mechanisms affecting proportionate fin growth, fin regeneration and pigment stripe patterning in zebrafish.

Heather Lawson, PhD
SMRB – Scott McKinley Research Building, room 6312
This research focuses on molecular mechanisms underlying parent-of-origin effects on metabolic traits. Parent-of-origin effects are epigenetic phenomena that appear as phenotypic differences between reciprocal heterozygotes depending on the allelic parent of origin. Genomic imprinting is a parent-of-origin effect that results in two alleles at a locus being functionally non-equivalent. Imprinted genes can be important contributors to phenotypic variation and imprinting patterns can be complex. We integrate whole-genome sequence data with transcriptome data and correlate this with variation in multiple metabolic traits under different dietary conditions. This discovery research uses a mouse model and our two main goals are to 1) identify molecular patterns that may have predictive power and 2) translate these patterns to human data.

Elaine Mardis, PhD
Room 4122, 4444 Forest Park Building
314-286-1805
Technology development for second-generation DNA sequencing with an emphasis on methods and applications development. Non-human primate genomics.

Jeffrey Milbrandt, MD, PhD
SMRB – Scott McKinley Research Building, room 6306
314-362-4651
Studies of metabolic control of glial/axonal interactions necessary for proper nerve function. The use of high throughput genetic and pharmacologic screens using primary neurons and induced pluripotent stem cells to identify molecular mechanisms of axonal degeneration in neuropathy and neurodegenerative disease.

Rob Mitra, PhD
SMRB – Scott McKinley Research Building, room 4301
Systems Biology and Technology Development. We are developing tools to make quantitative biological measurements and applying these tools to build mathematical models of biological processes.

Samantha Morris, PhD
SMRB – Scott McKinley Research Building, room 3316
314-747-8618, s.morris@wustl.edu
Engineering cell fate to generate clinically valuable cell populations: Stem Cell and Developmental Biology. Our research focuses on dissecting the gene regulatory networks that define cell identity, using the developing embryo and tissue regeneration as a guide to engineer fate in vitro. We apply insight from these analyses to generate clinically relevant populations by differentiating cells from a pluripotent state, or by directly converting cells between mature fates. We employ a combination of computational, single cell transcriptomics, cell and developmental biology approaches.

Zachary Pincus, PhD
SMRB – Scott McKinley Research Building, room 5304
314-747-5520
Inter-individual variability in aging and lifespan. Developmental origins of longevity and adult health. Quantitative microscope and image analysis of C. elegans.

Michael A. Province, PhD
Suite 6318, 4444 Forest Park Building
314-362-3616
Development and evaluation of novel statistical genetics methodology, especially as applied to genomic identification and validation of variants for human complex quantitative traits, such as heart disease, cancer, pulmonary function, diabetes, and human longevity.

Nancy L. Saccone, PhD
308 Biotechnology Building
Statistical genetics and psychiatric genetics. Development and application of analysis methods for studying the genetics of human disease and complex traits.

Tim Schedl, PhD
SMRB – Scott McKinley Research Building, room 5305
314-362-6162
Germ cell development in the model organism Caenorhabditis elegans. The major focuses are: control of the decision to proliferate or enter the meiotic pathway, control and coordination of meiotic prophase progression and gametogenesis, and control of meiotic maturation and ovulation.

James Skeath, PhD
SMRB – Scott McKinley Research Building, room 6315
314-362-0535
Identification of the genes and the elucidation of the molecular mechanisms that regulate the early events of Drosophila central neurogenesis; illumination of the mechanisms that form, pattern and specify the individual identities of the progenitor cells of the Drosophila embryonic CNS.

Gary D. Stormo, PhD
SMRB – Scott McKinley Research Building, room 4208
314-747-5534

Ting Wang, PhD
SMRB – Scott McKinley Research Building, room 5211
314-286-0865
We work in the general field of computational genomics and epigenomics. We study the evolution of human regulatory networks, with a focus on mobile elements (or transposable elements) and their impact on gene regulation, their genetic and epigenetic control, and their roles in human biology and diseases.
Genome research. Large-scale DNA sequence analysis of genomes and expressed genes (cDNAs) from humans, non-human primates, mammals, invertebrates, plants and various bacterial species. Targeted genomic analysis of genes and regulatory elements in human cancers and other hereditary diseases. Development of novel technology for large-scale DNA sequence analysis and genetic analysis.

Faculty — Genetics

Jeffrey D Milbrandt, PhD, MD
James S McDonnell Professor of Genetics (primary appointment)
Professor of Medicine
Professor of Neurology
Professor of Pathology and Immunology
Head of the Department of Genetics
PHD University of Virginia 1983
MD Washington Univ in St. Louis 1978
BS Univ of Nebraska at Kearney 1974
Haley J Abel
Instructor in Genetics

Ping An
Assistant Professor of Genetics (primary appointment)

Lucinda L. Antonacci-Fulton, MS
Academic Rank held in Genetics (primary appointment)
Instructor in Genetics
MS Southern Ill Univ Edwardsville 1992
BS Southern Ill Univ Edwardsville 1991

Ruteja A. Barve, MS, PHD
Instructor in Genetics (primary appointment)
MS Washington Univ in St. Louis 2008
PHD Washington Univ in St. Louis 2014
BS University of Pune 1995

John Rutledge Bermingham Jr, PHD
Associate Professor of Genetics (primary appointment)
BS Yale University 2016
PHD University of Colorado Boulder 2016

Ingrid B Borecki, PHD, MS
Adjunct Professor of Genetics (primary appointment)
Paul F Cliften, MS, PHD
Associate Professor of Genetics (primary appointment)
MS University of Hawaii 1980
BS University of Hawaii 1977

C. Robert Cloninger, MD
Wallace Renard Professor of Psychiatry (primary appointment)
Professor of Psychiatry
Professor of Psychological & Brain Sciences
Professor of Genetics

Barak Alon Cohen
Professor of Genetics (primary appointment)
MS Utah St University 1995
BS Utah St University 1992

Alvin Goldfarb
Distinguished Professor of Computational Biology
BS Cornell University 1992

Donald Franklin Conrad
Assistant Professor of Genetics (primary appointment)
Assistant Professor of Pathology and Immunology

Joseph C. Corbo, MD, PHD, AB
Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Genetics
Associate Professor of Ophthalmology and Visual Sciences

Catherine E Cottrell, PHD
Assistant Professor of Pathology and Immunology (primary appointment)
Assistant Professor of Genetics

James P Crane, MD
Associate Vice Chancellor for Clinical Affairs (primary appointment)
Chief Executive Officer-Faculty Practice Plan
Professor of Obstetrics and Gynecology
Professor of Radiology
Associate Professor of Genetics

Sharon Cresci, MD
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Genetics

Seth Daniel Crosby, MD
Assistant Professor of Genetics (primary appointment)
MD University Texas San Antonio 1989
BS University of California 1984

Li Ding, PHD
Associate Professor of Medicine (primary appointment)
Associate Professor of Genetics
PHD University of Utah 1998
Joseph D Dougherty, PHD
Assistant Professor of Genetics (primary appointment)
Assistant Professor of Psychiatry
BS Truman State University 1999
PHD University of California 2005

Todd Druley, MD, PHD
Assistant Professor of Pediatrics (primary appointment)
Assistant Professor of Genetics
Assistant Professor of Developmental Biology
MD University of Illinois Chicago 2002
BS University of Illinois 1994
PHD University of Illinois Chicago 2002

Susan K. Dutcher, PHD
Professor of Genetics (primary appointment)
Professor of Cell Biology and Physiology
Interim Director of the McDonnell Genome Institute
PHD University of Washington 1980
BA Colorado College 1974

Justin C. Fay, PHD
Associate Professor of Genetics (primary appointment)
PHD University of Chicago 2001

Mary F Feitosa
Associate Professor of Genetics (primary appointment)
Robert S. Fulton
Academic Rank held in Genetics (primary appointment)
Instructor in Genetics

Narasimhan Gautam, MS, PHD
Professor of Anesthesiology (primary appointment)
Professor of Genetics
MS School Not Listed 1979
BS School Not Listed 1977
PHD University of Bombay 1985

Matthew I Goldsmith, MD, MS
Associate Professor of Pediatrics (primary appointment)
Assistant Professor of Genetics
BS University of Toronto 1987
MD University of Toronto 1995
MS University of Toronto 1990

Malachi Griffith, PHD
Academic Rank held in Genetics (primary appointment)
Assistant Professor of Genetics
PHD University of British Columbia 2010
BS University of Winnipeg 2002
BS1 University of Winnipeg 2002

Obi Lee Griffith, PHD
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Genetics
PHD British Columbia Open Univ 2008

Chi Gu, PHD
Associate Professor of Biostatistics (primary appointment)
Associate Professor of Genetics
BS Nanjing Medical University 1982
PHD Washington Univ in St. Louis 1992

David H Gutmann
Donald O. Schnuck Family Professor of Neurology (primary appointment)
Professor of Genetics
Professor of Neurological Surgery
Professor of Pediatrics

Ira McCarthy Hall, PHD
Associate Professor of Medicine (primary appointment)
Associate Professor of Genetics
Associate Director of the Genome Center
BS University of CA Berkeley 1998
PHD Cold Spring Harbor Laboratory 2003
Richard D Head
Associate Professor of Genetics (primary appointment)

Associates Professor of Pathology and Immunology
Andrew C Heath, PHD
Spencer T. Olin Professor of Psychology in Psychiatry (primary appointment)

Associate Professor of Psychological & Brain Sciences
Professor of Genetics
PHD Oxford University 1983
Patrick Y Jay
Associate Professor of Pediatrics (primary appointment)

Associate Professor of Genetics
Stephen L Johnson
Professor of Genetics (primary appointment)
BA Vanderbilt University 1983

Sungsu Kim
Instructor in Genetics (primary appointment)
BS Korea University 2000

Aldi T Kraja
Associate Professor of Genetics (primary appointment)

David Ernfrid Larson, PHD
Academic Rank held in Genetics (primary appointment)
Instructor in Genetics
BS Indiana State University 2003
PHD Washington Univ in St. Louis 2007

Heather A Lawson, PHD, MA
Assistant Professor of Genetics (primary appointment)
BA Univ of Wisconsin Milwaukee 2002
PHD Pennsylvania State University 2008
MA Pennsylvania State University 2004

Timothy J Ley
Lewis T and Rosalind B Apple Professor of Medicine (primary appointment)
Professor of Genetics
BA Drake University 1974

Huawen Lin
Instructor in Genetics (primary appointment)
BS School Not Listed 1998

Jeffrey A Magee, PHD, MD
Assistant Professor of Pediatrics (primary appointment)

Assistant Professor of Genetics
PHD Washington Univ in St. Louis 2005
MD Washington Univ in St. Louis 2005

Xianrong Mao, MS
Instructor in Genetics (primary appointment)
MS Chinese Academy of Sciences 1996

Elaine Rene Mardis, PHD
Adjunct Professor of Genetics (primary appointment)
BS University of Oklahoma 1984
PHD University of Oklahoma 1989

James P Mc Carter, MD, PHD
Adjunct Professor of Genetics (primary appointment)
MD Washington Univ in St. Louis 1998
BA Princeton University 1989
PHD Washington Univ in St. Louis 1998

Shondra Michelle Miller, PHD
Assistant Professor of Genetics (primary appointment)
PHD University of Texas Southwest 2008
BA University of Arkansas 2003

Robi D. Mitra, PHD
Associate Professor of Genetics (primary appointment)

Alvin Goldfarb Distinguished Professor of Computational Biology
Makedonka Mitreva, PHD, MS
Associate Professor of Medicine (primary appointment)
Associate Professor of Genetics
PHD Wageningen University 2001
MS University of Skopje - Macedon 1994

Samantha A Morris, PHD
Assistant Professor of Developmental Biology (primary appointment)
Assistant Professor of Genetics
BS1 University of London 2002
PHD Cambridge University 2007

Peter Nagele
Associate Professor of Anesthesiology (primary appointment)
Associate Professor of Genetics

Zachary Scott Pincus
Assistant Professor of Genetics (primary appointment)
Assistant Professor of Developmental Biology

Michael A Province, MA
Professor of Genetics (primary appointment)
Professor of Biostatistics
BA University of Dallas 1973
MA Washington Univ in St. Louis 1979

Dabeeru C Rao, PHD, MS
Professor of Biostatistics (primary appointment)
Professor of Biostatistics in Genetics
Director of the Division of Biostatistics
Tenure Held At-Large in the Medical School
Professor of Biostatistics in Psychiatry
Professor of Mathematics
BS Indian Statistical Institute 1967
PHD Indian Statistical Institute 1971
MS Indian Statistical Institute 1968

John P Rice, MA, PHD
Professor of Mathematics in Psychiatry (primary appointment)
Professor of Biostatistics
Professor of Genetics
BA Cornell University 1969
MA Washington Univ in St. Louis 1972
PHD Washington Univ in St. Louis 1975

Elisha D.O. Roberson, PHD
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Genetics
BS Western Kentucky University 2004
PHD Johns Hopkins University 2009

Nancy L. Saccone, PHD, MS
Associate Professor of Genetics (primary appointment)
Associate Professor of Biostatistics
PHD Brown University 1993
MS Brown University 1990

Lawrence B Salkoff, PHD
Professor of Neuroscience (primary appointment)
Professor of Genetics
BA University of CA Los Angeles 1967
PHD University of CA Berkeley 1979

Mark Steven Sands, PHD
Professor of Medicine (primary appointment)
Professor of Genetics
PHD State Univ of NY Stonybrook 1990
BS Rochester Institute of Techno 1980
Yo Sasaki, PHD, MS  
Assistant Professor of Genetics (primary appointment)  
BS Tokyo U of Agric & Technology 1991  
PHD Gunma University, Med School 1997  
MS Tokyo U of Agric & Technology 1994

Tim B Schedl, PHD  
Professor of Genetics (primary appointment)  
PHD Univ of Wisconsin Madison 1984  
BA Lawrence University 1977

Karen Seibert, MA  
Professor of Anesthesiology (primary appointment)  
Professor of Pathology and Immunology  
Professor of Genetics  
BS Northwestern University 1981  
MA University of Toledo 1983  
Cherilynn Maria Reynolds Shadding  
Academic Rank held in Genetics (primary appointment)  
Assistant Professor of Genetics

Alan Shiel, PHD  
Professor of Ophthalmology and Visual Sciences (primary appointment)  
Professor of Genetics  
PHD University of London 1983  
BS School Not Listed 1979

James B Skeath, PHD  
Professor of Genetics (primary appointment)  
BA Haverford College 1988  
PHD Univ of Wisconsin Madison 1993

Nathan O. Stitziel  
Assistant Professor of Medicine (primary appointment)  
Assistant Professor of Genetics  
BA1 Washington Univ in St. Louis 1998

Gary D Stormo, PHD, MA  
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Joseph Erlanger Professor  
Professor of Computer Science  
Professor of Biomedical Engineering  
PHD University of Colorado Boulder 1981  
BS California Institute Technolo 1972  
MA University of Colorado Boulder 1975  
Matthew John Walter  
Associate Professor of Medicine (primary appointment)  
Associate Professor of Genetics

Ting Wang, PHD, MS  
Associate Professor of Genetics (primary appointment)  
Associate Professor of Computer Science and Engineering  
Associate Professor of Biostatistics  
BS School Not Listed 1997  
PHD Washington Univ in St. Louis 2006  
MS Washington Univ in St. Louis 2001

Wesley Charles Warren, MS, PHD  
Academic Rank held in Genetics (primary appointment)  
Associate Professor of Genetics  
MS Clemson University 1986  
BS Oklahoma St University 1984  
PHD University of Missouri 1990  
Michael C Wendl  
Academic Rank held in Genetics (primary appointment)  
Assistant Professor of Genetics  
Assistant Professor of Genetics  
Assistant Professor of Mechanical Engineering & Materials Science
Assistant Professor of Mathematics
Assistant Professor of Genetics
Michael Aaron White, PHD, MS 
Assistant Professor of Genetics (primary appointment)
BA Brigham Young University 2000
PHD University of Rochester 2006
MS University of Rochester 2004

Michael Peter Whyte, MD 
Professor of Medicine (primary appointment)
Professor of Pediatrics
Professor of Genetics
MD State University of New York 1972
BA New York University 1968

Richard K Wilson, PHD  
Adjunct Professor of Genetics (primary appointment)
BA Miami University 1981
PHD University of Oklahoma 1986

Mary Kaye Wojczynski 
Assistant Professor of Genetics (primary appointment)

Hiroko Yano, PHD, MS  
Assistant Professor of Neurological Surgery (primary appointment)
Assistant Professor of Genetics
Assistant Professor of Neurology
PHD University of Tokyo 1996
MS University of Tokyo 1993
BS Science University of Tokyo 1991

Jinsheng Yu  
Instructor in Genetics (primary appointment)
BS Tongji University 1984
No entries found

John Milliken Department of Medicine

The Department of Medicine's general medicine teaching services at Barnes-Jewish Hospital and the Veterans Administration Medical Center (St. Louis) are under the following directors:

Barnes-Jewish Hospital
Victoria J. Fraser, MD, Chairman, Department of Medicine

Veterans Administration Medical Center
Daniel P. Goodenberger, MD, Chief
In addition, for the purposes of clinical care, teaching and research, the Department of Medicine is divided into specialty divisions and sections at Barnes-Jewish Hospital under the following chiefs:

**Allergy and Immunology**
H. James Wedner, MD, Chief

**Bioorganic Chemistry and Molecular Pharmacology**
Richard W. Gross, MD, PhD, Chief

**Bone and Mineral Diseases**
Robert Civitelli, MD, Chief

**Cardiology/Cardiovascular Diseases**
Douglas L. Mann, MD, Chief

**Dermatology**
Lynn A. Cornelius, MD, Chief

**Endocrinology/Metabolism/Lipid Research**
Clay F. Semenkovich, MD, Chief

**Gastroenterology**
Nicholas O. Davidson, MD, Chief

**General Medical Sciences**
Bradley A. Evanoff, MD, MPH, Chief

**Geriatrics and Nutritional Science**
Samuel Klein, MD, Chief

**Hematology**
J. Evan Sadler, MD, PhD, Chief
Instruction in Medicine is provided during all four years of the medical curriculum, beginning with The Practice of Medicine I in the first year. Teaching in the second year has two main objectives: the correlation of the basic sciences with clinical aspects of disease and training in the technical methods of physical examination and laboratory diagnosis. By the beginning of the third year, the student is ready for supervised clinical study of individual patients.

A clinical clerkship of 12 weeks, divided into three four-week periods, is served by third-year students on the medical services of the department. In the final year,
students may elect a subinternship in general medicine and a series of elective courses in the medical specialties.

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For more information

Please visit the Department of Medicine website for more information.

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MD Courses — Medicine

First year

M25 507 THE PRACTICE OF MEDICINE I
Instructor: Tim Yau, MD
POM I is a large course which spans all 3 blocks of the first year. It is composed of three content areas:

- Clinical Skills
Each of these three content areas has two or more sections, each run by a faculty section leader.

POM I employs a variety of teaching techniques, instructors and venues. This includes lecture, small group discussions, panel sessions, one-on-one hospital interviews, standardized patient sessions, a patient home visit, and visits to both a primary care office and a city clinic.

What are the educational goals of POM I?

Students will learn to:

1. Perform a complete history and physical examination with thoroughness, accuracy, sensitivity and compassion.
2. Communicate effectively, efficiently and compassionately with patients, families and other health professionals.
3. Describe and analyze the statistical methodology of clinical studies and apply the results to individuals and groups of patients.
4. Identify and investigate ethical, cultural, socioeconomic and political factors relevant to medical interactions.
5. Examine and analyze personal and professional competencies, limitations and behaviors.

How do we accomplish these goals?

1. Learning skills and techniques requires a cycle of steps: preparation, background reading, attempts at skill performance, analysis and reflection on performance, discussion of potential improvements, and successive performance of the skill with advancement to a new level of expertise.
2. The focus is on learning skills. You practice each skill, such as interviewing, in a
variety of venues and situations of varying complexity. This course is for learning about how to do things that you will use for taking care of patients and families.

3. You work in multiple learning environments.
   a. Academic environments: Small group sessions for discussion, small group practice sessions, peer learning, small group presentations, individual and group writing assignments, and reflections on experiences are the preferred learning locations.
   b. Clinical environments: Inpatient units with faculty and WUMS IV mentors, standardized patient experiences with videotape review, physicians' offices, patient's homes with and without home care professionals, and a city clinic.

Selectives

M04 5009 MEDICAL SPANISH
Instructor: Marcos Rothstein, MD, 286-0801
This course is designed to provide educational opportunities for people speaking at all levels of Spanish fluency. The classes will consist of basic grammar and the movie/book club/charlas (chats)/roundtables with physicians interspersed throughout the course. Students will learn medically relevant vocabulary, cultural sensitivity and fluency with the goal to improve treatment of the growing U.S. Latino population.

M04 520H ART AND MEDICINE
M04 528H TERMINAL ILLNESS AND DEATH
Instructor: Ellen F. Binder, MD, 314-286-2707, ebinder@wustl.edu
In this seminar we will examine such topics as: 1) psychological, social, and professional responses to terminal illness and death; 2) communicating bad news to patients; 3) grief and bereavement; 4) palliative care and physician-assisted suicide. Teaching sessions will include discussion of readings, interviews with practitioners and/or patients, and will rely heavily on student participation. Students are also required to spend a half-day making rounds with a BJC Hospice nurse.

M04 528H TERMINAL ILLNESS AND DEATH
Instructor: Ellen F. Binder, MD, 314-286-2707, ebinder@wustl.edu
In this seminar we will examine such topics as: 1) psychological, social, and professional responses to terminal illness and death; 2) communicating bad news to patients; 3) grief and bereavement; 4) palliative care and physician-assisted suicide. Teaching sessions will include discussion of readings, interviews with practitioners and/or patients, and will rely heavily on student participation. Students are also required to spend a half-day making rounds with a BJC Hospice nurse.

M04 5302 FRONTIERS IN LEUKEMIA
Instructor: John Welch, jwelch@dom.wustl.edu
Hematopoietic research is rapidly and in some cases dramatically changing the clinical management of patients with leukemia. Most notably, the development of imatinib, a drug specifically designed to inhibit the bcr-abl oncogene, has fundamentally altered the way we treat patients with chronic myelogenous leukemia (CML). The objective of this course is to introduce students to scientific investigation in hematopoiesis with an emphasis on leukemogenesis. We will focus on how research is advancing our understanding of the pathogenesis and treatment of this group of diseases. Specific topics will include CML and the development of imatinib and newer inhibitors, acute myelogenous leukemia, and the preleukemic syndromes severe congenital neutropenia and myelodysplasia. The faculty is all physician-scientists actively engaged in these areas of research. Students will be able to demonstrate the impact of molecular biology on the understanding of the pathogenesis of leukemia and its clinical management.

M04 538H DOCTORS ON FILM
Instructor: Thomas M. De Fer, MD, 747-4366
This course will explore the relevant social themes of films in which physicians and/or the medical profession are the main focus. There are countless portrayals of physicians in the cinema. There are also many films that deal extensively with various features of health care delivery. For good or for bad, viewers of these films outside our profession are strongly influenced by these portrayals. Common stereotypes are perpetuated. If it's in the movies, there must be some truth to it. Depictions of physicians and major medical themes have evolved with time and under the influence
of social and scientific developments. The course will investigate these depictions and themes using a selection of films (from the classic era to more modern films) to provoke thought and discussion. Some discussion of film craft is also included. Emphasis is given to older movies, 1940s to 1970s. Those not interested in film craft or classic films should consider these latter points very carefully. The essence of this selective is the collective group experience of watching the movies and the discussion that follows. Most of the films are not readily available for rental or purchase, and lending of the VHS tapes or DVDs is not practical. For these reasons, attendance at five of the six sessions is required (all students must attend the introductory session). Each session will run from 3:15 p.m. to 4:55 p.m. (1 hour and 40 minutes). Students will be able to:

1. Discuss the common themes in doctor movies
2. Discuss the evolution of these themes over time in the context of social and scientific developments
3. Discuss the various portrayals of physicians frequently seen in doctor movies
4. Discuss the effects of these themes and portrayals on patient expectations
5. Appreciate how an understanding of these portrayals and themes can be used to improve medical care

M04 582H PHILOSOPHY OF MEDICINE
Instructor: Stephen S. Lefrak, MD, 454-7116

Medicine is a complex enterprise that has a major impact on our society. As such it draws increasing attention from those within the health care professions as well as those outside medicine whose expertise may lie in law, social science, philosophy, policy, etc. Physicians, in addition to their clinical and research responsibilities, must become increasingly adept at interdisciplinary activities. It is never too early in a career to begin to examine “medical” concepts that are frequently employed without being clarified, thus hindering communication rather than solving problems. It is this clarification process that philosophy addresses. The very issues that philosophy has dwelled on throughout the centuries are the very ones that are critical for medicine; think of “death” or “personhood”, for example. Also, whether medical concepts are “real” or “constructed” is important for both the disciplines of medicine and
philosophy. And dare we even mention such issues as the relationship between mind and body, notions of causality, how and what we mean when we “know something” and “free will”? This selective is looking for students who would be interested in beginning such a study with the goals of developing their own understanding as well as introducing it into the medical school curriculum in a formal way. The classical subdivisions of philosophy such as ontology (science of being, existence), epistemology (science of knowing), ethics (moral philosophy) and social philosophy may all serve to clarify important issues in medicine. For example, physicians focus on disease in many ways, yet are diseases descriptive realities or normative (value) concepts? The impact of which answer is accepted is felt throughout society? as what will be reimbursed as health care, what is enacted into policy and law (Americans with Disability Act), and to what the range of medicine is and where are its boundaries. The epistemology of medicine may also be somewhat unique. What physicians take as evidence and what we mean by causality may be very different than what is meant in other scientific disciplines. The terms used by physicians such as evidence, causality, explanation, hypothesis, theory, etc. should be critically analyzed by physicians. The impact of our understanding of this has great effect on our patients both in clinical care and what research is pursued and accepted. Of course, ethics plays an important role in medicine, but this course is focused on a philosophical analysis of the medical concepts and the constructs of medicine with emphasis on ontology and epistemology. Students will be able to:
1. Expound the “arguments” whether “philosophy of medicine” exists or is needed.
2. Thoughtfully discuss what “medicine” is and some of the legitimate “goals of medicine”.
3. Discuss some of the major domains of philosophy.
4. Become familiar with some of the major philosophical problems and methods.
5. Describe what metaphysics are.
6. Discuss the “concept of disease”.
7. Discuss what kind of activities clinical medicine and reasoning are.
8. Become familiar with the analysis of “scientific method” and how that model compares, fits with clinical medicine.
9. Discuss the method of medicine and compare it to other fields.
10. Think critically about what is required of a mechanistic explanation.
11. Think carefully about the nature of causal relevance.
12. Discuss the virtues and limits of reductive explanations and methods in neuroscience and physiology.
13. Understand the principles of evidence-based medicine.
14. Understand some individuals believe evidence-based medicine is not scientifically sound.
15. Understand the care of individual patients is complex, and rigid adherence to one model may not be sufficient.
16. Discuss the relationship between the metaphysics of medicine, the epistemology of clinical medicine and clinical ethics.
17. Attempt to adopt a unified outlook toward the commonly employed concepts of clinical medicine and their relationship to the patient, physicians and their interaction.
18. Proceed throughout their medical education and careers more aware of the impact of the views that are taken of “disease”, clinical judgment and ethical decision making.

**M04 524H MAJOR RELIGIOUS TRADITIONS AND HEALTH CARE**

Instructor: Chaplain William V. Trogdon, BCC, Director Spiritual Care Services, 314-609-8238

This course will introduce the students to the tenets of mainline world religions and how their beliefs and practices can best be considered in understanding the whole patient/family for treatment, planning and decision-making. Primary attention will be given to the five major world religions: Christian, Buddhist, Hindu, Jewish and Muslim faith traditions as well as others with particular considerations for health care. Special attention will be paid to end-of-life issues, decision-making and interpersonal dynamics. The students also will be introduced to a clinical model of understanding faith and spirituality within the context of health care. Students will be able to:

1. Be more comfortable considering patient/family religious/faith dynamics.
2. Understand the role of patient/family faith commitments in their healing, well-being and development.
3. Increase basic knowledge of tenets of mainline religions found in the United States
and how their beliefs/practices can best be considered in understanding the whole patient/family for treatment planning and decision-making.

**M04 588H MUSIC AND MEDICINE**
Instructor: Steven Cheng, MD, 362-7211 and David Windus, MD, 362-7211
Music and medicine reflect one another in several fascinating ways. During this selective, students will participate in six highly-interactive sessions that will include lively discussions, guest speakers and demonstrations. Students will discuss how music evokes certain characteristics of disease, suffering and illness; discuss how illnesses in musicians/composers and rock stars influences their work; understand the role of music in the healing process; and recognize medical problems that arise in performing artists. Students will also see first-hand how music can impact the elderly and ill during a performance at a local nursing home.

**M04 5875 OLIN GRAND ROUNDS: THE BUSINESS AND PRACTICE OF MEDICINE**
Instructors: Cynthia Wichelman, MD, FACEP, Associate Professor of Emergency Medicine, wichelmc@wustl.edu, and Bart Hamilton, PhD, Robert Brookings Distinguished Professor of Entrepreneurship
Grand Rounds at medical schools are forums for presenting new and challenging clinical problems and cases. The goal of Olin Grand Rounds is to focus on the challenges facing the business of medicine and consider possible solutions. The course provides a broad introduction to the current issues facing the health care sector, while integrating management tools and clinical knowledge. This fall semester course was first offered in 2006 and has become a popular course for premed and business undergraduates, as well as students in the MBA program. More medical students should take this class! The information is invaluable for any one pursuing a career in medicine or in the health care sector of business. In addition to several outstanding guest speakers, a number of business case study discussions are complemented with clinical patient presentations. Topics covered include clinical practice compensation distribution, concierge medicine, health care reform, ACA, health care systems comparison, hospital management, analysis of walk-in clinics (i.e., Walgreens, CVS), organ transplantation, research and development and marketing of
pharmaceuticals, sickle cell anemia and management of Medicaid and care to the underserved, the business of cosmetic surgery, and biotech startup methods used by local physician-entrepreneurs, to name a few. The course also includes a tour of Express Scripts.


M04 5013 INTRODUCTION TO EMERGENCY MEDICINE I
Instructor: Cynthia Wichelman, MD, FACEP, Associate Professor of Emergency Medicine, wichelmc@wustl.edu

Over six sessions, we will review the physiology and clinical management of common emergencies: cardiovascular emergencies; trauma resuscitation and shock; environmental emergencies, such as high-altitude cerebral edema and snake bites; pediatric emergencies; gynecological and urological emergencies; and toxicological emergencies. Each session will include a lecture followed by case studies that highlight critical aspects of a patient’s history, physical examination, laboratory and radiological studies, as well as procedural intervention and pharmacological treatment. Group participation is encouraged. This selective is intended to give students an exposure to emergency medicine. Students will become familiar with the methods used to evaluate and treat patients with medical emergencies in preparation for their clinical training.

October 25 – Nov. 29th, 2016. Tuesdays, 3:15 PM – 5PM.

M04 5016 INTRODUCTION TO EMERGENCY MEDICINE II
Instructor: Cynthia Wichelman, MD, FACEP, Associate Professor of Emergency Medicine, wichelmc@wustl.edu

This class is a second session on emergency medicine (in response to student requests!) exploring topics not covered in the fall session. Although it would be beneficial to take the Introduction to Emergency Medicine I course offered in the fall, it is not a prerequisite for this class. Six sessions will review the physiology and clinical management of abdominal emergencies, obstetric emergencies, ophthalmic emergencies, endocrine emergencies, environmental emergencies such as lightning and hypothermia, plus a few neurologic emergencies, renal emergencies, orthopedic
emergencies and oncologic emergencies. Each session will include a lecture followed by case studies that highlight critical aspects of a patient’s history, physical examination, laboratory and radiological studies, as well as procedural intervention and pharmacological treatment. Group participation is encouraged. This selective is intended to give students further exposure to emergency medicine. Students will become familiar with the methods used to evaluate and treat patients with medical and surgical emergencies in preparation for their clinical training and board preparation.

April 4 – May 9, 2016. Tuesdays, 3:15 PM – 5PM.

**M04 587L INTERNATIONAL HEALTH**

Instructor: Cynthia Wichelman, MD, FACEP, Associate Professor of Emergency Medicine, [wichelmc@wustl.edu](mailto:wichelmc@wustl.edu)

This course is an excellent opportunity to prepare for a summer abroad through FIHTM or for a fourth year away rotation. Speakers include WUSM faculty who have incorporated international healthcare in their practices — from surgery (e.g., ophthalmology, neurosurgery, ENT, ob/gyn), and anesthesiology, to emergency medicine and pediatrics, as well as give students an opportunity to hear from the Global Health faculty heroes at WUSM. Each lecture is followed by an interview with the speaker. The course will help you explore different avenues for adding an international component to your career and to learn which specialties may more readily lend themselves to this. Other topics include how to protect your health while abroad and the ethics of research in a global setting, and organizations such as Doctors Without Borders and ORBIS. WUSM II and IV students will also share their experiences administering health care and doing research abroad. This course, which consists of six sessions, was first introduced in 2004 and grew quickly. On the last day, students present for 10-15 mins. on a topic of their choice.

January 24 – February 28, 2016. Tuesdays, 3:15 PM – 5PM.

**M04 537 SIMULATIONS IN CARDIOVASCULAR PHYSIOLOGY**

Instructor: David Murray, MD, 747-2136

The purpose of this selective is to demonstrate cardiovascular physiologic principles
including control mechanisms using interactive patient simulators (computerized mannequins) to replicate common cardiovascular disease conditions and potential treatment modalities. Several clinical scenarios with case histories will be presented to small groups for interpretation and subsequent treatment, thereby providing the opportunity to explore alterations in preload, afterload, isotropism and chronotropism. During the selective clinical conditions associated with changes in these cardiovascular determinants as well as various cardiovascular control mechanisms will be explored through scenarios. Scenarios include shock, arrhythmias, congestive heart failure, myocardial infarction and some “unknowns”. Variables monitored in the patient simulator include ECG, arterial, venous, ventricular and capillary wedge pressures, cardiac output, stroke volume, heart rate, systemic and pulmonary vascular resistance and ventilation. A class-wide discussion and systematic review will follow the individual small group workshops to allow synthesis of all the material.

M04 586H HEALTH AND HUMAN RIGHTS
Instructor: Kim Carmichael, MD, 454-7116
There is a strong belief among many physicians that our responsibilities extend beyond our individual patients to our communities, countries and even to our entire world. This humanities selective is an excellent forum for interested students to actively learn and discuss the impact of human rights violations on health. Topics include reproductive and pediatric health rights, communication issues and interactions with interpreters. Each meeting will consist of a brief presentation and a discussion on the topic. There will be a different presenter for each topic. Readings will be provided. Students will be able to:
1. Explore human rights issues that are relevant to the health professions from both local and worldwide perspectives.
2. Describe the boundaries and challenges involved in solving human rights issues.
3. Describe strategies for the implementation of programs that address human rights issues.
4. Develop successful initiatives and interventions pertaining to health and human rights.
M04 587A PHYSICIAN AS HEALTH PROTECTOR AND PATIENT ADVOCATE
Instructor: Steven I. Plax, MD, 994-0109
Investigation into clinical topics again will be offered. Last year’s students did an educational program teaching our population how to read the nutrition information on products they were purchasing. For further information, students may call Dr. Plax at (314) 994-0109. The Office of Medical Student Education has copies of our medical handbooks and their supplements. This course is a component of the Health Protection and Education Service, which meets on the third Saturday of each month except December and July. Sessions are held in the University City Library, 6701 Delmar from 9 a.m. to 11:30 a.m. Students share the goals of the HPES.
1. To do multiple screening testing ranging from height, weight, body mass index, blood pressure, eye and vision evaluation, hearing tests by audiologist, skin and dental exam, blood sugar, hemoglobin, and cholesterol measurement, and EKGs.
2. Educate people in protecting their health — a trained historian records each individual's medical history — at conclusion of person's tests and recording of history, a one-on-one conference is held with a member of MD staff. Medical students participate in screenings and in history-taking and final conferences in telephone follow-up.
This is an opportunity for Washington University medical students to correlate the basic information gathered from first-year courses with their experience with our patients — and in-the-trenches participation in preventive medicine. Students actively participate in the screening and in history-taking (with trained historian) and in individual conferences between patients and physicians. Students may take part in statistical analysis of data and join in the production of another supplement as in preceding years.

M04 580H THE HEALER’S ART
Instructor: Anna Lijowska, MD, 454-6148
The Healer's Art combines seed talks and experiential exercises in a large group setting along with small group experiential exercises. The course engages students in a discovery model of community of inquiry focusing on the meaning of physicianhood
and the practice of medicine. Faculty participate in the discovery model process on an equal footing with students as well as facilitating the process of the small groups. The course is designed to encourage medical students to trust the power of listening and presence to heal; formulate a personal, comfortable and compassionate response to loss; experience the healing power of grief; recognize that who they are is as important to the healing relationship as what they know; recognize awe and mystery in the daily practice of medicine; explore the concept of calling; write a personal mission statement; and explore the personal meaning of physicianhood. The Healer’s Art facilitates students in clarifying, strengthening and making a personal commitment to medicine as their life’s work. Students also have the opportunity to explore their personal values and commit to developing and preserving their personal values, such as service, harmlessness, compassion, altruism, self-care, equality, justice, respect and nurturing wholeness. There will be additional instructors for this course.

Students will be able to:
1. Make an active commitment to strengthening and preserving their humanity
2. Experience the effects of listening and being listened to generously and compassionately
3. Experience healing relationships with other students
4. Experience tools of self-remembering
5. Identify effective and ineffective behavioral responses to loss and grief
6. Identify when they first became aware of wanting to serve others
7. Articulate and strengthen a personal commitment to medicine as their life’s work
8. Experience practicing physicians sharing their experiences of loss, grief, mystery, and awe in practicing medicine
9. Witness the unity of commitment to service that lies beneath the diversity of expertise and experience

Second year

Teaching by the Department of Medicine is designed to: 1) prepare students for the transition from the preclinical sciences to the study of the sick patient at the bedside, 2) help them analyze the clinical manifestations of disease in terms of the responsible mechanisms and 3) introduce them to the techniques of examination that are used
regularly on all clinical services. This instruction is undertaken jointly with members of other clinical departments and is coordinated with subject matter presented by the Department of Pathology and Immunology.

The major areas of clinical medicine are presented in detail to illustrate the application of biochemical, physiological and anatomical information to the understanding of pathological states. Cardiovascular, renal, neurological, gastrointestinal, pulmonary, hematological, metabolic, nutritional and developmental diseases are discussed. Emphasis is placed on the use of fundamental information in approaching clinical problems as a way of thinking that prepares the student for a lifetime of medicine, during which new information will constantly be acquired.

M25 607 THE PRACTICE OF MEDICINE II
Course Master: Megan E. Wren, MD, 286-3480
The goal of The Practice of Medicine (POM) course is to provide students with the knowledge, skills and attitudes essential to patient care regardless of specialty. POM II is a continuation of POM I and will continue to address various interfaces between patients, physicians and society and will also introduce the advanced physical exam and approaches to clinical thinking and decision-making. The sections of POM II include Clinical Skills, Case Development, Communication Skills, Ophthalmology, Radiology, Community and Public Health, Ethics and Health Policy Humanities, and Scientific Methods. The learning objectives for each section of POM II emphasize topics and skills used in all fields of medicine, and the majority of the course work will be taught in small groups or through clinical experiences. 89 clock hours.

M25 605A INFECTIOUS DISEASES AND MEDICAL MICROBIOLOGY
Instructors: Nigar Kirmani, MD, 454-8276 and Steven Lawrence, MD
The infectious disease pathophysiology course emphasizes both organism-specific and organ-specific approaches to diseases caused by microbes. The course expands on material presented briefly in the first year concerning bacteria, viruses, fungi and parasites and their involvement in human disease. Mechanisms of disease production, clinical manifestations and therapy are discussed, along with public health
implications. In addition to lectures, small group case discussions enable students to apply the information they learn to clinical situations.

M25 606A RHEUMATOLOGY
Instructor: Richard D. Brasington, Jr., MD, 454-7255
The rheumatology pathophysiology course begins with an overview of the approach to the patient with arthritis and related disorders. Diagnoses covered include rheumatoid arthritis, systemic lupus erythematosus, vasculitis syndromes, infectious arthritis, and crystalline arthritis. Clinical features and treatment will be emphasized. In small group sessions, students interview and examine patients to gain a fuller understanding of the typical history and physical findings of these disorders. Students are strongly encouraged to attend the small group sessions with patients, who make a major contribution to teaching students about these conditions.

M25 611B CARDIOVASCULAR DISEASE
Instructors: Dana R. Abendschein, PhD, 362-8901 and Justin Sadhu, MD
The purpose of this course is to consider the mechanisms and manifestations of acquired cardiovascular disorders as well as their pharmacologic treatment. Lectures and small group discussions that emphasize the major areas of cardiac and vascular pathophysiology and pharmacology are provided.

M25 612B PULMONARY DISEASE
Instructor: Adrian Shifren, MD, 314-454-8764
The objectives of the pulmonary pathophysiology course are to classify, compare and contrast the major categories of human lung disease. This will be achieved through description of pathophysiologic mechanisms underlying lung disease in humans including alterations in pulmonary mechanics, gas exchange and lung ventilation.

M25 613B RENAL AND GENITOURINARY DISEASES
Instructors: Steven Cheng, MD, 362-7211
This course uses basic principles of renal physiology and ion homeostasis to
understand commonly encountered fluid and electrolyte disorders (especially hyper-/hypo-natremias, acidoses/alkaloses) and the action of diuretic drugs. The pathophysiology of diabetic kidney disease, glomerular and tubulointerstitial diseases, hereditary kidney diseases, and the relationship between hypertension and the kidney are discussed. It also applies basic principles of urinary system anatomy and physiology to the understanding of kidney stones, disorders of the bladder and prostate, and of micturition. The course also introduces basic principles of dialysis and kidney transplant. Lectures, small group problem-solving and team-based learning sessions focus special attention on: 1) how a working knowledge of fundamentals, diagnostic testing and arithmetic manipulation can have important predictive value; and 2) how the courses of acute and chronic renal failure are both adaptive and maladaptive for the organism.

**M25 614 DERMATOLOGY**
Instructor: David M. Sheinbein, MD, 996-8005
The dermatology second-year course is designed to teach medical students how to describe skin lesions and the pathophysiologic basis and clinical characteristics of major dermatologic diseases. Major categories of clinical skin diseases and their most prominent constituents will be discussed, including papulosquamous diseases, blistering diseases, infectious diseases, and benign and malignant neoplasms.

**M25 615A ENDOCRINOLOGY AND METABOLISM**
Instructor: William E. Clutter, MD, 362-8094
This course aims to develop understanding of the pathophysiology, clinical manifestations and diagnosis of common endocrine disorders. History, physical examination and interpretation of diagnostic laboratory tests are emphasized. Principles of treatment of endocrine disorders and pharmacology of relevant drugs also are discussed. Students are expected to apply their knowledge in clinical case discussions.

**M25 620A GASTROINTESTINAL AND LIVER DISEASES/NUTRITION**
Instructor: Deborah C. Rubin, MD, 362-8935
This course discusses the pathophysiologic mechanisms related to the diseases of the gastrointestinal tract including esophagus, stomach, small and large intestines, liver, gallbladder and pancreas. The emphasis is on changes that occur in normal physiology, biochemistry, anatomy, immunology and cell biology that result in human gastroenterologic diseases. Included also are lectures on the pharmacology of gastrointestinal drugs and basics of human nutrition in clinical practice. Lectures are supplemented by group seminars that focus on clinical case presentations.

M25 625A HEMATOLOGY AND ONCOLOGY
The hematology and oncology pathophysiology course exposes students to common hematologic disorders and hematologic malignancies. The course uses lectures, clinical case discussions and practical sessions involving microscopy.

Third year

M25 710 MEDICINE CLERKSHIP
Instructor: Thomas M. De Fer, MD, 362-8050
The medicine clerkship provides supervised study of patients in both inpatient and ambulatory settings. The 12-week clerkship is divided into three four-week rotations: two inpatient and one outpatient. For the inpatient rotations, students are assigned as clinical clerks to patients admitted to the cardiology and general medical teaching services of Barnes-Jewish Hospital and the St. Louis VA Medical Center — John Cochran Division. For the outpatient rotations, students are placed with community-based internal medicine or family practice physicians and will almost always require a car for transportation. Teaching is provided by the chief of service, attending physicians, house staff, consultants, chief residents, community-based preceptors and regularly scheduled conferences. Formal instruction is given regarding core internal medicine topics during the clerkship. Teaching activities include Chief Resident Rounds, Core Lecture Series, Physical Diagnosis Rounds, Radiology Rounds, Professor’s Rounds and other departmentally based conferences.

Clinical Pathological Conference
The clinical course, laboratory and radiologic studies, and pathological findings of a patient are discussed using a problem-solving format at a weekly conference by members of the Departments of Medicine, Pathology and Immunology, and Radiology; Melvin Blanchard, MD, internal medicine; chief residents and medical staff; Louis P. Dehner, MD; and pathology staff.

M25 707 PRACTICE OF MEDICINE III
Course Master: Tim Yau, MD
Clerkship Coordinator: Melody Cox, 362-3480

Objectives:
1. To review challenges and dilemmas relevant to the practice of clinical medicine.
2. To examine clinical experiences from a variety of perspectives.

In this course, themes and topics relevant students in their clinical stage of training are discussed. Session formats include lecture, panel discussion and/or small group. As students exchange problematic scenarios and questions, the group develops potential solutions and management schemes.

*Topics in the past have included:
Session 1: Complimentary and Alternative Medicine
Session 2: Safe and Quality Care at BJH
Session 3: Communicating Serious Adverse Events to Patients and Families
Session 4: Intimate Partner Violence
Session 5: Medical Malpractice/Tort Reform
Session 6: Healthcare Financing
Session 7: Update on the Patient Protection and Affordable Care Act (PPACA)
Session 8: Clinical Practice Management
Session 9: Recognizing Personal Biases
Session 10: Evaluation and Treatment of Patients with Disabilities

Attendance at 8 out of 10 POM III sessions is required to pass this course. Student may use 2 absences for any reason and are recommended to save them for their ACES
rotation, Labor & Deliver rotation, or an emergency.

Sessions will be from 12:00 pm – 2:00 pm on the 3rd Tuesday of every month except for November and December. (Please note that the 1st session is held on the 4th Tuesday of June).

The dates for 2016-17 are:
6/21/16, 7/19/16, 8/16/16, 9/20/16, 10/18/16, 1/24/17, 2/21/17, 3/21/17, 4/18/17, 5/16/17

Students are excused from clinical activities to attend.
Location: Connor Auditorium, Farrell Learning and Teaching Center
* Topics subject to change

**M25 714 EMERGENCY MEDICINE**

Instructors: Mark Levine, MD, 362-6743

The WUMS III Emergency Medicine Rotation takes place in the main emergency department of Barnes-Jewish Hospital. Up to six students at a time are assigned to this four-week rotation. Students will spend their first day in an orientation session that will include an ED introduction, a suture lab, an airway lab, a central line lab, and an ultrasound lab. A digital course “text” will be provided. The student may request a written copy as well. Students will be evaluating and treating patients throughout the Emergency Department. Although the majority of the time will be spent in the areas of the ED that see “bread and butter” EM cases, the students will have assigned shifts in the trauma/critical care area and report directly to an attending or senior resident. There are five hours of mandatory lecture per week. Students can expect to gain a wide range of skills in evaluating a variety of complicated and non-complicated patients. At the end of the rotation, students will be familiar with the approach to complex medical conditions like chest pain, undifferentiated abdominal pain and complications of pregnancy as well as treatments of lacerations, abscesses, simple respiratory tract infections and minor trauma. Opportunities will be provided to the student to perform the necessary procedures on their patients as required. The student will also spend a day in an interdisciplinary approach with other EM support services (respiratory, social work, nursing, physical therapy).
WUMS III will be graded on their clinical skills, their ability to make a formal patient presentations during a shift, professionalism, and their conference attendance. There will be a written test on the last Friday of the rotation based entirely on the material provided to the students at the start of the rotation.

M25 740 DERMATOLOGY CLERKSHIP
Instructor: Lynn Cornelius, MD, 454-8622
The goal of the dermatology clerkship is to provide a guide for the student to appreciate dermatology within the broader perspectives of medicine and biology. The student will develop familiarity with dermatologic vocabulary, learn to recognize and initiate therapy of common dermatologic disorders and become cognizant of uncommon or complicated dermatologic problems that require specialty care. Emphasis will be placed on careful history taking and physical examination. Students will always work under the direction of the resident physician and the attending physicians in the clinic setting.

The student will participate in outpatient care at the following hospitals and affiliated clinics: Barnes-Jewish Hospital, St. Louis Children's Hospital, Barnes-Jewish West County Hospital, and the Veterans Administration Medical Center. These hospital settings will provide the student with ample exposure to a diverse patient population. Students will attend all clinical teaching rounds and conferences in addition to the basic science and cutaneous histopathology conferences. Normal workday hours are 8 a.m. to 5 p.m. with no night or weekend on-call responsibilities. Each student is provided with copies of the two recommended textbooks, The Washington Manual of Dermatology Diagnostics by M. Laurin Council, et al. and The Color Atlas and Synopsis of Clinical Dermatology by T.B. Fitzpatrick for use during the clerkship; the textbooks are returned to the clerkship coordinator at the end of the clerkship for use by other students rotating in the dermatology division.

The rotation attending physician and the resident physician will submit an evaluation based on the student's clinical skills, presentation, attitudes, overall performance and the end-of-rotation written exam score. Students are not eligible to take the fourth-
year rotation if they complete this clerkship.

M25 750 GERIATRIC MEDICINE CLERKSHIP
Instructor: Ellen F. Binder, MD, 286-2707

Program Coordinator: Stephanie Paule, 286-2909
The primary goal of the four-week clerkship in Geriatric Medicine is for students to gain proficiency in the principles of geriatric evaluation and interdisciplinary team management, including medical, psychological, social, and functional assessments of older adults. Students are expected to participate in the evaluation of at least three to five patients per week, in a variety of settings including the outpatient Geriatric Assessment Clinic, in-patient Geriatric consults, nursing home visits at Parc Provence, home visits with the VA Home-Based Primary Care Program, and at the Rehabilitation Institute of St. Louis (TRISL). Students will also have the opportunity to participate in hospice and home care visits, and observe an assessment at the WU Alzheimer’s Disease Research Center. Students are expected to attend weekly conferences and didactic sessions while on the rotation, and give an oral presentation on a topic of their choice.

The day usually begins at 8:30 a.m. and ends by 5:30 p.m. There is no night or weekend call. Time is provided to read the syllabus/bibliography and complete web-based learning modules.
Location: Wohl Clinic Building, Third floor, Room 338
Other Information: Meet at the Department of Geriatrics office, Wohl Clinic Building, Third floor, Room 338, 9:00 a.m. first day of elective.
Pre-requisite: Students must have completed the Internal Medicine clerkship before taking this elective; completion of the Neurology clerkship is encouraged but not required.

M25 730 PHYSICAL MEDICINE AND REHABILITATION
Coursemaster: Neringa Juknis, MD, 454-7757
Clerkship in PM&R for third-year medical students provides an opportunity to gain basic knowledge and clinical skills in evaluation and management of a wide range of
neurological and musculoskeletal diseases and conditions that require specialized rehabilitative medical and therapeutic care. Students spend two weeks on the Spinal Cord Injury Unit (SCI) and two weeks on the Brain Injury (BI) and Stroke Unit at The Rehabilitation Institute of St. Louis. Students are expected to be a part of the rehabilitation team, follow three to five patients, participate in daily morning rounds, participate in performing consults and attend team meetings and family conferences.

Students are required to attend several outpatient clinics such as SCI, BI, Amputee and Stroke. During the entire rotation, students work with PM&R residents and fellows, and under direct guidance of the NeuroRehabilitation faculty. The usual duty hours are 7:30 a.m. to 5 p.m. weekdays and 8 a.m. to noon on Saturdays. There is no night call.

Students are required to attend all PM&R curriculum lectures and conferences. On the first day of rotation, students meet with the PM&R program director to go over goals, objectives and schedules. Upon completion of the rotation, students are required to fill out the evaluation form to provide feedback regarding rotation experience.

M25 810  GERIATRIC MEDICINE
Instructor(s): Ellen Binder, MD, 286-2700, press option 1
Enrollment limit per period: 1
Valid start weeks for 4-week blocks are: Weeks 5, 13, 17, 21, 25, 29, 33, 37, and 41.

The primary goal of the four-week clerkship in Geriatric Medicine is for students to gain proficiency in the principles of geriatric evaluation and interdisciplinary team management, including medical, psychological, social, and functional assessments of older adults. Students are expected to participate in the evaluation of at least three to five patients per week, in a variety of settings including the outpatient Geriatric Assessment Clinic, in-patient Geriatric consults, nursing home visits at Parc Provence, home visits with the VA Home-Based Primary Care Program, and at the Rehabilitation Institute of St. Louis (TRISL). Students will also have the opportunity to participate in hospice and home care visits, and observe an assessment at the WU Alzheimer’s Disease Research Center. Students are expected to attend weekly conferences and didactic sessions while on the rotation, and give an oral presentation on a topic of
their choice.

The day usually begins at 8:30 a.m. and ends by 5:30 p.m. There is no night or weekend call. Time is provided to read the syllabus/bibliography and complete web-based learning modules.

Pre-requisite: Students must have completed the Internal Medicine clerkship before taking this elective; completion of the Neurology clerkship is encouraged but not required.

Fourth year

Electives

M25 – INTERNAL MEDICINE

M25 801 / HONORS MEDICINE – GENERAL MEDICINE
Instructor(s): Thomas De Fer, MD, 314-362-8050
Location: Barnes-Jewish Hospital
Elective Contact: Amber Specter, 314-362-8050
Other Information: Students will receive e-mail communication regarding where to report on the first day prior to the beginning of the period.
Enrollment limit per period: Limit 8/period for Weeks 1, 5, 9; 4/period for Weeks 13, 17, 21, 25, 29, 33, 37, and 41.

The purpose of the “Honors Medicine” elective (sub-internship) is the development of expertise in the care of hospitalized patients in a well-supervised teaching environment. Sub-interns act as their patients’ interns under the supervision of residents and attending physicians. Sub-interns have the same on-call and admitting schedules as the interns on their teams and are assigned up to two new patients on each admitting day. Sub-interns are not required to spend call nights in the hospital. Except in emergencies, sub-interns are the first individuals to evaluate patients admitted to medical service teams. A diagnostic and therapeutic approach to the patient is planned in consultation with the resident. Sub-interns assume primary
responsibility for the daily care of their patients, under the supervision of resident and attending physicians. This includes evaluation on daily rounds, scheduling and obtaining results of diagnostic studies, planning therapy, making arrangements for care after discharge and communicating with patients and their families. Sub-interns attend the same conferences as the house staff.

Student time distribution: Inpatient 90%; Conferences/Lectures 10%; Primary Care 50%; Subspecialty Care 50%
Major teaching responsibility: Attending, chief resident, and resident
Patients seen/weekly: 8-12
On call/weekend responsibility: Yes

**M25 805 / RHEUMATOLOGY**

Instructor(s): Richard Brasington, MD; Prabha Ranganathan, MD; John Atkinson, MD; Deborah Parks, MD; 314-454-7279
Location: Barnes-Jewish Hospital, 5C Center for Advanced Medicine
Elective Contact: Department secretary, 314-454-7279
Other Information: Students should contact the Rheumatology office, 314-454-7279 prior to first day for assignment.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Students will be involved in the diagnostic work-up and management of patients with rheumatic illnesses including systemic lupus erythematosus, rheumatoid arthritis, vasculitis (polyarteritis, Wegener’s, temporal arteritis), spondyloarthropathies (ankylosing spondylitis, reactive arthritis), osteoarthritis, gout and regional musculoskeletal problems. By working closely with a faculty member, fellows and medical residents, students become integral and active members of the rheumatology service for inpatient consultations and outpatient clinics at Barnes-Jewish Hospital. An emphasis is placed on the physical examination of joints and the musculoskeletal system, synovial fluid analysis, and interpretation of diagnostic tests and radiographs.
Students attend two rheumatology conferences held weekly. A rotation limited to outpatient rheumatology is possible by prior arrangement with Dr. Brasington.

Student time distribution: Inpatient 40%; Outpatient 50%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attendings
Patients seen/weekly: ~25 per student
On call/weekend responsibility: None

M25 807 / HONORS MEDICINE – VA MEDICAL CENTER
Instructor(s): Amy Joseph, MD, 314-289-7030
Location: St. Louis Veterans Affairs Medical Center
Elective Contact: 314-289-6308
Other Information: Students will receive e-mail communication regarding where to report on the first day prior to the beginning of the period.
Enrollment limit per period: Limit 3/period for Weeks 1, 5, 9; 1/period for Weeks 13, 17, 21, 25, 29, 33, 37, and 41.

The purpose of the “Honors Medicine” elective (sub-internship) at the VA Medical Center is to develop practical experience and expertise in the care of hospitalized patients on an internal medicine ward. With appropriate supervision by the attending and resident physicians, sub-interns will have similar responsibilities as interns. They have the same on-call/admitting schedules as the interns and participate in the same teaching conferences, but they do not take overnight call. Sub-interns should admit at least two patients per call day, and they should be the first to evaluate the patients admitted to the medical service, except in emergencies. A diagnostic and therapeutic approach to evaluating each patient is planned in consultation with the resident. While being supervised as listed above, sub-interns assume primary responsibility for the daily care of their patients, including evaluation on daily rounds, scheduling and obtaining results of diagnostic studies, calling consults, planning therapy, making arrangements for care after discharge, and communicating with patients and their families.
Student time distribution: Inpatient 80%; Conferences/Lectures 20%; Subspecialty Care 100%
Major teaching responsibility: Attending, Chief Resident and Resident
Patients seen/weekly: 6-8 on average
On call/weekend responsibility: On-call every fourth day

M25 810 / GERIATRIC MEDICINE
Instructor(s): Ellen Binder, MD, 314-286-2700, press option 1
Location: Wohl Clinic Building, 3rd Floor conference room
Elective Contact: Stephanie Paule, Program Coordinator: 314-286-2909
Other Information: Meet at the Department of Geriatrics office, Wohl Clinic Building, 3rd Floor conference room, 8:30 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 5, 13, 17, 21, 25, 29, 33, 37, and 41.

The primary goal of this rotation is for students to gain proficiency in the principles of geriatric evaluation and management, including the medical, psychological, social, and functional assessments of older adults. Students are expected to participate in the evaluation of three to five patients per week, in a variety of settings including the outpatient Geriatric Assessment Clinic, in-patient Geriatric Consult service, Parc Provence nursing home, and the Rehabilitation Institute of St. Louis (TRISL). Students will also have the opportunity to participate in hospice and home care visits, interdisciplinary team meetings, and observe an assessment at the WU Alzheimer's Disease Research Center. Students are expected to attend weekly conferences while on the rotation.

The day normally begins at 8:30 a.m. and is usually finished by 5:30 p.m. There is no night or weekend call. Time is provided to read the detailed syllabus/bibliography. Students will be expected to give an oral presentation on a topic of their choice once during the rotation.

Student time distribution: Inpatient 20%; Outpatient 80%; Primary Care 20%; Subspecialty Care 80%
Major teaching responsibility: Attendings
Patients seen/weekly: 10-15
On call/weekend responsibility: None

M25 811 / CLINICAL INTERNAL MEDICINE – HOSPITALIST
Instructor(s): Caroline Kahle, MD, 314-362-1700
Location: Barnes Jewish Hospital, West Pavilion Corridor main level
Elective Contact: Mary Russell, 314-362-1707, mrussell@wustl.edu
Other Information: Students should contact Mary Russell one to two weeks prior to first day of elective for information on where to meet.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This course allows the student to work one-on-one with hospitalist physicians on a patient care team. The student acts as the intern under the direct supervision of the attending physician. Daily responsibilities include admission history and physicals, daily notes and discharge summaries on assigned patients. S/he also will have the opportunity to perform indicated procedures on patients on this service. Students are encouraged to participate in Department of Medicine conferences.

Student time distribution: Inpatient 95%; Conferences/Lectures 5%; Primary Care 100%
Major teaching responsibility: Hospitalist attendings
Patients seen/weekly: 10
On call/weekend responsibility: None

M25 814 / CLINICAL EMERGENCY MEDICINE, BARNES-JEWISH HOSPITAL
Instructor(s): Mark Levine, MD, 314-362-6743
Location: Barnard and/or Wohl Hospital
Elective Contact: Mary Hummert, 314-747-4156
Other Information: Contact Emergency Medicine Division office at 314-747-4156, for scheduling one week prior to the rotation. If a student is needing any time off,
approval will be needed by the Course Coordinator before the start of the rotation.

Students are required to work at least 12 to 14 shifts.

Enrollment limit per period: 6

Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This rotation offers practical experience in the evaluation and management of acutely sick and injured patients. Students will function as sub-interns, initially evaluating their assigned patients and developing a plan for further diagnostic studies and therapy. They will report to a senior level resident or an attending physician.

The student can expect to get an opportunity to perform a wide variety of procedural skills such as suturing, splinting, peripheral and central venous access, and cardiopulmonary resuscitation. Shifts will be eight hours and students will rotate between day, evening and night shifts, including weekend shifts, in order to gain maximum exposure to all types of emergencies. A core content of lectures will be provided.

Students will gain an understanding of prehospital care by doing a ridealong shift with the St. Louis Fire Department EMS. Students will also have a shift with the toxicology attendings and residents and will gain knowledge of the basics of ultrasound during their time in the department. Students interested in EM will be doing 1:1 shifts with a single attending during their last two weeks of the rotation.

Students desiring a letter of recommendation from Dr. Michael Mullins, Director of Research, or any other EM attending should take this WUMS IV Emergency Medicine rotation. Students will be scheduled for required weekend and overnight shifts and changes will not be allowed to the schedule unless approved prior to the start of the rotation by the course coordinator.

Please be advised that there is a limit of days off while on this rotation during interview season; otherwise, students should arrange to take the elective at a different time during the year. Days off during the rest of the year will conform to university
policy. Days off should be requested from Mary Hummert at least two weeks prior to the beginning of the rotation for scheduling purposes.

Student time distribution: Outpatient 80%; Conferences/Lectures 20%; Primary Care 40%; Subspecialty Care 60%
Major teaching responsibility: Attendings and senior residents (PGY 3 & 4)
Patients seen/weekly: ~5 per shift
On call/weekend responsibility: Evenings and weekends; no on call

M25 821 / INPATIENT CARDIOLOGY
Instructor(s): Anita Bhandiwad, MD 314-362-1291
Location: 13th Floor, Northwest Tower
Elective Contact: Anita Johnson, 314-747-3606
Other Information: Students meet on the 13th Floor, Northwest Tower, 9:00 a.m. first day of elective.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Students will participate as members of the Barnes-Jewish Cardiology at Washington University Consultative Team. They will be part of a team composed of faculty members, fellows, residents, and nurse specialists that sees a large population of cardiac patients and follows them through all aspects of their in-hospital care. Emphasis will be placed on physical examination and the interpretation of modern cardiac diagnostic tests including electrocardiograms, echocardiograms and coronary angiograms and their role in clinical decision making.

Student time distribution: Inpatient 90%; Outpatient 0%; Conferences/ Lectures 10%; Primary Care 0%; Subspecialty Care 100%
Major teaching responsibility: Attending and fellow
Patients seen/weekly: 10-15
On call/weekend responsibility: None
M25 822 / HONORS MEDICINE – CARDIOLOGY
Instructor(s): Thomas De Fer, MD, 314-362-8050
Location: Barnes-Jewish Hospital
Elective Contact: Amber Specter, 314-362-8050
Other Information: Students will receive e-mail communication regarding when/where to report on the first day prior to the beginning of the period.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The structure and functioning of the “Honors Medicine-Cardiology” elective (sub-internship) is very similar to the general medicine sub-internship (M25 801). The basic purpose is to develop expertise in the care of hospitalized patients in a well-supervised teaching environment. The majority of patients admitted to the service will have a cardiology diagnosis as the main reason for admission. Some general medical problems will also be seen. All attendings on the service are cardiology subspecialists. Cardiology fellows act as the chief resident for the service on a monthly basis. Sub-interns act as their patients’ interns under the supervision of residents and attending physicians. Sub-interns have the same on-call and admitting schedules as the interns on their teams and are assigned up to two new patients on each admitting day. Sub-interns are not required to spend call nights in the hospital. Except in emergencies, sub-interns are the first individuals to evaluate patients admitted to medical service teams. A diagnostic and therapeutic approach to the patient is planned in consultation with the resident. Sub-interns assume primary responsibility for the daily care of their patients, under the supervision of resident and attending physicians. This includes evaluation on daily rounds, scheduling and obtaining results of diagnostic studies, planning therapy, making arrangements for care after discharge and communicating with patients and their families. Sub-interns attend the same conferences as the internal medicine house staff. There are also several conferences specific to the cardiology service.

Student time distribution: Inpatient 90%; Conferences/Lectures 10%; Primary Care
M25 823 / CLINICAL CARDIOLOGY – VA HOSPITAL
Instructor(s): Wade Martin, MD, 314-289-6329
Location: John Cochran VA Hospital
Elective Contact: Wade Martin, MD, 314-289-6329
Other Information: Students should meet in Room B206, 2nd Floor, VA Hospital.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The major purpose of this elective in clinical cardiology at the John Cochran VA Hospital is to improve evaluation and management skills for diagnosis and treatment of important cardiovascular conditions such as coronary artery disease including acute myocardial infarction, congestive heart failure, hypertension, and valvular heart disease. The rotation is designed to be flexible enough to accommodate a wide variety of course objectives but includes the opportunity to participate in 1-3 outpatient clinics per week; 1-4 weeks of inpatient intensive care, telemetry, or cardiology consultation rounds; and ECG, stress testing, nuclear imaging, or echocardiographic reading sessions, cardiac catheterization and electrophysiologic procedures. The emphasis will be on improvement of the ability to diagnose and treat cardiovascular disease on the basis of information obtained from a thorough history and physical examination that is integrated with data from appropriate highly targeted laboratory studies in a manner that optimizes patient outcome and minimizes risk and costs.

Student time distribution: Inpatient 45%; Outpatient 55%; Conferences/Lectures 5-10%; Primary Care 25%; Subspecialty Care 75%
Major teaching responsibility: Attendings and fellows
Patients seen/weekly: 20
On call/weekend responsibility: Varies
M25 825 / CARDIAC ARRHYTHMIAS AND ELECTROPHYSIOLOGY

Instructor(s): Timothy Smith, MD, PhD, 314-454-7877
Location: Barnes-Jewish Hospital
Elective Contact: Timothy Smith, MD, PhD, or Gina Gentilini, 314-747-4166
Other Information: Students meet in the Cardiology Division, 13th Floor Northwest Tower, 8:00 a.m. first day of elective or page the EP Fellow at 314-424-4680.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This elective provides the student with exposure and teaching in the diagnosis and treatment of complex cardiac rhythm disturbances. Specifically, the student is expected to evaluate patients referred for evaluation and treatment of complex or life-threatening rhythm disturbances, unexplained syncope or sudden cardiac death.
Rounds are made daily on hospitalized patients, and students are welcome to observe electrophysiology studies or implantation of pacemakers and defibrillators. This elective also provides an intensive opportunity to learn clinical electrocardiography and the systematic use of anti-arrhythmic drugs. Finally, since patients with chronic, complex rhythm disturbances frequently have organic heart disease, a broad-based exposure to general cardiology is also part of this elective.

Student time distribution: Inpatient 80%; Outpatient 10% (optional);
Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attending physician
Patients seen/weekly: 2 new consults/day
On call/weekend responsibility: None

M25 827 / HEART FAILURE/CARDIAC TRANSPLANTATION

Instructor(s): Gregory Ewald, MD, 314-454-7009
Location: Barnes-Jewish Hospital, North Campus, Suite 4455
Elective Contact: Gregory Ewald, MD, 314-454-7009
Other Information: Students should page the attending physician, 8:00 a.m. first day of elective.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This rotation is intended to provide trainees with a comprehensive experience managing patients with advanced heart failure. In addition to daily rounds, trainees are invited to attend both heart failure and transplant clinics. Further, the curriculum is supplemented by a comprehensive syllabus that contains the critical literature pertinent to this patient population. The trainees will also have experience with the evaluation of patients for operative heart failure therapies and will have the opportunity to observe these surgical procedures.

Student time distribution: Inpatient 70%; Outpatient 20%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attendings
Patients seen/weekly: 30
On call/weekend responsibility: None

M25 830 / DERMATOLOGY
Instructor(s): Dermatology Staff, 314-454-8622
Location: 7705 Wohl Hospital
Elective Contact: Rosemarie Brannan, 314-454-8622
Other Information: First Monday of rotation students will attend both the 7:30 a.m. lecture in the Dermatology Library, 7706 Wohl Hospital and the 9:00 a.m. orientation, Room 7714 Wohl Hospital.
Enrollment limit per period: 4
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 29, 33, 37, and 41.

THIS COURSE HAS A STRICT ATTENDANCE POLICY!

The aim of this elective is to provide a guide for the student so that s/he is able to appreciate dermatology within the broader perspectives of medicine and biology. Emphasis will be placed on the dermatologic variations encountered in a normal
physical examination of the skin, the identification of common skin diseases, dermatologic clues to systemic disease, as well as those dermatologic conditions that are life threatening. The student will participate in outpatient care in the Barnes-Jewish Hospital and affiliated clinics. Students will attend all clinical teaching rounds and conferences in addition to the basic science and cutaneous histopathology conferences.

M25 830 is essentially the same as the 3rd Year Dermatology Clerkship. Students are limited to taking either one or the other – NOT BOTH.

Student time distribution: Inpatient 25%; Outpatient 50%; Conferences/ Lectures 25%; Specialty Care 100%
Major teaching responsibility: Course Master for rotation and senior resident
Patients seen/weekly: 25-50
On call/weekend responsibility: None

M25 831 / PEDIATRIC DERMATOLOGY
Instructor(s): Carrie Coughlin, MD
Location: 7706 Wohl Hospital
Elective Contact: Rosemarie Brannan, 314-454-8622
Other Information: Call 314-454-8622 prior to first day of elective. Reporting time is 7:30 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for 4 fourweek blocks are: Weeks 1, 5, 9, 13, 17, 21, 29, 33, 37, 41.

This clinical rotation will be available to students interested in dermatology, pediatrics or both. Students will follow the dermatology rotation (M25 830) with an emphasis on pediatric dermatology by attending pediatric dermatology clinics, seeing consults, etc. Enthusiastic students will have an opportunity to write up a case report if they wish, but need to notify Dr. Bayliss before the course.

Students can take either this elective or M25 830/Dermatology — NOT BOTH.
Student time distribution: Inpatient 1%; Outpatient 74%; Conferences/ Lectures 25%; Subspecialty Care 100%
Major teaching responsibility: Two attendings
Patients seen/weekly: 50-100
On call/weekend responsibility: None

**M25 834 / CLINICAL MENTORING**
Instructor(s): Gregory Polites, MD, 314-747-5268
Location: Office of Medical Student Education (OMSE), 5th Floor Becker Medical Library
Elective Contact: Melody Cox, 314-286-2546
Other Information: To be determined
Enrollment limit per period: 62

This elective is designed to develop the teaching and mentoring skills of our 4th year medical students through structured hospital sessions with 1st year medical students and supervised sessions with clinical faculty. The primary format of the elective is observation of the 1st year students during hospital sessions where the first years perform the H&P and the 4th year mentors offer constructive feedback. Each H&P write-up is also thoroughly reviewed and critiqued by the mentor. Supervisory sessions also occur with clinical faculty who give feedback on both the performance of the 1st year students as well as the mentoring skills of the 4th year.

Student time distribution: TBD
Major teaching responsibility: TBD (assigned)
Patients seen/weekly:
On call/weekend responsibility: None

**M25 836 / CLINICAL GASTROENTEROLOGY AND HEPATOLOGY**
Instructor(s): Gregory S. Sayuk, MD, MPH, 314-454-8201
Location: Barnes-Jewish Hospital, East Pavilion
Elective Contact: Beth Buschard-Steiger, 314-454-8201
Other Information: Students meet in the Digestive Disease Clinical Center, street level East Pavilion, Barnes-Jewish Hospital, 8:00 a.m. first day of elective.
Enrollment limit per period: 4
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The GI Hepatology elective is integrated into a very active inpatient/outpatient and endoscopy service at Barnes-Jewish Hospital. Students will participate in the evaluation of inpatients and outpatients with a spectrum of gut and liver disorders, will make patient rounds with the faculty and fellows, and have responsibility for patients on whom consultations have been requested. In addition, they will observe biopsy, endoscopic, and intubation techniques and participate in outpatient clinic and GI conferences.

Student time distribution: Inpatient 65%; Outpatient 25%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attending and fellows
Patients seen/weekly: 12 new
On call/weekend responsibility: None

M25 838 / MEDICINE CONSULT SERVICE
Instructor(s): Caroline Kahle, MD, and Gina LaRossa, MD, 314-362-1700
Location: Barnes-Jewish Hospital, West Pavilion Corridor main level
Elective Contact: Mary Russell, 314-362-1707, mrussell@wustl.edu
Other Information: Students should contact Mary Russell, 314-362-1707, one to two weeks prior to first day of elective for information on where to meet.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41. Two week rotations are also available.

The focus of the Medicine Consult Service elective is the evaluation and management of medically complex patients admitted to the hospital on non-medicine services. The issues involved with perioperative management are particularly stressed. The student will function as a member of the consult service team. Duties will include performing initial consultations and follow-up care under the supervision of a Hospital Medicine
attending and a senior medical resident. Attendance at Department of Medicine and division conferences is encouraged.

Student time distribution: Inpatient 90%; Conferences/Lectures 10%; Primary Care 100%

Major teaching responsibility: Consult Service attending (from the Division of Hospital Medicine)

Patients seen/weekly: 10-15

On call/weekend responsibility: None

**M25 842 / INTRODUCTION TO WILDERNESS MEDICINE**

Instructor(s): Nicholas Musisca, MD; Bill Dribben, MD; Kurt Eifling, MD

Location: Emergency Medicine Teaching Classroom

Elective Contact: Nicholas Musisca, MD; Bill Dribben, MD; Kurt Eifling, MD, 314-362-7998

Other Information: Students report at 8:00 am first day of elective

Enrollment limit per period: 10

Valid start weeks for two-week blocks are: Weeks 15-16

The purpose of this course is to introduce medical students to common medical problems both emergent and nonemergent seen in various wilderness settings. After taking this course the student should have a basic understanding on the pathophysiology and management of these problems in an environment with limited access to medical aid. The course will involve four days of four-hour lectures each week along with one 1-2 day required overnight camping trip. Requirements to pass this course include completing a presentation on a topic of their choosing that is approved by the course master as well as a skills and written test.

Attendance is required at all lectures & events. Grading will be pass/fail

Student time distribution: Conferences/Lectures, 100%; Subspeciality Care, 100%

Major teaching responsibility: Bill Dribben, MD; Nicholas Musisca, MD

Patients seen/weekly: 0
On call/weekend responsibility: No call, required outdoor activity

**M25 843 / MEDICAL TOXICOLOGY**

Instructor(s): Evan S. Schwarz, MD, 314-747-3690
Location: Emergency Medicine office, 8th Floor of Barnard, Suite 8813
Elective Contact: Mary Hummert, 314-747-4156
Other Information: Students meet in 8th floor Emergency Medicine Conference Room, 8th Floor, Barnard, 8:00 a.m. first day of elective
Enrollment limit per period: 5
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This rotation offers practical experience in the evaluation and management of the acutely ill poisoned patient. Students will function as subinterns and either report to the senior resident, fellow, or directly to the toxicology attending.

Students will gain familiarity and experience evaluating and treating patients who have intentionally and unintentionally overdosed on medications or illicit drugs, been envenomated (such as by spiders, snakes, or other reptiles), or been exposed to toxic substances or chemicals. Students will also gain experience in administering antidotes and learning to properly decontaminate someone after an ingestion or exposure.

There are no overnight or weekend shifts. Daily activities start in the morning and are generally concluded by the early afternoon. A core content of lectures will be provided. The students will also be assigned small projects during their rotation that will enhance their experience particularly in environmental and occupational toxicology.

Opportunities to increase their experience with occupational toxicology also exist during this rotation; those with this interest can ask for further information during their rotation. Students will also have the opportunity to go to the Missouri Poison Center and evaluate patients in the outpatient toxicology clinic.

Students desiring a letter of recommendation from one of the toxicology attendings
(who are also Emergency Medicine and Internal Medicine attendings) or interested in Emergency Medicine or Medical Toxicology should take this elective. Also, students considering other specialties such as Pediatrics or Internal Medicine should consider this rotation as they will be responsible for evaluating these patients as part of their inpatient or outpatient practice.

Please be advised that there is a limit of days off while on this rotation during interview season; otherwise, students should arrange to take the elective at a different time during the year. Days off should be requested from Mary Hummert at least two weeks prior to the beginning of the rotation for scheduling purposes. Students should receive a course guide just prior to their rotation. However if they do not, they can page the toxicology pager at (314) 672-0284 to determine when and where to meet for rounds.

Student time distribution: Inpatient 70%; Outpatient 10%; Conferences/Lectures 20%; Subspecialty Care 100%
Major teaching responsibility: Toxicology Faculty
Patients seen/weekly: 12
On call/weekend responsibility: None

M25 844 / HEMATOLOGY AND HEMOSTASIS
Instructor(s): Morey Blinder, MD, and Evan Sadler, MD, 314-362-8857
Location: 8801 Clinical Sciences Research Building
Elective Contact: Morey Blinder, MD, 314-362-8814
Other Information: Students will meet in Barnes-Jewish Hospital South. Contact Kim French at 314-454-8532 for time and location.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Activities planned include work-up of patients at Barnes-Jewish Hospital under the supervision of the hematology fellow and his staff consultant; attendance at clinical rounds three to five hours weekly; participation in out-patient clinics; experience in
various procedures, especially blood and bone marrow morphology and in interpretation of coagulation tests. Daily student rounds with a senior staff person.

Student time distribution: Inpatient 80%; Outpatient 10%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attending and fellow
Patients seen/weekly: 3-5
On call/weekend responsibility: None

**M25 847 / BONE AND MINERAL DISEASES**

Instructor(s): Michael Whyte, MD; Kathryn Diemer, MD; Roberto Civitelli, MD; and Carolyn Jachna, MD

Location: Barnes-Jewish Hospital; Barnes-Jewish Hospital West County; Shriners’ Hospital for Children

Elective Contact: Michael Whyte, MD, 314-872-8305

Other Information: Please contact Dr. Whyte a week before elective for instruction and meeting location.

Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 17, 21, 25, 29, 33, 37, and 41.

The course is designed to acquaint the student with the clinical, radiological and pathological manifestations and treatment of disorders of bone and mineral metabolism, including osteoporosis, Paget’s disease of bone, hyperparathyroidism, osteomalacia, and more rare disorders of bone development and homeostasis. The student will rotate through clinics of the Division of Bone and Mineral Diseases, and see patients at Barnes-Jewish Hospital, Barnes-Jewish West County Hospital and Shriners Hospital for Children.

Acquired and heritable bone diseases will be studied in the context of derangements of mineral homeostasis with emphasis on vitamin D and peptide hormone metabolism and skeletal formation and remodeling. The role of non-invasive methods for measuring bone mass in the diagnosis and management of skeletal diseases also will be stressed. Faculty and medical students will be present interesting cases for
discussion or the students can present a pertinent topic related to bone metabolism they have researched during their rotation.

Responsibilities: Shriners Hospital Wednesday a.m. (Dr. Whyte); CAM, 2nd and 3rd Monday (a.m.), and 4th Thursday (p.m.) of each month; Barnes-Jewish West County Prof. Building 2; Tuesdays or Wednesdays, p.m. Metabolic Bone Disease Case Conference, Fridays 8:00 a.m., BJC Institute of Health Building, 11th Floor, Conference Room AB; Avioli Musculoskeletal Research Seminars, Fridays 9:00 a.m., BJC Institute of Health Building, 11th Floor, Conference Room AB.

Student time distribution: Outpatient 85%; Conferences/ Lectures 15%; Subspecialty Care 100%

Major teaching responsibility: Attendings

Patients seen/weekly: ~20

On call/weekend responsibility: None

M25 853 / BONE AND JOINT INFECTIOUS DISEASE CONSULT

Instructor(s): Hilary Babcock, MD, 314-454-8225, HBABCOCK@DOM.wustl.edu

Location: 15th Floor, Northwest Tower

Elective Contact: Dawn-Michele Cannon, 314-454-8225

Other Information: Students should page the Bone and Joint attending at 314-510-3805 at 8:00 a.m. on the first day of the elective.

Enrollment limit per period: 8

Valid start weeks for two-week blocks are: Weeks 3, 7, 11, 15, 19, 23, 27, 31, 35, 39, and 43. Must be done in conjunction with 2 weeks of General Infectious Disease Study of infectious diseases of the bones and joints, including infections in both native and prosthetic joints. The elective is designed to teach students the fundamentals of evaluating clinical orthopedic infections and formulating plans for workup and therapy. Students see consultations in infectious diseases in every part of Barnes-Jewish Hospital under the supervision of a faculty member who rounds with them every day. They work closely with the infectious diseases attending and nurse practitioner, follow their own patients and play an important role in their
management. They are expected to read the literature about their patients and participate in clinical conferences. They attend teaching rounds and conferences and lectures in infectious diseases. They also learn appropriate use of antibiotics and antifungal agents. The role of surgical and medical management is discussed, and the students will interact with surgical staff in understanding the risks and outcomes of these common infections. Two weeks of General Infectious Disease are a prerequisite to this course.

Student time distribution: Inpatient 90%; Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Single Attendings
Patients seen/weekly: 20
On call/weekend responsibility: None

M25 854 / TRANSPLANT INFECTIOUS DISEASE
Instructor(s): Steve Lawrence, MD, 314-454-8214, slawrenc@dom.wustl.edu
Location: 15th Floor Northwest Tower
Elective Contact: Dawn-Michele Cannon, 314-454-8225
Other Information: Students should page the Transplant fellow at 314-536-5253 at 8:00 a.m. on the first day of the elective.
Enrollment limit per period: 2
Valid start weeks for two-week blocks are: Weeks 3, 7, 11, 15, 19, 23, 27, 31, 35, 39, and 43. Must be done in conjunction with 2 weeks of General Infectious Disease

Study of infectious diseases in patients who have had bone marrow or solid organ transplants, or who have a hematologic malignancy. The elective is designed to teach students the fundamentals of evaluating clinical infections in these complex and interesting patients and formulating plans for workup and therapy. Students see consultations in every part of Barnes-Jewish Hospital under the supervision of a faculty member who rounds with them every day. They work closely with infectious disease fellows, follow their own patients and play an important role in their management. They are expected to read the literature about their patients and participate in clinical conferences. They attend teaching rounds and conferences and lectures in infectious
diseases. They also learn appropriate use of antibiotics, antifungal and antiviral agents in this highly immune suppressed population. A wide distribution of infectious diseases is covered including management of neutropenic fever, invasive fungal infections in the transplant population, acute and chronic infections, infection prophylaxis and monitoring and interactions between immunosuppressive agents and antibiotics.

Student time distribution: Inpatient 90%; Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Single Attending and Fellow
Patients seen/weekly: 6
On call/weekend responsibility: None

M25 858 / AMBULATORY INFECTIOUS DISEASE
Instructor(s): Nigar Kirmani, MD, 314-747-1214
Location: 15th Floor Northwest Tower and Storz Building
Elective Contact: Lori Watkins, 314-747-1214
Other Information: Students should report to the ID Clinic in the Storz Building, 8:00 a.m. first day of elective.
Enrollment limit per period: 8
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The elective is designed to teach students the fundamentals of evaluating clinical infections in the outpatient setting. Students see patients under the supervision of a faculty member. Students will participate in the care of HIV infected or otherwise immunosuppressed patients as well as general infectious disease and travel patients. The clinic is the primary provider for HIV infected patients, and students will learn the pathogenesis of HIV, become familiar with most antiretroviral medications, and have the opportunity to learn about opportunistic infections and their prophylaxis. They will also have the opportunity to see patients with bone and joint infections, endovascular infections, endemic and opportunistic mycoses, sexually transmitted diseases and travel plans. Patients seen will have a wide range of acute and chronic infections with a
heavy emphasis on HIV/AIDS, including indigent and insured patients, of both sexes and a wide range of ages. The students will play an important role in the management of these patients. They are expected to read the literature about their patients and participate in clinical conferences.

Student time distribution: Outpatient 90%; Conferences/Lectures 10%; Primary Care 20%; Subspecialty Care 80%

Major teaching responsibility: Clinic Attendings

Patients seen/weekly: 15

On call/weekend responsibility: None

**M25 859 / GENERAL INPATIENT INFECTIOUS DISEASE**

Instructor(s): Nigar Kirnani, MD, 314-454-8214; Rachel Presti, MD, 314-454-8214, rpresti@dom.wustl.edu

Location: 15th Floor, Northwest Tower

Elective Contact: Dawn-Michele Cannon or Alicia Cicerelli, 314-454-8214

Other Information: Students should call Infectious Disease Fellows at either mobile number 314-536-5310 or 314-536-5311 on the first morning of the elective.

Enrollment limit per period: 8

Valid start weeks for two- or four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41. Two week blocks must be done in conjunction with Transplant Infectious Disease or Bone and Joint Infectious Disease.

Study of patients with infectious diseases, including inpatient care of HIV infected patients and general infectious disease consults. The elective is designed to teach students the fundamentals of evaluating clinical problems in infection and formulating plans for workup and therapy. Students see consultations in infectious diseases in every part of Barnes-Jewish Hospital under the supervision of a faculty member who rounds with them every day. They work closely with medical residents and infectious disease fellows, follow their own patients and play an important role in their management. They are expected to read the literature about their patients and participate in clinical conferences. They attend teaching rounds and conferences and lectures in infectious diseases. They also learn appropriate use of antibiotics,
antifungal and antiviral agents. A wide distribution of infectious diseases is covered including community acquired acute and chronic infections, opportunistic infections in HIV infected patients, hospital acquired infections, and basic infection control practices. This is a four-week rotation. Two-week rotations are allowed, but must be done in conjunction with two weeks of Transplant Infectious Disease or Bone and Joint Infectious Disease.

Student time distribution: Inpatient 90%; Conferences/Lectures 10%; Subspecialty Care 100%. Students must be present at 75% of the elective to receive a passing grade.

Major teaching responsibility: Single attending and fellow
Patients seen/weekly: 7 new consults, 15 total
On call/weekend responsibility: None

M25 861 / ONCOLOGY-INPATIENT
Instructor(s): Anna Roshal, MD, 314-454-8306
Location: Division 7900, 7th Floor CAM
Elective Contact: Janet Weier, 314-747-7509
Other Information: Students meet on the 7th Floor CAM, POD B, Medical Oncology Outpatient Area, 8:00 a.m. first day of elective.
Enrollment limit per period: 6 students per block, on average one per attending
Valid start weeks for four-weeks blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Medical Oncology is a complex subspecialty that is undergoing a rapid evolution as a result of new systemic treatment approaches that stem from biological insights into the nature of cancer. During the course of the elective medical students will be able to interact with attending physicians and patients for bed side teaching and attend tumor boards and lectures focused on the care of patients with solid tumors. At the end of the rotation the students will appreciate the principles of our approach to cancer patients and should have gained insights into the pharmacological basis for systemic cancer treatment. The ethical and medical challenges of caring for patients with advanced incurable malignancies will also be an important theme, as well as the conduct of clinical research in this patient population. Students will learn to care for
hospitalized patients suffering from complications from their cancer or from toxicities due to treatments. Oncologic emergencies will be covered. Issues such as palliative care treatment options and end-of-life decision making will be explored as well.

Student time distribution: Inpatient 90%; Conferences/Lectures 10%; Subspecialty Care 100%

Major teaching responsibility: All Medical Oncology Attendings

Patients seen/weekly: 50

On call/weekend responsibility: None

M25 862 / INPATIENT INTERNAL MEDICINE/ONCOLOGY-FIRM

Instructor(s): Anna Roshal, MD, 314-454-8306
Location: North Campus, 7900 Inpatient Floor
Elective Contact: Janet Weier, 314-747-7509
Other Information: Students meet in North Campus, 7900 Inpatient Floor, 7:30 a.m. first day of elective and find an on call resident.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Medical Oncology is a complex subspecialty that is undergoing a rapid evolution as a result of new systemic treatment approaches that stem from biological insights into the nature of cancer. During the course of the elective medical students will be able to interact with attending physicians and patients for bedside teaching and attend tumor boards and lectures focused on the care of patients with solid tumors and lymphoma. At the end of the rotation the students will appreciate the principles of our approach to cancer patients and should have gained insights into the pharmacological basis for systemic cancer treatment. The ethical and medical challenges of caring for patients with advanced incurable malignancies will also be an important theme, as well as the conduct of clinical research in this patient population. Students will learn to care for hospitalized patients suffering from complications from their cancer or from toxicities due to treatments. Oncologic emergencies will be covered. Issues such as palliative care treatment options and end-of-life decision making will be explored as well. Major
learning goals:

(1) Become familiar with frequent complications of cancer treatment such as neutropenic fever, nausea/vomiting, diarrhea, infectious complications and their management.

(2) Become familiar with oncologic emergencies (spinal cord compression, hypercalcemia, neutropenic sepsis) and their management.

(3) Become more comfortable interacting with patients and families requiring difficult psychosocial and end-of-life discussions.

Student time distribution: Inpatient 100%; Subspecialty Care 100%
Major teaching responsibility: All Oncology attendings
Patients seen/weekly: 50
On call/weekend responsibility: One-in-four call, with their assigned inpatient team.

M25 863 / EMERGENCY ULTRASOUND
Instructor(s): Deborah Kane, MD, and staff, 314-747-4156
Location: Barnes-Jewish Hospital, North Campus
Elective Contact: Mary Hummert, 314-747-4156
Other Information: Students meet at the Emergency Department at Barnes Jewish Hospital at 10:00 a.m. on the first day of the elective.
Enrollment limit per period: 1 unless otherwise approved by Course Master
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This rotation will focus on ultrasound and all of its many applications and uses in the Emergency Department. Students will participate in the performance of bedside ultrasound of patients in the Emergency Department. Common applications of Emergency Ultrasound include the FAST exam, pelvic ultrasound, Abdominal Aortic Aneurysm (AAA), vascular access, renal, gallbladder, and DVT. In general, the student will be in the Emergency Department during weekdays to perform these exams.
Students will not be involved in direct patient care during this rotation. Students will have access to a lecture bank of the common applications. In addition, the student will meet with the Ultrasound Director 1-2 times/wk to review images and have direct hands-on instruction. At the end of the rotation the student should have gained the knowledge of basic Emergency Ultrasound including its indications and applications; as well as becoming more adept at the performance of ultrasound.

Student time distribution: Outpatient 80%; Conferences/Lectures 20%; Primary Care 40%; Subspecialty Care 60%
Major teaching responsibility: Attendings
Patients seen/weekly: 25
On call/weekend responsibility: None

M25 865 / INTENSIVE CARE MEDICINE – BARNES-JEWISH 8300
Instructor(s): Warren Isakow, MD, and staff, 314-454-8762
Location: Barnes-Jewish Hospital, 8300 South Campus
Elective Contact: Lisa Wetzel, 314-454-8762
Other Information: Students meet at the MICU (8th Floor Barnes-Jewish Hospital, South Campus), 7:30 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This elective in intensive care is offered in the Intensive Care Unit at Barnes-Jewish Hospital, South Campus. This unit has 16 intensive care beds providing intensive nursing care and life-support technology. The patients represent a mixture of patients with primarily medical problems. Patient care responsibility includes night call. In addition to patient responsibility, there are regularly scheduled conferences and attending rounds.

Student time distribution: Inpatient 100%; Subspecialty Care 100%
Major teaching responsibility: Attendings and residents
Patients seen/weekly: 8
On call/weekend responsibility: Every third night

**M25 867 / MEDICAL INTENSIVE CARE**
Instructor(s): Warren Isakow, MD, 314-454-8762
Location: Barnes-Jewish Hospital, South Campus
Elective Contact: Lisa Wetzel, 314-454-8762
Other Information: Students report to the Medical Intensive Care Unit, 8400 Barnes-Jewish Hospital, South Campus, 7:30 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This elective is offered as an opportunity to gain additional experience in acute, primary care medicine. The elective is an advanced course in patient care involving complex medical problems. Responsibilities involve working up new patients with the MICU team, case presentations and attendance at conferences. Conferences consist of attending rounds Monday through Saturday, radiology rounds Monday through Saturday, pulmonary conference and medical grand rounds on Thursday, and critical care conference once each month. Call schedule is every third night.

Student time distribution: Inpatient 90%; Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attendings and residents
Patients seen/weekly: 3
On call/weekend responsibility: Yes

**M25 869 / PALLIATIVE MEDICINE**
Instructor(s): Maria Dans, MD, Course Master, 314-362-5800, mdans@dom.wustl.edu, BJH Palliative Care Service members
Location: 4105 Suite, Queeny Tower, Barnes-Jewish Hospital South Campus
Elective Contact: Nicole Williams, 314-747-5361, nsw2227@bjc.org
Other Information: Please email the Course Master and Elective Contact at least one week before start of elective. Reporting time is 8:45 a.m. first day of elective
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The Palliative Medicine elective will focus on the care of patients with life-threatening or debilitating illness throughout the course of their care. Skills in symptom management, communication, and interdisciplinary team-based care will be the focus. Students will spend the majority of their time on the BJH Palliative Care Service. Based on the individual student’s interest, there may also be opportunities to work with the BJC Hospice Team and the St. Louis Children’s Hospital Palliative Care Service.

While in the hospital, students will be responsible for seeing patients upon initial assessment as well as delivering follow-up care with the team. Patients will be seen for both end-of-life care as well as symptom management. Students will learn to assess and treat refractory symptoms and participate in complicated advanced care planning. Students will attend interdisciplinary team meetings, and may participate in conversations about goals of care and coping with bad news. They may also make home visits with hospice care providers, if desired. Emphasis will be placed on observing and understanding the psychosocial and spiritual needs of the patients, as well as the impact of the burden on caregivers. In addition, students will be expected to lead bi-weekly presentations/group discussions on selected aspects of Palliative Medicine with the BJH Palliative Care team.

Student time distribution: Inpatient 85%; Conferences/Lectures 15%; Subspeciality Care 100%
Major teaching responsibility: BJH Palliative Care Attendings (Maria Dans, MD; Mike Koller, MD; and Anna Roshal, MD; BJH Palliative Care Team Members; BJC Hospice Medical Director (Bernard Shore, MD); SLCH Palliative Care Service Medical Director (Joan Rosenbaum, MD)
Patients seen/weekly: 10
On call/weekend responsibility: None

M25 870 / ENDOCRINOLOGY, DIABETES AND METABOLISM
In general, the four-week rotation will be divided into 2 weeks of general endocrinology and 2 weeks of diabetes. Students taking this elective will perform consultations with fellows and faculty on the inpatient services at Barnes-Jewish Hospital and will also see patients with endocrine and metabolic diseases in the Outpatient Consultation. They will present these cases daily on teaching rounds. They will also participate in case conferences and seminars on a weekly basis. Extensive interaction with patients with diabetes and a diabetes education program are included, as is involvement with patients with thyroid, pituitary, adrenal, gonad, metabolic bone disease, and lipid disorders. Ample opportunities will be provided for discussions of patient problems with the members of the division. A variety of outpatient clinics are offered in the division and interested students should speak with the fellows and faculty members to customize the learning experience to match his or her career goals.

At the end of the rotation, it is expected that students will have the ability to initiate inpatient and outpatient management of diabetes including insulin dosing and glucose monitoring, as well as evaluate and treat of a variety of endocrine disorders including but not limited to thyroid, pituitary, and adrenal disease. Students will learn to perform effective inpatient and outpatient consultations.

Student time distribution: Inpatient 60%; Outpatient 30%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Faculty consultant for inpatients, individual faculty one-on-one for outpatients and division chief for both
Patients seen/weekly: 8-10
On call/weekend responsibility: Elective for students

M25 871 / ONCOLOGY-OUTPATIENT
Instructor(s): Maria Baggstrom, MD, 314-362-5817
Location: Siteman Cancer Center, CAM Building, Siteman West County, Siteman South County
Elective Contact: Krista Mercille, 314-747-7409, kmercill@dom.wustl.edu
Other Information: On the first day of the elective, students will meet in clinic at 8:00 a.m. Directions will be provided for each of the clinics.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Students will gain experience in the initial treatment of newly diagnosed malignancies and the outpatient management of oncology patients. Participation in multidisciplinary tumor conferences will stress a combined-modality approach to management, incorporating chemotherapy, radiotherapy and surgery. Students will see patients with a variety of malignancies, including lymphoma, myeloma, and tumors of the lung, breast, and colon. Management of hypercalcemia and other paraneoplastic syndromes, as well as cancer pain management will be covered. Students will have the opportunity to see how most oncologists spend 90% of their workday. They will observe different styles that oncologists have in presenting news about prognosis, treatment options and other information to patients while they also learn about the molecular basis for cancer, the mechanisms of action for our therapies (particularly the newer agents which target specific molecular abnormalities) and the key studies that justify the use of therapies (e.g. randomized studies showing that after surgery, chemotherapy will reduce the risk of recurrence from a particular cancer with a particular regimen). By spending time with clinicians, students will learn how to identify hereditary syndromes, use drugs for symptom relief and also learn how radiographic and laboratory tests allow oncologists to care for patients.

Student time distribution: Outpatient 85%; Conferences/Lectures 15%; Subspecialty
Care 100%
Major teaching responsibility: Oncology attendings and occasionally fellows
Patients seen/weekly: 30-50
On call/weekend responsibility: None

**M25 877 / INTENSIVE ECG INTERPRETATION**
Instructor(s): Robert E. Kleiger, MD; 314-454-8146
Location: 13th Floor Northwest Tower
Elective Contact: Marge Leaders, 314-454-8146; mleaders@dom.wustl.edu
Other Information: Contact Marge Leaders, 13th Floor Northwest Tower, on the first day of elective at 9:00 a.m.
Enrollment limit per period: 2
Valid start weeks for two-week blocks are: Weeks 1, 5, 11, 17, 19, 27, 29, 31, 33, 35, 37, 39, 41, and 43.

The student, during the two-week elective, will read 20-25 ECGs obtained from the Barnes-Jewish Heart Station and then over read by an experienced electrocardiographer. There will also be didactic sessions covering infarction, ventricular hypertrophy, heart block, arrhythmias, and aberrant conduction.

Student time distribution: Inpatient 0%; Outpatient 0%; Conferences/ Lectures 100%; Subspecialty Care 100%
Major teaching responsibility: Attending
Patients seen/weekly: N/A
On call/weekend responsibility: None

**M25 879 / PULMONARY CLINIC FOR THE UNDERSERVED**
Instructor(s): Barbara Ann Lutey, MD
Location: Wohl Hospital, 5th Floor
Elective Contact: Barbara Ann Lutey, MD, 314-747-8492, blutey@dom.wustl.edu
Other Information: Students should report to the Center of Outpatient Health, Suite 420, at 9:00 a.m. on the first day of the elective.
Enrollment limit per period: 2
Valid start weeks for two-week blocks are: Weeks 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, and 43.

Clinical setting: Outpatient Clinic dedicated to providing pulmonary specialty care to patients who are predominantly uninsured or who rely upon public assistance such as Medicaid.

Student role: Students independently interview and examine patients and present findings to the attending, tests and imaging are reviewed, and provider and attending develop plan.

Common problems/diseases: Asthma, COPD, sarcoidosis, lung cancer, and obstructive sleep apnea are commonly seen. Also, patients are referred for evaluation of abnormal x-rays and for symptoms such as dyspnea.

Primary learning objectives:

to understand and practice important history and exam skills in pulmonary medicine: symptoms, smoking history, work and environmental exposures, and important pulmonary physical exam findings.

to understand the basics of pulmonary function tests, chest imaging, and methods for tissue sampling.

to understand the basis of treatment of common pulmonary disorders.

Conferences: There is no conference associated with this clinic, but students may attend the usual Thursday morning Medicine Grand Rounds at 8:00 a.m. and the Pulmonary Grand Rounds at 11:00 a.m. if the subject matter is appropriate.

Student time distribution: Outpatient 100%; Conferences/Lectures Vary; Subspecialty Care 100%

Major teaching responsibility: Barbara Ann Lutey, MD

Patients seen/weekly: 12-20

On call/weekend responsibility: None

M25 880 / PULMONARY MEDICINE – BARNES-JEWSH HOSPITAL

Instructor(s): Daniel Rosenbluth, MD, and staff, 314-454-8762

Location: 15th Floor, Northwest Tower
Elective Contact: Lisa Wetzel, 314-454-8762
Other Information: Students should page Pulmonary Consult Fellow, 7:30 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Students will acquire skills in the evaluation and management of patients with pulmonary diseases and in the interpretation of pulmonary function tests. They will gain experience in outpatient Lung Center and attend regular pulmonary and critical care medicine conferences.

Student time distribution: Inpatient 60%; Outpatient 20%; Conferences/ Lectures 20%; Subspecialty Care 100%
Major teaching responsibility: Multiple attendings, fellows and residents
Patients seen/weekly: 20
On call/weekend responsibility: None

M25 882 / PULMONARY MEDICINE – VA HOSPITAL
Instructor(s): Michael Lippmann, MD, 314-289-6306
Location: John Cochran VA Hospital
Elective Contact: Michael Lippmann, MD, 314-289-6306
Other Information: Students meet in 6C-MICU John Cochran VA Hospital, 7:30 a.m. first day of elective.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Students will participate in several ambulatory care activities of the Pulmonary Section, including outpatient consultations of common respiratory disorders such as COPD, obstructive sleep apnea, lung cancer and tuberculosis, and follow-up of primary care patients with pulmonary disease. In addition, students will round in medical intensive care units, interpret pulmonary function tests, participate in bronchoscopy and attend
scheduled teaching conferences of the Pulmonary Division.

Student time distribution: Inpatient 30%; Outpatient 50%; Conferences/ Lectures 20%; Subspecialty Care 100%
Major teaching responsibility: Several attendings
Patients seen/weekly: 6-10 (by student)
On call/weekend responsibility: None

**M25 884 / BONE MARROW TRANSPLANTATION AND STEM CELL BIOLOGY**

Instructor(s): John F. DiPersio, MD, PhD, 314-362-9339
Location: Bone Marrow Transplant Unit 13-100
Elective Contact: John F. DiPersio, MD, PhD, or Cathy Wiggins, 314-454-8491
Other Information: Students meet in the Bone Marrow Transplant Unit, 8:30 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Intense four-week clinical rotation exposing interested fourth-year medical students to the clinical world of bone marrow transplantation and to the basic science of hematopoiesis, leukemia, and stem cell biology. Students will be primarily responsible for the care of autologous and allogeneic BMT recipients and those patients being treated for a variety of hematologic malignancies such as AML, ALL, multiple myeloma and Non-Hodgkin's Lymphoma. In addition they will be exposed to methods of stem cell harvest, cryopreservation, and immunophenotyping. This rotation plans to provide motivated students with an ideal mix of clinical medicine and basic science.

Student time distribution: Inpatient 60%; Outpatient 20%; Conferences/ Lectures 20%; Subspecialty Care 100%
Major teaching responsibility: Attending on service as well as all BMT physicians
Patients seen/weekly: 10-20
On call/weekend responsibility: None
M25 885 / OCCUPATIONAL/ENVIRONMENTAL MEDICINE

Instructor(s): Bradley Evano, MD, MPH, 314-454-8638
Location: Taylor Avenue Building
Elective Contact: Debbie Howard, 314-454-8638
Other Information: Students should meet at GMS Suite, Taylor Avenue Bldg., 9:00 a.m. first day of elective.
Enrollment limit per period: 1 (2, by special arrangement)
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41. (Students may take this elective for up to 12 weeks.)

This elective is designed to introduce students to research and practice in the prevention of work-related injuries and illnesses, and prevention of health effects related to environmental exposures. Preventive activities will include work site visits and intervention projects, as well as involvement with work site health promotion and policy making. Research projects involve epidemiology and intervention projects in work-related injury and musculoskeletal disorders. Specific activities are flexible depending on the students’ interests.

Students may elect to participate in the Interdisciplinary Environmental Clinic at Washington University. Based in the law school, the clinic involves interdisciplinary teams of students (law, engineering, environmental science) taking principal responsibility, under faculty supervision, for cases and projects on behalf of environmental and community organizations. The medical student(s) assist clinic students by evaluating the human health impacts involved in one or more of the clinic’s cases, and presenting such information to the client organization(s) and others.

Among the cases on which medical students might participate are: (1) air pollution associated with factories in the St Louis metropolitan area; (2) lead poisoning of children and adults in St. Louis and surrounding towns; (3) air and water pollution caused by concentrated animal feeding operations (factory farms) in Missouri. Students choosing this option will work with the Environmental Clinic staff and with Dr. Evanoff to evaluate and present evaluations of human health impacts of environmental exposures.
Student time distribution: Conferences/Lectures 10%; Policy activities/Research 90%; Subspecialty Care 100%
Major teaching responsibility: Attending
Patients seen/weekly: 0
On call/weekend responsibility: None

M25 887 / CLINICAL CARDIOVASCULAR MEDICINE
Instructor(s): Thomas F. Martin, MD, FACC; and Timothy J. Martin, MD, FACC, CCDS, 573-308-1301
Location: Phelps County Regional Medical Center, Rolla, MO
Elective Contact: Annette Wells, 573-308-1301, wellsa@pcrmc.com
Other Information: Students should arrive at Washington University Heart Care Institute in Rolla, 1050 W. 10th Street, Suite 500 at 8:00 a.m. the first day of elective, and will be escorted to the unit where Dr. Martin is rounding.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 25, 29, 33, and 37.


Student time distribution: Inpatient 50%; Outpatient 50%; Subspecialty Care 100%
Major teaching responsibility: Attending
Patients seen/weekly: 100
On call/weekend responsibility: None

M25 890 / CLINICAL NEPHROLOGY
Instructor(s): Steven Cheng, MD, 314-362-3204
Location: Chromalloy American Kidney Center, Barnes-Jewish Hospital
Elective Contact: Kim Knolhoff, 314-362-7211
Other Information: Students meet in the Acute Dialysis Center, Division 14300, Barnes-Jewish Hospital, 8:00 a.m. first day of elective. Ask for the Renal Fellow on the Consult Service.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Students rotate through inpatient and outpatient experiences to gain exposure to all facets of nephrology. They will spend time the majority of their time on an inpatient consult service, gaining exposure to acute and chronic renal failure, glomerulonephritis, and electrolyte disorders. During this time, they will serve as a fully integrated member of the consult team, evaluating underlying causes of kidney disease, performing diagnostic procedures, formulating management plans, and engaging in decision-making discussions with primary services and families. In addition, students will have the opportunity to experience ICU nephrology, the transplant service, the various CKD clinics, and all modalities of dialysis, including in-center, home, and peritoneal dialysis.

Student time distribution: Inpatient 70%; Outpatient 20%; Conferences/Lectures 10%; Primary Care 20%; Subspecialty Care 80%
Major teaching responsibility: Weekly pathophysiology/case conferences; Teaching rounds run by 3 attending physicians and 2 fellows.
Patients seen/weekly: Four consults per week
On call/weekend responsibility: Students are not required to take call or round on weekends.

M25 893 / ADULT ALLERGY AND CLINICAL IMMUNOLOGY
Instructor(s): H. James Wedner, MD, 314-454-7376
Location: 15th Floor, Northwest Tower
Elective Contact: Jill Munoz, 314-454-7376
Other Information: Students meet Jessica Champlin in the Allergy and Immunology division office, 15th Floor, Northwest Tower, 8:00 a.m. first day of elective.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.
Students will participate in the allergy consult service at Barnes-Jewish Hospital, North and South Campus. The student will serve as the primary allergy consult for inpatient and Emergency Room consultation and present each patient to the allergy fellows on call and the attending physician. Students will attend The Adult Allergy Clinic, Pediatric Allergy Clinic, and the outpatient clinics at The Asthma & Allergy Center at Barnes-Jewish West County Hospital. Conferences on selected topics in allergy and clinical immunology will be held with the attending staff two to three afternoons a week.

Student time distribution: Inpatient 10%; Outpatient 75%; Conferences/ Lectures 15%; Subspecialty Care 100%
Major teaching responsibility: Attending and staff
Patients seen/weekly: 12
On call/weekend responsibility: Optional

M80 809 / AMBULATORY CARE – JACQUELINE MARITZ LUNG CTR
Instructor(s): Daniel Rosenbluth, MD, 314-454-8762
Location: Barnes-Jewish Hospital, North Campus, Lung Center, 8th Floor CAM
Elective Contact: Lisa Wetzel, 314-454-8762
Other Information: Students meet in the Lung Center, 8th Floor CAM, Barnes-Jewish Hospital, North Campus, 8:00 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 17, 21, 25, 29, 33, 37, and 41.

The Jacqueline Maritz Lung Center houses the ambulatory care activities of the Divisions of Pulmonary Medicine, Thoracic Surgery, and Allergy/Immunology, as well as the pulmonary function laboratory. The student will rotate through (1) both general pulmonary and subspecialty clinics in Pulmonary Medicine (cystic fibrosis, transplantation, emphysema, etc.), (2) Thoracic Surgery clinic, (3) Allergy/ Immunology clinic, and (4) interpretation of pulmonary function tests. Chest imaging is also emphasized in the evaluation process. The rotation can be streamlined to meet areas of emphasis desired by individual students.

Student time distribution: Outpatient 100%; Conferences/Lectures 3-5 week; Primary
Research — Medicine

(M25 900)

Dana R. Abendschein, PhD
9924 Clinical Sciences Research Building
314-362-8925

Research in this translational physiology laboratory is focused on development of novel antithrombotic approaches for use during acute myocardial infarction, stroke, and surgery where vascular injury is an underlying mechanism. Current studies are designed to define the efficacy of targeting antithrombotics to the surface of injured vascular cells and activated platelets on thrombus progression. One approach uses nanoparticles covered with epitopes to bind exposed receptors on thrombus and containing inhibitors of coagulation or platelet activation. Students will be expected to participate in experiments using animal models and will develop skills in experiment design, vascular physiology, clinical antithrombotic therapy, coagulation, histopathology, and statistics.

John P. Atkinson, MD
10th Floor Clinical Sciences Research Building
A clinical research elective is offered in the evaluation of patients with complement deficiency or overactivity states and with undiagnosed rheumatic disease syndromes.

Roberto Civitelli, MD
BJCIH 11th Floor, Musculoskeletal Research Center
314-454-8408
The biology of cell-cell interactions and communication in bone via gap junctions and cell adhesion molecules. Function of connexins and cadherins in transcriptional control of osteoblast differentiation, osteoclastogenesis, and mechanotransduction. Modulation of mesenchymal lineage allocation and osteogenic differentiation by cadherins and beta-catenin signaling.

Nicholas O. Davidson, MD
910 CSRB North Tower
314-362-2027
Genetic pathways for nonalcoholic fatty liver disease (NAFLD) and colorectal cancer development. We have two major areas of research interest. Our laboratory is interested, first, in the molecular mechanisms of hepatic steatosis, and the pathogenesis of NAFLD. This is the most prevalent liver disease in the US, likely affecting a quarter of the population. We have generated genetically manipulated mouse strains that offer insights into the mechanisms of hepatic steatosis. The student would work as part of a team, designing and conducting experiments that will test hypotheses concerning the mechanisms and consequences of hepatic steatosis. These studies will primarily involve mouse genetics, examining the expression of candidate genes under a variety of nutritional and pharmacologic settings that modulate hepatic lipid metabolism. In addition we are using microarrays to study the spectrum of genetic changes that may predict the extent of hepatic lipid accumulation in patients with steatohepatitis. Our goal is to test hypotheses using mouse genetics and to extend these studies to examine the same pathways in humans with NAFLD. Our second area of interest concerns the genetic pathways involved in colorectal cancer, the second leading cause of cancer-related deaths. We have developed a novel
strain of mice in which the dominant effects of mutations in the APC tumor suppressor gene have been abrogated through deletion of an RNA binding protein, apobec-1. This deletion has a major effect on the expression of cox-2, abrogating the increase in expression seen in human colonic adenomas and wild type mouse intestinal adenomas. These findings suggest that apobec-1 is a genetic modifier of colon cancer development. We will study the importance of apobec-1 expression in human colon cancer specimens and continue our murine genetic studies of this novel pathway for modulating colon cancer development and progression.

Thomas M. DeFer, MD
6604 Wohl Hospital
314-362-8050, tdefer@dom.wustl.edu

Special Projects in Medical Education. Through special arrangement with and approval by the Course Master, 4th year students will participate in special projects in medical education. Typical projects will require approximately four weeks to complete. These four weeks can occur consecutively (preferred) or be spread out somewhat as needed. Medical education projects should be aimed at improving the curriculum, student experience, and/or administration of the Internal Medicine Clerkship or the Subinternship. Interested students should contact the Course Master via phone or e-mail to discuss the proposed project. Those who are interested but would like guidance in designing a project should also contact the Course Master. This is open only to Washington University School of Medicine students.

Matthew Ellis, MB, BChir, PhD
Room 724, Southwest Tower
314-747-3613

Genomics of Breast Cancer. The demonstration that the HER2 gene was amplified in breast cancer heralded the “genomic era” for this disease which ultimately led to major clinical advances for HER2-positive disease. The HER2 discovery was based on a search for cancer specific anomalies in the cellular homologs of the acutely transforming retroviral oncogenes described in birds and mammals. However HER2 gene amplification is now recognized to be only one of a large number of somatic
mutations that occur in breast cancer. In the last ten years, my clinical and laboratory efforts have focused on the development of a luminal (hormone receptor positive) breast cancer genome atlas to elucidate the complexity of the somatic changes in the breast cancer genome responsible for tumors resistant to current therapies. During these efforts we established a body of work on the practice of treating postmenopausal women with large palpable hormone receptor rich tumors with four months of an aromatase inhibitor. The ultimate scientific goal of these efforts is to create specimen banks and biomarker data from thousands of patients to create sufficient statistical power to robustly link genomic screens to clinical outcomes so we can eventually focus our basic science efforts on the most lethal genetic events.

Over the last year, we have undertaken a comprehensive analysis of the tumor samples accrued, including “whole genome” gene expression chips, high resolution array comparative hybridization analysis and candidate gene sequencing. The gene lists we are currently generating, particularly those from the marriage of expression profiling and array comparative hybridization, suggest a host of new therapeutic targets are ready to be exploited. Functional characterization of these genes has begun, and this effort is a major focus in the laboratory. Elective students will focus on projects that relate to individual oncogene candidates. The scope of the project will be commensurate with elective time commitment but participation may include interpretation of genomic data, confirmatory studies on gene over-expression in cell lines and tissues and functional studies using gene transfer, gene knock-down and pharmacological targeting to verify the identity of bone fide therapeutic targets for further investigation. Attendance at weekly lab meetings is expected.

Bradley Evanoff, MD, MPH
314-454-8638

Occupational medicine epidemiology and intervention research. My research involves the use of epidemiology methods to characterize associations between diseases and work-related exposures. I am also doing workplace intervention studies to prevent injuries and illnesses, and to improve healthy diet and physical activity among working populations. During an elective in occupational medicine epidemiology research,
students will learn how to use epidemiologic methods to investigate disease processes by working on a mutually agreed-on topic of interest related to occupational diseases. Other activities can include work site visits and intervention projects, as well as involvement with work site health promotion and policy making. Elective length is variable depending on individual circumstances. Please contact Dr. Evanoff to discuss this research.

Gregory I. Goldberg, PhD,
7740 Barnard
314-362-8172
Role of secreted extracellular matrix metalloproteases in tissue remodeling. Structure and function of the metalloproteases.

Richard W. Gross, MD, PhD
4525 Scott Avenue, East Building
314-362-2690
Lipid mediators of signal transduction in the cardiovascular system. Characterization of regulatory mechanisms responsible for the liberation of lipid second messengers during cellular activation. The roles of phospholipases in mediating the metabolic syndrome and end-organ tissue damage.

Marc R. Hammerman, MD
7704 Wohl Clinic
314-362-8233
Studies characterizing the transplantation of kidney and pancreatic anlage as a means to “grow new organs” in the settings of end-stage chronic renal failure and diabetes mellitus.

Stacey House, MD, PhD
houses@wustl.edu, 314-362-8070
or Lisa Hayes, hayesli@wusm.wustl.edu, 314-362-4362
Emergency Medicine Clinical Research. Emergency medicine clinical research involves the gamut of research designs ranging from retrospective cohort studies (The Use of B
Hydroxy Butyrate Point-of-Care Testing in Diabetic Ketoacidosis), to prospective clinical trials (Biomarkers in Traumatic Brain Injury), to the evaluation of healthcare systems and Emergency Department processes (Effects of a Triage Process Conversion on the Triage of High Risk Presentations.), to analyzing health policy issues (Rate of Follow-up to a Primary Care Clinic and Subsequent Emergency Department Utilization among an Urban ED Population). Students will learn the basic clinical research designs and will be able to articulate the benefits and drawbacks of each. They will be involved in hypothesis generation and study design for projects that are at that stage. For ongoing projects, they will learn about the informed consent process and be involved in screening for study subjects and subject selection and enrollment. They will be allowed to consent for studies judged to be minimal risk. Students will be taught important rules regarding data acquisition and entry, particularly as it relates to standards that have been set forth in the medical literature. They will learn about bias and inter-rater reliability. Students will participate in data entry, data analysis, and subsequent abstract/manuscript preparation based on their level of interest and ability for time commitment. Students will meet weekly with one of the course masters to discuss study progress and to identify any roadblocks to study completion. These meetings will also serve as a forum for one on one education of the student regarding study methodology, ethical issues in research, and various resources available to the clinical researcher at Washington University.

Keith A. Hruska, MD
5th Floor McDonnell Pediatric Research Building
314-286-2772

Our laboratory’s focus is on two aspects of kidney diseases: the progression of chronic kidney disease (CKD), and the syndrome of the CKD-mineral bone disorder (CKD-MBD). The latter is an important cause of mortality associated with CKD. We have discovered the pathogenesis of the CKD-MBD in early stage 2 CKD. We have ongoing studies of CKD stimulated vascular calcification in which we have discovered the mechanism of atherosclerotic palque calcification stimulated by phosphorus. We are analyzing phosphorus as a cardiovascular risk factor, and new therapies for chronic kidney disease, the CKD-MBD, and vascular calcification.
Stuart A. Kornfeld, MD  
8th Floor Clinical Sciences Research Building  
314-362-8803  
Synthesis, processing and sorting of glycoproteins, including lysosomal enzymes. Intracellular protein trafficking.

Sandor J. Kovacs, MD, PhD  
9965 Clinical Sciences Research Building  
314-362-8901  
For students with math, physics and engineering background. Cardiovascular biophysics research elective concentrates on physiologic modeling and comparison of model predictions to in vivo human data. Minimum of eight weeks of elective time.

Jack Ladenson, PhD  
314-454-8436  
Development of monoclonal and single-chain antibodies for use in research and in diagnostic testing.

Marc S. Levin, MD, and Deborah C. Rubin, MD  
922/924 Clinical Sciences Research Building  
314-362-8933, 314-362-8935  
Students will be members of a collaborative research team headed by Drs. Levin and Rubin (Department of Medicine) investigating the mechanisms underlying the intestinal adaptive response that occurs to compensate for loss of functional small intestine. A second project focuses on epithelial-mesenchymal interactions and their role in regulating gut epithelial proliferation carcinogenesis and the normal and cancer stem cell niche. Specific mechanisms under investigation include the function of an immediate early gene Tis7 on gut adaptation following resection or injury. The role of myofibroblast protein epimorphin in regulating cell proliferation and colon carcinogenesis is being explored. The student will have the opportunity to learn basic molecular biology and physiology as it relates to small intestinal growth, and function. Examples of techniques that are used in these studies include small animal surgery and colitis and cancer models (mice and rats), molecular biological techniques
including PCR, Northern blotting, vector construction for production of transgenic and knockout mouse models, in situ hybridization and immunohistochemistry.

Philip W. Majerus, MD  
8th Floor Clinical Sciences Research Building  
314-362-8801  
Biochemistry of platelets, regulation of lipid metabolism in tissue culture; mechanism of platelet thrombus formation.

Jeffrey D. Milbrandt, MD, PhD  
101 Biotechnology Center  
314-362-4650  
We have several ongoing projects in our laboratory that focus on peripheral neuropathy and neurodegenerative diseases. (1) Using high throughput screening methods to dissect the molecular program responsible for dismantling injured and/or unhealthy axons with the goal of identifying drugs to treat neurological disorders. (2) Using genetics and metabolomics to understand how metabolic deficits in glia lead to neuropathy and axon breakdown. (3) Developing new genetic tools for in vivo and in vitro assays aimed at characterizing the role of non-myelinating Schwann cells in acquired peripheral neuropathies such as diabetic neuropathy. (4) Implementing novel, high-throughput genome engineering technologies in induced pluripotent stem cell-derived neurons to perform functional genomic screens for pathways involved in axon regeneration.

Jason C. Mills, MD, PhD  
Room 1030 CSRB North Tower  
314-362-4213  
We investigate the differentiation of epithelial stem cells in the upper GI tract. We study how genes regulate differentiation in mouse models and in vitro in tissue culture, and we correlate our findings with human tissue specimens. Specific projects include: (1) understanding how inflammation leads to aberrant differentiation (metaplasia), which is a precursor for cancer; (2) elucidating how master regulatory transcription factors like Xbp1 and Mist1 coordinate the massive cytoskeletal and
organellar expansion of specialized secretory cells as they differentiate from stem cells; and (3) understanding mechanisms regulating how differentiated cells can be reprogrammed into stem cells in GI organs like stomach and pancreas.

Stanley Misler, MD, PhD
815 Yalem Building, Barnes-Jewish Hospital
314-454-7719
Stimulus-secretion coupling in endocrine cells (B-islet cells and adrenal chromaffin cells) examined using single-cell assays of secretion (capacitance measurements, amperometry).

Ginger E. Nicol, MD
4412 Renard Building
314-362-5939
Clinical research concerning substrate (glucose and lipid) metabolism and the regulation of weight and body composition in persons with mental illness, particularly concerning the effect of psychotropic medications. This elective offers the student a broad exposure to clinical research protocols, including protocols in adults and children. Students will have an opportunity to focus on a particular project of interest.

Amit Noheria, MBBS, SM
Northwest Tower 13th Floor
314-249-7352
Clinical Outcomes in Patients with Cardiac Implantable Electronic Devices: Clinical research to evaluate outcomes in patients with cardiac implantable electronic devices (CIEDs).

1. Risk of stroke in patients with patent foramen ovale and CIEDs.
2. Predictors of hemodynamically unstable ventricular arrhythmias in patients with left ventricular assist devices (LVADs).

Richard E. Ostlund, MD
8804 Wohl Hospital
Our laboratory focuses on the prevention and treatment of coronary heart disease by studying cholesterol absorption, detoxification and elimination from the body. Direct patient studies that use new stable isotopic cholesterol tracers and mass spectrometry techniques complement in vitro work on the biochemistry of cholesterol transport in cultured cells.

Russell Pachynski, MD
BJC Institute of Health, 7th Floor
314-286-2341

My lab focuses on several aspects of tumor immunology and translational immunotherapy. We utilize mouse tumor models, human tissues and samples, and advanced molecular and immunologic techniques to look study leukocyte trafficking in the setting of tumor development and progression. We also have projects focusing on developing novel immunotherapeutics aimed at augmenting the recruitment of beneficial leukocyte subsets into the tumor microenvironment in order to suppress tumor growth. We are utilizing several approaches such as nanoparticles, fusion proteins, and viruses.

Katherine Ponder, MD
8818 Cancer Science Research Building
314-362-5188, kponder@wustl.edu

Gene Therapy for Lysosomal Storage Diseases. Our laboratory is interested in using gene therapy to treat lysosomal storage diseases such as mucopolysaccharidosis (MPS). We have developed a retroviral vector that can be efficiently delivered to the liver of mice and dogs, and results in expression that is sufficient to reduce many of the clinical manifestations of these genetic diseases. Current studies focus upon assessing the therapeutic effect of gene therapy on sites that are affected in MPS such as the heart, aorta, bones, and joints, and developing vectors that might be translated into human patients. In addition, we are evaluating the pathogenesis of disease in MPS, which appears to involve the upregulation of destructive proteases in the aorta and possibly other sites. A better understanding of the pathogenesis of disease might
result in additional therapies for MPS.

Clay F. Semenkovich, MD
8th floor, Southwest Tower
314-362-4454
Fatty acid metabolism and its role in atherosclerosis, diabetes, hypertension, and obesity. The modulation of respiratory uncoupling for the treatment of aging, obesity, and vascular disease.

Phyllis K. Stein, PhD
Room 13116 Northwest Tower
314-286-1350, pstein@dom.wustl.edu
Clinical Significance of Heart Rate Variability and ECG-Derived Waveform Parameters Obtained from Continuous Ambulatory Monitoring. This elective affords the opportunity to perform research in heart rate variability or in other measurements, like QT variability or T-wave alternans that can be derived from continuous ECG monitoring from Holter recordings or polysomnography recordings in the sleep lab. One area of active research is the identification of heart rate patterns associated with obstructive and central sleep apneas and hypopneas and the relationship of previously unappreciated cycling heart rate patterns and outcomes. Data are also available from mice. Many possible projects are available using our many large existing datasets, using the thousands of stored studies in the sleep lab or involving de novo data collection in a clinical or animal population and in infants. Also, many possible directions for this research are available from applying traditional and non-linear HRV to different populations, developing methods to quantify ultradian heart rate variability patterns, to developing novel ECG analysis techniques, etc. Also, we are involved with the Cardiovascular Health Study (CHS), a large population-based longitudinal study of risk factors for heart disease and stroke among community-dwelling people >65 years old. There is a subset of this population who had Holter recordings (~1400 at baseline, ~800 of the same people 5 years later, and ~370 minority subjects recorded at the same time as the second CHS recording). These recordings have already been analyzed by us so there is a large amount of heart rate
variability and heart rate pattern data available. There is also a subsets of the CHS and of another study (EPHESUS) who are known to have died suddenly, and we have developed a matched control group in order to examine ECG-based differences in those who died suddenly. We also have electronic sleep studies at two time points for about 300 of the CHS Holter participants who also participated in the Sleep Heart Health Study. We have analyzed an additional ~1500 sleep studies from CHS participants who did not have Holter recordings. Thus, there is also an opportunity in the CHS dataset for studies on the relationship of heart rate variability and changes in heart rate variability over time and a huge number of clinical and demographic factors among the elderly. We also have data on the relationship of Holter-based HRV and sleep apnea patterns to the development of atrial fibrillation post-cardiac surgery and data from a study of treatment of depression in treatment-resistant depressed post-MI patients, a study of sickle cell patients and one of heart rate variability and echo parameters in elderly African Americans. Currently we are also analyzing HRV in both premature infants as they mature and also HRV as a predictor of response to treatment in babies in the NICU and PICU, using stored 24-hour bedside ECGs.

Heart Rate Variability and Clinical Outcomes: The student will be learning about HRV Methods and will investigate the relationship of HRV and outcomes in one of our datasets. Because we have clinical and demographic data on about 20,000 people in who continuous ECGs from Holter recordings, sleep studies and ICU studies and also some mouse data, the student will be able to choose a project leading to a publishable result in an area of interest to the student. The HRV Lab has enough computers and software to accommodate the needs of any interested students.

John Turk, MD, PhD
8th Floor South West Tower
314-362-8190

Phospholipid signaling mechanisms in pancreatic islets. Experience in mass spectrometric analysis of complex lipids is available.

H.J. Wedner, MD
1. Asthma Care in the Inner City: students will participate in ongoing studies of the delivery of asthma care to inner-city children and adults. The emphasis will be on direct contact between the asthmatic patients and the student, along with an asthma counselor.

2. Biology of Pollen and Fungal Allergens: our laboratory has been characterizing the important allergenic proteins from molds and pollen. The allergens are identified using skin test sensitive individuals, and the proteins are isolated and characterized by a combination of physiochemical and molecular biological techniques. These studies should lead to better forms of allergy immunotherapy. Students will participate in the isolation, characterization and modification of major allergens from a number of molds including Stachybotrysatra, Epicoccum nigrum and several pollens including those from white oak and Parthenium hysterophoros, a newly recognized allergen.

Faculty — Medicine

Victoria J Fraser, MD Adolphus Busch Professor of Medicine (primary appointment)
Head of the Department of Internal Medicine
BS William Woods College 1978
MD University of MO Columbia 1983

Elliot Efrem Abbey, MD Professor of Clinical Medicine (primary appointment)
MD New York University 1975
BA Cornell University 1971

Camille N. Abboud, MD Professor of Medicine (primary appointment)
MD American University of Beirut 1974
BS American University of Beirut 1970
Basem Abdeen Instructor in Clinical Medicine (primary appointment)
Khaled M Abdel-Hamid Instructor in Clinical Medicine (primary appointment)
Dana Ray Abendschein, PHD Associate Professor of Medicine (primary appointment)
Associate Professor of Cell Biology and Physiology
PHD Purdue University 1978
BS State University of New York 1974
Enyo Ama Ablordeppey, M PH, MD Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Emergency Medicine in Medicine
M PH University of Pittsburgh 2007
MD University of Pittsburgh 2007
Grazia Abou Ezzi, MS, PHD, MS Instructor in Medicine (primary appointment)
MS University of Paris 2009
BS Holy Spirit Univ of Kaslik 2006
PHD University of Nice 2013
MS University of Nice 2008
Barry K Abramson, MD Instructor in Clinical Medicine (primary appointment)
BA Johns Hopkins University 1981
MD University of Miami 1985
Nada A Abumrad, PHD Robert C Atkins Professor of Obesity Research in Medicine (primary appointment)
Professor of Cell Biology and Physiology
BS American University of Beirut 1972
PHD State University of New York 1978
Susan R Adams, MD Instructor in Clinical Medicine (primary appointment)
BA Carleton College 1985
MD University of Missouri 1989
Foluso O Ademuyiwa, M PH, MBBS Assistant Professor of Medicine (primary appointment)
M PH Johns Hopkins University 2001
MBBS University of Ibadan 1999
Douglas R Adkins Professor of Medicine (primary appointment)
BS Wright State University 1982
Homaa Ahmad, MD Assistant Professor of Medicine (primary appointment)
MD Johns Hopkins University Medcic 2003
BA Johns Hopkins University 1999
Abdulla Akfaly, MD Instructor in Clinical Medicine (primary appointment)
MD Aleppo University 1991
Ghadah Abdulaziz Al Ismail Instructor in Medicine (primary appointment)
Ziyad Al-Aly Assistant Professor of Medicine (primary appointment)
Bassam Albarcha Instructor in Clinical Medicine (primary appointment)
Jorge M Alegre, MD Instructor in Clinical Medicine (primary appointment)
MD School Not Listed 1965
Jennifer Marie Alexander-Brett, MD, PHD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
MD Washington Univ in St. Louis 2007
PHD Washington Univ in St. Louis 2007
BS University of Nebraska 1999
Tarek Alhamad, MD, MS Assistant Professor of Medicine (primary appointment)
MD Damascus U. Medical School 2006
Alaa Ali
Instructor in Medicine (primary appointment)
MD School Not Listed 1985

Florence Michelle Almiron-Torralba
Instructor in Clinical Medicine (primary appointment)

David Hershel Alpers, MD
William B Kountz Professor of Gerontology in Medicine (primary appointment)
MD Harvard University 1960
BA Harvard University 1956

Jamaluddin Faisal Amanullah
Instructor in Clinical Medicine (primary appointment)

Amit P. Amin, MD
Assistant Professor of Medicine (primary appointment)
MD Government Medical College 1998

Manik A Amin, MD
Assistant Professor of Medicine (primary appointment)
MD Government Medical College 1997

Milan J. Anadkat, MD
Associate Professor of Medicine (Dermatology) (primary appointment)
MD Ohio University 2001
BS University of Akron 1997

Dhanalakshmi Subramanian Anbukumar, PHD
Instructor in Medicine (primary appointment)
PHD Saint Louis University 2010
BA Saint Louis University 2003

Adam Lee Anderson, MD
Assistant Professor of Medicine (primary appointment)
BS University of Illinois Chicago 2006
MD University of Illinois Chicago 2010

Scott J Anderson, MD, PHD
Instructor in Clinical Medicine (primary appointment)
BA University of California 1975
MD Duke University 1982
PHD Duke University 1981

Muhammad Jaffer Ansari
Assistant Professor of Clinical Medicine (primary appointment)

George Ansstas, MD
Assistant Professor of Medicine (primary appointment)
MD Tishreen Univ College of Med 2001

Alison Lynne Antes Schuelke, PHD, MS
Assistant Professor of Medicine (primary appointment)
PHD University of Oklahoma 2010
BS Indiana State University 2005
MS University of Oklahoma 2007

Rajendra Apte, PHD, MD
Paul A. Cibis Distinguished Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Developmental Biology
Professor of Medicine
PHD University of Texas Southwest 1997
MD University of Bombay 1993

Suzanne V Arnold, MD, MHA
Adjunct Assistant Professor of Medicine (primary appointment)
MD Ohio State University 2004
MHA Ohio State University 2004

Vivek Kumar Arora, PHD, MD
Assistant Professor of Medicine (primary appointment)
PHD University of Texas Southwest 2004
MD University of Texas Southwest 2004
BS Northwestern University 1996

Saira M Asadullah, MD
Instructor in Clinical Medicine (primary appointment)
MD Aga Khan University 1992
Phillip V. Asaro, MD Assistant Professor of Emergency Medicine in Medicine (primary appointment)
MD Saint Louis University 1981
Jeffrey Jay Atkinson Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pediatrics
BS1 Loyola College 1990
MD1 Hahnemann University 1994
BS Loyola College 1990
John Patterson Atkinson, MD Samuel Grant Professor of Medicine (primary appointment)
Professor of Molecular Microbiology
BA University of Kansas 1965
MD University of Kansas 1969
Crystal Lynn Atwood, MD Instructor in Medicine (primary appointment)
MD University of Illinois Chicago 2009
Chandra Aubin Associate Professor of Emergency Medicine in Medicine (primary appointment)
James G Avery, MD Associate Professor of Clinical Medicine (primary appointment)
MD University of Tennessee 1990
Riad Azar, MD Associate Professor of Medicine (primary appointment)
MD Saint Josephs University 1994
Hilary M Babcock, MPH, MD Associate Professor of Medicine (primary appointment)
BA Brown University 1989
MPH Saint Louis University 2006
MD University of Texas Southwest 1994
Richard G. Bach, MD, MS Professor of Medicine (primary appointment)
MD New York University 1984
MS New York University 1980
BS Georgetown University 1977
Leonard B Bacharier, MD Professor of Pediatrics (primary appointment)
Professor of Medicine
MD Washington Univ in St. Louis 1992
BA Johns Hopkins University 1988
Maria Quintos Baggstrom, MD Associate Professor of Medicine (primary appointment)
BA Williams College 1991
MD University of Texas Houston 1996
Om Parkash Bahl Assistant Professor of Clinical Medicine (primary appointment)
Donald M Bailey Adjunct Instructor in Medicine (primary appointment)
Thomas C Bailey, MD Professor of Medicine (primary appointment)
BA William Jewell College 1980
MD Washington Univ in St. Louis 1984
Gregory Eden Baker, MD Instructor in Clinical Medicine (primary appointment)
MD Mayo Clinic 2001
Megan Tierney Baldridge, MD, PHD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Molecular Microbiology
MD Baylor College of Medicine 2011
PHD Baylor College of Medicine 2009
Fred J Balis, MS, MD Assistant Professor of Clinical Medicine (primary appointment)
MD Cornell University 1985
MD Washington Univ in St. Louis 1989
BS University of Vermont 1981
**Clarence William Balke, MD** Professor of Medicine (primary appointment)
BS Haverford College 1975
MD Temple University 1981
**David Ban, MD** Associate Professor of Clinical Medicine (primary appointment)
BA Kalamazoo College 1976
MD University of Oregon 1980
**James William Banks, MD** Instructor in Clinical Medicine (primary appointment)
MD Marshall University 1984
**Dhruv Bansal, MD** Instructor in Medicine (primary appointment)
MD University of New Mexico 2011
**Abraham Barake, MD** Associate Professor of Clinical Medicine (primary appointment)
BS University of Maryland 1976
**Thomas J Baranski, PHD, MD** Associate Professor of Medicine (primary appointment)
Associate Professor of Developmental Biology
BS Univ of Wisconsin Madison 1985
PHD Washington Univ in St. Louis 1992
MD Washington Univ in St. Louis 1992
**Peggy Barco, MED** Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Medicine
MED Washington Univ in St. Louis 1987
Rachel Hannah Bardowell Assistant Professor of Medicine (primary appointment)
**Philip M Barger, MD** Associate Professor of Medicine (primary appointment)
MD Case Western Reserve Univ 1989
**Joaquin Barnoya, MS, MD** Associate Professor of Surgery (General Surgery) (primary appointment)
Associate Professor of Medicine
MS Harvard University 2001
MD Universidad de San Carlos 1998
**Ernie-Paul Barrette, MA** Associate Professor of Medicine (primary appointment)
BS University of Rhode Island 1982
MA Harvard University 1984
**Thomas Joseph Bartholet, MD** Instructor in Clinical Medicine (primary appointment)
MD1 Brown University 1994
BS Georgetown University 1990
MD Dartmouth College 1992
**Nancy Lee Bartlett, MS, MD** Koman Professor of Medical Oncology in Medicine (primary appointment)
MS Mass Inst of Technology (MIT) 1979
MD Washington Univ in St. Louis 1986
BS Stanford University 1978
**Robert W Barton** Assistant Professor of Clinical Medicine (primary appointment)
BS University of Chicago 1962
**Luis Francisco Zirnberger Batista, PHD** Assistant Professor of Medicine (primary appointment)
Assistant Professor of Developmental Biology
BS University of SAO Paulo 2003
PHD University of SAO Paulo 2008
**Natalie Christine Battle, MD** Instructor in Medicine (primary appointment)
Frederick D Bauschard, MD  
*Assistant Professor of Clinical Medicine (Dermatology)* (primary appointment)

Michael D Bavlsik  
*Assistant Professor of Clinical Medicine* (primary appointment)

Susan Joy Bayliss, MD  
*Professor of Medicine (Dermatology)* (primary appointment)  
*Professor of Pediatrics*

Michael D Bavlsik  
*Assistant Professor of Clinical Medicine* (primary appointment)

Susan Joy Bayliss, MD  
*Professor of Medicine (Dermatology)* (primary appointment)  
*Professor of Pediatrics*

Bahaa Ahmad Bedair, MD  
*Instructor in Medicine* (primary appointment)

Saba Beg, MD  
*Instructor in Medicine* (primary appointment)

Richard C Bell  
*Instructor in Clinical Medicine (Dermatology)* (primary appointment)

C. Elliott Bell Jr  
*Instructor in Clinical Medicine* (primary appointment)

William Waite Benedict  
*Instructor in Clinical Medicine* (primary appointment)

Bruno Antonio Benitez Viloria  
*Instructor in Medicine* (primary appointment)

Susan Berdy, MD  
*Assistant Professor of Clinical Medicine* (primary appointment)

Daniel Ralph Berg, MD  
*Assistant Professor of Clinical Medicine* (primary appointment)

Michael A Berk, MD  
*Professor of Clinical Medicine* (primary appointment)

Carlos Bernal-Mizrachi, MD  
*Associate Professor of Medicine* (primary appointment)  
*Associate Professor of Cell Biology and Physiology*

Aaron M Bernstein, MD  
*Assistant Professor of Clinical Medicine* (primary appointment)

Keith A Bernstein, MD  
*Instructor in Clinical Medicine* (primary appointment)

Marc Jordan Bernstein, MD  
*Associate Professor of Clinical Medicine* (primary appointment)

Douglas R Berson, MD  
*Instructor in Clinical Medicine* (primary appointment)

Pavan Kumar Bhamidipati, MD  
*Instructor in Clinical Medicine* (primary appointment)

Anita R. Bhandiwad, MD  
*Assistant Professor of Medicine* (primary appointment)

Mythili C. Bharadwaj  
*Instructor in Clinical Medicine* (primary appointment)

Rakhee Kapadia Bhayani, MD  
*Associate Professor of Medicine* (primary appointment)
MD Washington Univ in St. Louis 1999
Stanley I Biel, MD Instructor in Clinical Medicine (primary appointment)
BA Rockford College 1974
MD University of Illinois 1978

Joseph John Billadello, MD Associate Professor of Medicine (primary appointment)
MD Georgetown University 1978

Ellen F Binder, MD Professor of Medicine (primary appointment)
Professor of Occupational Therapy
MD Washington Univ in St. Louis 1981
BA Davenport University 1977

Aaron Birenbaum, MD Assistant Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1948

William D Birenbaum, MD Instructor in Clinical Medicine (primary appointment)
MD University of Missouri 1983
BA Washington Univ in St. Louis 1978

Clifford Allen Birge, MD Assistant Professor of Clinical Medicine (primary appointment)
BA Amherst College 1956
MD Washington Univ in St. Louis 1961
Stanley J Birge, MD Associate Professor of Medicine (primary appointment)
BA Amherst College 1959
MD Washington Univ in St. Louis 1963

Thomas M Birkenmeier, MD Assistant Professor of Medicine (primary appointment)
BA Washington Univ in St. Louis 1978
MD Washington Univ in St. Louis 1982

Kumar Sanjeev Bishnupuri, MS Instructor in Medicine (primary appointment)
BS Tilka Manjhi Bhagalpur Univ 1988
MS Banaras Hindu University 1992

Valerie Blanc, PhD Instructor in Medicine (primary appointment)
PHD University of Bordeaux 2 1996

Melvin S Blanchard, BBA, MD Professor of Medicine (primary appointment)
Director of Residency Program, Department of Internal Medicine
BBA Trevecca Nazarene College 1987
MD University of Tennessee 1994

Merilda O Blanco-Guzman, MD Instructor in Medicine (primary appointment)
MD PUCMM FACULTAT DE CIENCIAS DEL 2004

Elizabeth Joy Blaney, MD Assistant Professor of Medicine (primary appointment)
MD Ohio State University 2007
BA Eastern Michigan University 2003

Morey A Blinder, MD Professor of Medicine (primary appointment)
Professor of Pathology and Immunology
MD Saint Louis University 1981
BS University of Notre Dame 1977

Donald Allen Blum Assistant Professor of Clinical Medicine (primary appointment)

Imre Bodo Adjunct Instructor in Medicine (primary appointment)

Indra Bole Instructor in Medicine (primary appointment)

BS University of Maryland 2008
Michael Bolger Instructor in Clinical Medicine (primary appointment)

Matthew James Bonzelet, MD Instructor in Clinical Medicine (primary appointment)
Adrianus C Boon, PHD, MS Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
Assistant Professor of Molecular Microbiology
PHD Erasmus University Rotterdam 2003
MS University of Amsterdam 1997
Benjamin A Borowsky Professor of Clinical Medicine (primary appointment)
Jonathan D Bortz Instructor in Clinical Medicine (primary appointment)
Ron Bose, PHD Associate Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
PHD Cornell University 1998
PHD1 Cornell University 1998
Matthew S Bosner, MD Assistant Professor of Clinical Medicine (primary appointment)
BS Muhlenberg College 1979
MD University of Texas Austin 1983
William G Bowen, MD Associate Professor of Clinical Medicine (primary appointment)
BS Davidson College 1970
MD University of North Carolina 1974
Lyndsey Jean Bowman, PHD Adjunct Instructor in Medicine (primary appointment)
PHD St Louis College of Pharmacy 2005
Sabina A Braithwaite Associate Professor of Emergency Medicine In Medicine (Pending Executive Faculty Approval) (primary appointment)
Richard D. Brasington Jr, MD Professor of Medicine (primary appointment)
BA Harvard University 1974
MD Duke University 1980
Alan C Braverman, MD Alumni Endowed Professor of Cardiovascular Disease in Medicine (primary appointment)
MD University of Missouri 1985
Andrea Lynn Bredemeyer, PHD Instructor in Medicine (primary appointment)
PHD Washington Univ in St. Louis 2006
BA Colby College 1999
Daniel C Brennan, MD Professor of Medicine (primary appointment)
Alan A and Edith L Wolff Distinguished Professor
MD University of Iowa 1985
BS Cornell College 1981
Audrey Brenot, PHD Instructor in Medicine (primary appointment)
PHD University of Paris 2001
BS University of Paris 1996
Thomas J. Brett Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
Assistant Professor of Biochemistry and Molecular Biophysics
BS North Dakota State University 1992
Matthew Brinkmeier, MD Instructor in Medicine (primary appointment)
MD Washington Univ in St. Louis 2007
Steven L Brody, MD Dorothy R and Hubert C Moog Professor of Pulmonary Diseases in Medicine (primary appointment)
Professor of Radiology
MD University of Michigan 1980
Rita Thomas Brookheart
Instructor in Medicine (primary appointment)
Instructor in Pediatrics
BA Sweet Briar College 2003
Christopher B. Brooks
Associate Professor of Emergency Medicine in Medicine (primary appointment)
Angela L Brown, MD
Associate Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1992
David L. Brown, MD
Professor of Medicine (primary appointment)
BA University of Texas Austin 1977
MD Baylor University 1982
Lawrence R Brown, MD
Assistant Professor of Emergency Medicine in Medicine (primary appointment)
BS Univ of Wisconsin Madison 1982
MD Washington Univ in St. Louis 1990
George John Broze Jr, MD
Professor of Medicine (primary appointment)
Professor of Cell Biology and Physiology
Professor of Pathology and Immunology
MD University of Washington 1972
Robert M Bruce, MD
Professor of Clinical Medicine (primary appointment)
MD University of Minnesota 1968
BS University of Minnesota 1968
BA Washington Univ in St. Louis 1964
Kathleen S Brunts, MD
Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1981
BS Western Michigan University 1977
Stanley Buck, MD
Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1977
BS Princeton University 1973
Philip J Budge
Assistant Professor of Medicine (primary appointment)
Allen Cole Burks, MD
Instructor in Medicine (primary appointment)
MD Saint Louis University 2007
BS University of Central Arkansas 2002
Tamara Lavon Burtle
Associate Professor of Physical Therapy (primary appointment)
Associate Director for Clinical Education in Physical Therapy
Assistant Director of Professional Curriculum in Physical Therapy
Associate Professor of Medicine
BA Wartburg College 1988
BS Washington Univ in St. Louis 1988
Scott H Burner, MD
Associate Professor of Emergency Medicine in Medicine (primary appointment)
MD Medical University of Sth Car 1978
Donald F Busiek, MD
Instructor in Clinical Medicine (primary appointment)
BA Saint Louis University 1974
MD University of Missouri 1983
Melvin J Butler
Instructor in Clinical Medicine (primary appointment)
Derek E Byers, MD
Associate Professor of Medicine (primary appointment)
BS University of Oklahoma 1993
MD University of Texas Southwest 2001
Jonathan Nicholas Byrd, MD
Instructor in Clinical Medicine (primary appointment)
BS Tulane University 2007
MD Washington Univ in St. Louis 2011

Minji Byun, PHD
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
PHD Washington Univ in St. Louis 2009
BS Pohang Univ of Science & Tech 2002

Galileu Cabral
Associate Professor of Clinical Medicine (primary appointment)

William Todd Cade, PHD, MS
Professor of Physical Therapy (primary appointment)
Professor of Medicine
Associate Director of Postdoctoral Fellowships in Physical Therapy
PHD University of Maryland 2002
MS University of Miami 1994

John William Campbell, MD
Professor of Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1973
MD Washington Univ in St. Louis 1977

Jian Li Campian, PHD, MS, MD
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Neurological Surgery
PHD University of Louisville 2003
MS Peking Union Medical College 2000
MD Tianjin Medical University 1997

Maria J Canizares
Instructor in Clinical Medicine (Dermatology) (primary appointment)
BA Saint Louis University 1996

Rosemary L Cannistraro, MD
Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1992

David B Carr, MD
Professor of Medicine (primary appointment)
Professor of Neurology
Alan A and Edith L Wolff Distinguished Professor of Geriatric Medicine
BA University of MO Columbia 1981
MD University of MO Columbia 1985

Scott Carrizales, MD
Assistant Professor of Medicine (Dermatology) (primary appointment)
MD UniformedServUofHealthSciences 1996

Kenneth R Carson
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Surgery (Public Health Sciences)

Amanda Fishback Cashen, MD
Associate Professor of Medicine (primary appointment)
BS Yale University 1995
BS Yale University 1995
MD Washington Univ in St. Louis 1999

Mario Castro, MD, M PH
Professor of Medicine (primary appointment)
Professor of Radiology
Professor of Pediatrics
Alan A and Edith L Wolff Distinguished Professor
MD University of Missouri 1988
BA University of MO Kansas City 1988
M PH Saint Louis University 1998
Lilibeth Maria Cayabyab-Loe Assistant Professor of Clinical Medicine (primary appointment)
Murali M Chakinala, MD Associate Professor of Medicine (primary appointment)
BS Duke University 1990
MD Vanderbilt University 1994
Grant A Challen, PHD Assistant Professor of Medicine (primary appointment)
PHD University of Queensland 2006
Kari Terece Chambers Instructor in Medicine (primary appointment)
BS Truman State University 2000
Kae Pyng Chang, MD Instructor in Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1991
MD University of Missouri 1995
Monica Chang-Panesso, MD Instructor in Medicine (primary appointment)
MD Texas Tech University 2009
Douglas Char Professor of Emergency Medicine in Medicine (primary appointment)
BS Boston College 1983
Siroth Charnond Instructor in Clinical Medicine (primary appointment)
Lewis Robert Chase, MD Professor of Medicine (primary appointment)
BA Princeton University 1960
MD Harvard University 1964
Alexander Chi Chen, MD Associate Professor of Medicine (primary appointment)
Associate Professor of Surgery (Cardiothoracic Surgery)
MD University of MO Kansas City 2001
Chien-Huan Chen, PHD, MD Associate Professor of Medicine (primary appointment)
PHD Johns Hopkns University Medic 1999
MD National Taiwan University 1993
David Yuan-Sou Chen, MD, PHD Instructor in Medicine (primary appointment)
BS University of Michigan 2003
MD Washington Univ in St. Louis 2012
PHD Washington Univ in St. Louis 2012
Delphine L. Chen, AB Associate Professor of Radiology (primary appointment)
Associate Professor of Medicine
MD1 Washington Univ in St. Louis 1999
BA Harvard Radcliff 1995
AB Harvard Radcliff 1995
Edward C. Chen, MD Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 2005
Feng Chen, PHD Associate Professor of Medicine (primary appointment)
Associate Professor of Cell Biology and Physiology
BS Fudan University 1991
PHD University of Utah 1998
Ling Chen, MPH, PHD Assistant Professor of Biostatistics (primary appointment)
Assistant Professor of Medicine
BS Beijing Medical University 1996
MPH University South Carolina 2003  
PHD University of MO Columbia 2009

Phyllis Chen, MD Instructor in Clinical Medicine (primary appointment)  
MD Northwestern University Med 1992  
Qing Chen, MD, MS Instructor in Clinical Medicine (primary appointment)  
MD Nanjing Medical University 1983  
UNKNOWN School Not Listed 1983  
MS Nanjing Medical University 1988

Ying Chen, PHD, MD Assistant Professor of Medicine (primary appointment)  
PHD Vanderbilt University 2004  
MD Shanghai Medical University 1996  
Steven Chih Nung Cheng Associate Professor of Medicine (primary appointment)  
Praveen R Chenna, MBBS Assistant Professor of Medicine (primary appointment)  
BS Washington Univ in St. Louis 1998  
MBBS Sri Ramachandra Medical Colleg 2005

Mathew Amprayil Cherian, MBBS Instructor in Medicine (primary appointment)  
MBBS Christian Medical College 2000

Milan G Chheda, MD Assistant Professor of Medicine (primary appointment)  
Assistant Professor of Neurology  
MD Albert Einstein College of Med 2002

Rebecca Joy Chibnall, AA, MD Assistant Professor of Medicine (Dermatology) (primary appointment)  
AA Washington Univ in St. Louis 2007  
MD University of California 2012  
Phillip Ruben Chisholm Instructor in Clinical Medicine (primary appointment)  
Jaebok Choi, MS, PHD, BE Assistant Professor of Medicine (primary appointment)  
MS Univ of Nebraska at Omaha 2001  
PHD Baylor University 2006  
BE Kyung Pook National University 1996

Hyemi Chong, MD Instructor in Medicine (primary appointment)  
BA Yale University 2003  
MD University of Texas Southwest 2011

Courtney Darcey Christer, MD Instructor in Medicine (primary appointment)  
BS Northwestern University 2003  
MD Washington Univ in St. Louis 2007

Matthew Christopher, MD, PHD Instructor in Medicine (primary appointment)  
MD Washington Univ in St. Louis 2010  
PHD Washington Univ in St. Louis 2010  
BA Saint Louis University 1993

Philip Chu Pak-Yu Instructor in Clinical Medicine (primary appointment)  
Duck Sung Chun, MD Instructor in Clinical Medicine (primary appointment)  
MD Seoul National University  
Jeffrey Peter Ciaramita Instructor in Clinical Medicine (primary appointment)  
Thomas Michael Ciesielski, MD Instructor in Medicine (primary appointment)  
MD Oregon Health Science Univers 2010

Vincenza Cifarelli, PHD, MS Instructor in Medicine (primary appointment)  
PHD University of Pittsburgh 2011  
MS Universita de Modena e Reggio 2005
Matthew Aaron Ciorba, MD
Assistant Professor of Medicine (primary appointment)
MD University of Iowa 2001

Geoffrey Cislo, MD
Assistant Professor of Medicine (primary appointment)
MD University of Michigan 1996

Roberto Civitelli, MD
Sydney M and Stella H Schoenberg Professor of Medicine (primary appointment)
Professor of Orthopaedic Surgery
Professor of Cell Biology and Physiology
BS University of Siena 1980
MD University of Siena 1980

David B Clifford
Melba and Forest Seay Professor of Clinical Neuropharmacology in Neurology
(primary appointment)
Professor of Medicine

Dorothy Jean Cline, MD
Instructor in Clinical Medicine (Dermatology) (primary appointment)
BA University of Missouri 1973
MD Saint Louis University 1977

James Close, MD
Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1984

William Edward Clutter, MD
Associate Professor of Medicine (primary appointment)
Associate Director of the House Staff Training Program, Department of Internal Medicine
BS Ohio State University 1972
MD Ohio State University 1975

Shari J Cohen
Assistant Professor of Clinical Medicine (primary appointment)

Brian G Cohn, MD
Assistant Professor of Emergency Medicine in Medicine (primary appointment)
MD University of Alabama 2003

Susan R Colbert-Threats, MD
Assistant Professor of Clinical Medicine (primary appointment)
BS Northwestern University 1986
MD University of Illinois 1991

Graham A Colditz, MBBS, DRPH
Niess-Gain Professor of Surgery (General Surgery) (primary appointment)
Professor of Medicine
Deputy Director for the Institute of Public Health
BS University of Queensland 1977
MBBS University of Queensland 1979
DRPH Harvard University 1986

Danita L Cole
Instructor in Clinical Medicine (primary appointment)

Patricia L Cole, MA, MD
Associate Professor of Clinical Medicine (primary appointment)
BA Mount Holyoke College 1972
MA Brown University 1975
MD Harvard University 1981

Roger Barto Cole, MS, MD, PHD
Instructor in Clinical Medicine (primary appointment)
MS Yale University 2001
MD Washington Univ in St. Louis 2008
PHD Yale University 2004
BS Rice University 1997

Sarah F Cole
Instructor in Clinical Medicine (primary appointment)

Lloyd W Coleman, MS, PHD
Instructor in Medicine (primary appointment)
MS Iowa State University 1976
PHD Iowa State University 1984
BS Northeast Missouri St Univrsty 1973
Laura Ann Colletti-Mann Associate Professor of Medicine (primary appointment)
Marco Colonna Robert Rock Belliveau MD Professor of Pathology (primary appointment)
Professor of Medicine
Kim David Colter, MS, MD Instructor in Clinical Medicine (primary appointment)
MS University of CA Berkeley 1974
MD Washington Univ in St. Louis 1978
BS MO S&T (formerly UofMO Rolla) 1973
Arthur Hamilton Combs, MD Associate Professor of Clinical Medicine (primary appointment)
MD New York Medical College 1975
Daniel Horatio Cooper, MD Assistant Professor of Medicine (primary appointment)
MD Loyola University Chicago 2003
BS Washington Univ in St. Louis 1999
Matthew Cooper, PHD Instructor in Medicine (primary appointment)
PHD University of Surrey 2008
BS University of Surrey 2004
Nathan Richard Copeland, MD Instructor in Medicine (primary appointment)
MD University of Arizona 2012
BS University of Arizona 2006
Lynn Anne Cornelius, MD, BN Winfred A and Emma R Showman Professor of Dermatology in Medicine (primary appointment)
MD University of Missouri 1984
BN University of Delaware 1977
John Bernard Costello, MD Instructor in Clinical Medicine (primary appointment)
BA Saint Louis University 1974
MD Saint Louis University 1977
Carrie Christine Coughlin, MD Assistant Professor of Medicine (Dermatology) (primary appointment)
Assistant Professor of Pediatrics
MD Washington Univ in St. Louis 2010
BA Yale University 2005
Martha Laurin Council, MD Assistant Professor of Medicine (Dermatology) (primary appointment)
BS Louisiana St University 2000
MD Washington Univ in St. Louis 2004
Daniel W Coyne, MD Professor of Medicine (primary appointment)
MD Case Western Reserve Univ 1983
BA Saint Louis University 1979
Clarissa S. Craft Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
Johnetta M Craig, MBA Instructor in Clinical Medicine (primary appointment)
BS University of Missouri 1980
MBA University of Pennsylvania 1994
John Jeffrey Cras, MD, MS Assistant Professor of Medicine (primary appointment)
MD Georgetown University 2003
MS Georgetown University 1998
BS Loyola College 1994
Charles Crecelius, MD, PHD Assistant Professor of Clinical Medicine (primary appointment)
Sharon Cresci, MD, Assistant Professor of Medicine  
(Primary appointment)  
Assistant Professor of Genetics  
MD New York University 1986  
BS State Univ of NY Binghampton 1982  

Stephen R Crespin, MD, Associate Professor of Clinical Medicine  
(Primary appointment)  
Assistant Professor of Genetics  
MD New York University 1986  
BS State Univ of NY Binghampton 1982  

Jeffrey S Crippin, MD, Professor of Medicine  
(Primary appointment)  
BS University of Notre Dame 1980  
MD University of Kansas 1984  

Paulina Cruz Bravo, MD, Instructor in Medicine  
(Primary appointment)  
MD Universidad Automoma de Madrid 2009  

Philip E Cryer, MD, Professor Emeritus of Medicine  
(Primary appointment)  
Prof Emeritus of Medicine  

Robert Culverhouse, PHD, MA, Assistant Professor of Medicine  
(Primary appointment)  
Assistant Professor of Biostatistics  
MD Vanderbilt University 2001  

Kevin M Cullison, Instructor in Emergency Medicine in Medicine (Pending Dean's Approval)  
(Primary appointment)  

Lenise Andrea Cummings-Vaughn, MS, MD, Assistant Professor of Medicine  
(Primary appointment)  
MS San Francisco St University 1998  
BS Williams College 1995  
MD Saint Louis University 2005  

David T Curiel, MD, PHD, Distinguished Professor of Radiation Oncology  
(Primary appointment)  
Professor of Medicine  
Professor of Obstetrics and Gynecology  
MD Emory University 1982  
BA West Georgia College 1978  
PHD University of Groningen 2000  

Robert B Cusworth, MD, Instructor in Clinical Medicine  
(Primary appointment)  
MD University of Rochester 1974  

Ann Marie Dale, PHD, Associate Professor of Medicine  
(Primary appointment)  
Associate Professor of Occupational Therapy  
BS University of MO Columbia 1983  
PHD Saint Louis University 2009  

William H Danforth, MD, Professor of Medicine  
(Primary appointment)  
Vice Chairman and Chancellor Emeritus  
BA Princeton University 1947  
MD Harvard University 1951
Erik D. Daniels, MD
Instructor in Clinical Medicine (primary appointment)
MD Howard University 1989

John S Daniels, MA, MD
Associate Professor of Clinical Medicine (primary appointment)
MA University of Arkansas 1974
BA Washington Univ in St. Louis 1970
MD University of Arkansas 1974

Peter G Danis
Instructor in Clinical Medicine (primary appointment)

Rand E Dankner, MD
Associate Professor of Clinical Medicine (primary appointment)
BA University of Pennsylvania 1974
MD Baylor University 1978

Maria Cristina Dans, MD
Assistant Professor of Medicine (primary appointment)
BA Princeton University 1989
MD Washington Univ in St. Louis 1999

Bhajan Shewaldas Dara, MD
Instructor in Clinical Medicine (primary appointment)
MD Sindh Medical College 1987

Lakshman Darsi, MBBS
Assistant Professor of Medicine (primary appointment)
MBBS Guntur Medical College 1985

Koushik Kumar Das, MD
Assistant Professor of Medicine (primary appointment)
MD Columbia University 2016

Sundeep Das
Instructor in Clinical Medicine (primary appointment)

Carlos Colton Daughaday
Professor of Medicine (primary appointment)

John D Davidson, MD
Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1952

Nicholas O Davidson, MBBS
Professor of Medicine (primary appointment)
Professor of Developmental Biology
MBBS King's College London 1974

Victor G Davila-Roman, MD
Professor of Medicine (primary appointment)
Professor of Radiology
Professor of Anesthesiology
MD University of Puerto Rico 1981
BS University of Puerto Rico 1977

Andrea Jill Davis, MD, MSN
Instructor in Clinical Medicine (primary appointment)
MD St George's University 2004
MSN Arizona State University 2000
BS Randolph Macon College 1997

Thomas Edward Davis
Instructor in Clinical Medicine (primary appointment)

Caroline Elizabeth Day, M PH
Instructor in Clinical Medicine (primary appointment)
M PH San Diego St University 2005
BS University of Colorado Boulder 1990

Thomas M De Fer, MD
Professor of Medicine (primary appointment)
MD University of Missouri 1989

Lisa De Las Fuentes, MD
Associate Professor of Medicine (primary appointment)
Associate Professor of Biostatistics
MD University of Texas Southwest 1996
BA Stanford University 1991

Vincent R De Mello
Assistant Professor of Clinical Medicine (primary appointment)

Anne V Dean
Instructor in Clinical Medicine (primary appointment)

Melissa DeFoe, MD
Instructor in Medicine (primary appointment)
Angeline Diane DeiSanti, MD Assistant Professor of Medicine (primary appointment)
MD University of Missouri Columbia 2003
BS University of Missouri Columbia 1998
Jennifer A. Delaney, MD Instructor in Clinical Medicine (primary appointment)
BA Georgetown University 1992
MD Washington University in St. Louis 1997
James Albert Delmez, MD Professor of Medicine (primary appointment)
MD University of Rochester 1973
BA Washington University in St. Louis 1969
Rowena Bayudan Delos Santos Assistant Professor of Medicine (primary appointment)
BS Creighton University 2000
Bethany L Dement, MD Instructor in Medicine (primary appointment)
MD Southeast Missouri State University 2001
David G. DeNardo, PhD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
BS Willamette University 1999
PHD Baylor University 2005
Amber Zimmer Deotal Instructor in Medicine (primary appointment)
Sunny Desai Instructor in Clinical Medicine (primary appointment)
Teresa Deshields, PhD, MS Associate Professor of Clinical Medicine (primary appointment)
PHD University of Georgia 1985
BA Meredith College 1981
MS University of Georgia 1983
Vladimir Novak Despotovic, MD Assistant Professor of Medicine (primary appointment)
MD Michigan State University 2004
Neelendu Dey, MD Assistant Professor of Medicine (primary appointment)
MD Yale University 2005
BS Harvard University 2000
Michael Diamond, MD Professor of Medicine (primary appointment)
Professor of Molecular Microbiology
Professor of Pathology and Immunology
Herbert S Gasser Professor
BA Columbia College 1985
MD Harvard University 1994
Judith A Dibble, MD Instructor in Clinical Medicine (primary appointment)
MD Washington University in St. Louis 1986
Brian K Dieckgraefe, PhD Associate Professor of Medicine (primary appointment)
PHD Washington University in St. Louis 1987
BA University of Kansas 1982
Kathryn M Diemer, MD Associate Professor of Medicine (primary appointment)
Assistant Dean for Career Counseling
BA University of Missouri 1984
MD University of Missouri 1985
James A Diestelhorst, MD Instructor in Clinical Medicine (primary appointment)
BS Southern Illinois University 1964
MD University of Missouri 1967
Li Ding, PhD Associate Professor of Medicine (primary appointment)
Associate Professor of Genetics
PHD University of Utah 1998

John F Dipersio, MD, PHD Virginia E and Sam J Golman Professor of Medicine (primary appointment)

Professor of Pediatrics

Professor of Pathology and Immunology
MD University of Rochester 1980
PHD University of Rochester 1980
BA Williams College 1973
Richard M Divalerio Instructor in Clinical Medicine (primary appointment)

Abhinav Diwan Associate Professor of Medicine (primary appointment)

Associate Professor of Cell Biology and Physiology

Martin A Docherty, MD Assistant Professor of Emergency Medicine in Medicine (primary appointment)

BS Edinburgh University 1978
MD Saint Louis University 1983

Irl Joseph Don, MD Associate Professor of Clinical Medicine (primary appointment)

MD Washington Univ in St. Louis 1972

James W Donnelly, MD Instructor in Clinical Medicine (Dermatology) (primary appointment)

BA Northwestern University 1982
MD Washington Univ in St. Louis 1986

Balraj Doray Assistant Professor of Medicine (primary appointment)

BS Southern Illinois University 1993

Gerald W. Dorn II Philip and Sima K Needleman Professor of Medicine (primary appointment)

William H Dribben, MD Assistant Professor of Emergency Medicine in Medicine (primary appointment)

MD University of North Carolina 1990
BA University of North Carolina 1985

Erik R Dubberke, MPH, MD Associate Professor of Medicine (primary appointment)

BA Augustana University College 1995
MPH Saint Louis University 2008
MD University of Illinois 1999

James Matthew DuBois, D SC, MA, PHD Steven J Bander Professor of Medical Ethics and Professionalism (primary appointment)

Professor of Psychological & Brain Sciences
D SC University of Vienna 1997
MA University of Rhode Island 1990
PHD Intrnl Academy of Philosophy 1992
BA Franciscan University Stubenv 1989

Nicole Marie Ducharme, DOST Instructor in Clinical Medicine (primary appointment)

DOST Univ of Health Sciences KC 2003

Carolyn Dufault, PHD Instructor in Medicine (primary appointment)

Assistant Dean for Office of Education
PHD Washington Univ in St. Louis 2009

Maria C Dumadag-Sabio, MD Instructor in Clinical Medicine (primary appointment)

BA University of Missouri 1988
MD University of Missouri 1988

Edward Harry DuMontier Instructor in Clinical Medicine (primary appointment)
William C Dunagan, MD, MS Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1983
MS University of Texas Austin 1980
BS University of Texas Austin 1978
Julia Passyn Dunn, MD, MS Assistant Professor of Medicine (primary appointment)
MD University of South Alabama 2002
MS Vanderbilt University 2010
Kirsten F Dunn, MD Instructor in Medicine (primary appointment)
MD Saint Louis University 2012
Michael Joseph Durkin Instructor in Medicine (primary appointment)
BA Illinois Wesleyan University 2004
M PH1 University of North Carolina 2015
Tiffany Biason Dy, MD Instructor in Medicine (primary appointment)
BS University of Miami 2005
MD Univ Texas Health Science Ctr 2009
William Charles Eades Jr Associate Professor of Medicine (primary appointment)
Dayna S Early, MD Professor of Medicine (primary appointment)
BA University of Missouri 1986
MD University of Missouri 1990
Royal J Eaton, MD Instructor in Clinical Medicine (primary appointment)
BA University of Missouri 1960
MD University of Missouri 1964
Charles S Eby Professor of Pathology and Immunology (primary appointment)
Professor of Medicine
BS Duke University 1977
Charmaine E. Edwards Instructor in Clinical Medicine (primary appointment)
BS Alcorn State University 1987
John R. Edwards, PHD Assistant Professor of Medicine (primary appointment)
PHD Columbia University 2003
Stilianos Efstratiadis Assistant Professor of Clinical Medicine (primary appointment)
Russell E Eggebrecht, MD Associate Professor of Clinical Medicine (primary appointment)
BS University of Illinois 1967
MD Washington Univ in St. Louis 1971
Ali A Ehsani, MD Professor of Medicine (primary appointment)
MD Tehran University 1965
Zamir Eidelman Associate Professor of Clinical Medicine (primary appointment)
Arthur Z Eisen, MS, MD Professor of Medicine (Dermatology) (primary appointment)
MS Brown University 1953
BA State Univ of NY Buffalo 1951
MD University of Pennsylvania 1957
Seth A Eisen, MD, MS Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1966
MS Harvard University 1989
BA Reed College 1963
Linda G Eissenberg, PHD Assistant Professor of Medicine (primary appointment)
BA University of Tennessee 1977
PHD University of North Carolina 1982
Lamice R. El-Kholy Instructor in Clinical Medicine (primary appointment)
UNUNKNOWN School Not Listed 1982

John Ellena, MD Associate Professor of Clinical Medicine (primary appointment)
MD Southern Illinois University 1983
BS Southern Illinois University 1980

Charlene Ann Ellsworth, PHD, MD Instructor in Clinical Medicine (primary appointment)
PHD Mass Inst of Technology (MIT) 2004
MD Washington Univ in St. Louis 2008

Amged Eltahir, MD Instructor in Clinical Medicine (primary appointment)
MD University of Khartoum 1985
AB1 Saint Louis University 2006

Jill Elizabeth Elwing, MD Assistant Professor of Medicine (primary appointment)
BS University of MO Columbia 1996
MD University of MO Columbia 2000

James Michael Epstein, MD Instructor in Clinical Medicine (primary appointment)
BS University of Notre Dame 1965
MD Washington Univ in St. Louis 1969

Gerome V Escota Assistant Professor of Medicine (primary appointment)

Neil A Ettinger, MD Assistant Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1983
BS Vanderbilt University 1979

Bradley A Evanoff, MD Richard A and Elizabeth Henby Sutter Professor of Occupational, Industrial, and Environmental Medicine in Medicine (primary appointment)
Professor of Occupational Therapy
Assistant Dean for Clinical and Translational Research
BA Cornell University 1982
MD Washington Univ in St. Louis 1986

Alex S Evers Henry E Mallinckrodt Professor of Anesthesiology (primary appointment)
Head of the Department of Anesthesiology
Professor of Developmental Biology
Professor of Medicine
BS Yale University 1974

Carol Jane Evers Instructor in Clinical Medicine (primary appointment)
Gregory A Ewald, MD Associate Professor of Medicine (primary appointment)
MD Northwestern University 1989

Elisa Fabbrini, PHD Adjunct Assistant Professor of Medicine (primary appointment)
PHD La Sapienza University 2006

Mitch N Faddis, MD Associate Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1993
BS Kansas State University 1985

Akinrinola Fatokil Instructor in Clinical Medicine (primary appointment)
Todd A Fehninger, MD, PHD Associate Professor of Medicine (primary appointment)
MD Ohio State University 2002
PHD Ohio State University 2000

Herman L Ferrell Instructor in Clinical Medicine (primary appointment)
BS University of Arkansas 1973

Brian N. Finck, PHD Associate Professor of Medicine (primary appointment)
BS University of Illinois 1994
PHD University of Illinois 2000
Lewis Conrad Fischbein, MD
Associate Professor of Clinical Medicine
MD Washington Univ in St. Louis 1974

Peter Uwe Fischer, MS
Associate Professor of Medicine
MS Free University of Berlin 1991

Norman Fishman, MD
Assistant Professor of Clinical Medicine
MD School Not Listed 1974
BA School Not Listed 1970

Sean C. Fitzmaurice, MD
Instructor in Emergency Medicine in Medicine
MD Saint Louis University 1995
BS Georgetown University 1989

James M Fleckenstein, MD
Associate Professor of Medicine
MD Saint Louis University 1985
BS Xavier University 1981

Jaquelyn F Fleckenstein, MD
Professor of Medicine
MD Saint Louis University 1985
BA Cornell University 1981

Avegail Gascon Flores, MD
Assistant Professor of Medicine
MD University of Pittsburgh 2007

Justin Douglas Floyd, DOST
Assistant Professor of Clinical Medicine
DOST Kirksville College of Osteopathic Medicine 2000
BS University of Arizona 1996

Emily Fondahn, MD
Assistant Professor of Medicine
MD Northwestern University 2008

Luigi Fontana, MD, PHD
Professor of Medicine
MD University of Verona 1994
PHD University of Padova 2004

Glennon Joseph Fox, MD
Instructor in Clinical Medicine
MD University of MO Columbia 1984

Judy Ann Frain, BN, MSN, PHD
Adjunct Assistant Professor of Medicine
BN Webster University 2003
MSN Saint Louis University 2004
PHD University of MO St Louis 2013

James Matthew Freer, MD
Assistant Professor of Medicine
BS Truman State University 1998
MD University of MO Columbia 2002

Deborah Frenchie, MD
Instructor in Clinical Medicine
MD Washington Univ in St. Louis 1993
BA Washington Univ in St. Louis 1984

Ashley Elizabeth Frith, MD
Assistant Professor of Medicine
MD University of AR Med Sciences 2008

Brian R. Froelke, MD
Assistant Professor of Emergency Medicine in Medicine
MD University of Cincinnati 2002

Brian M Fuller, MD
Assistant Professor of Emergency Medicine in Medicine
Assistant Professor of Anesthesiology
MD University of Alabama 2003
BA University of Alabama 1998
Michael Paul Fuller, MD
Associate Professor of Clinical Medicine (primary appointment)
MD University of Utah 1994
BA Brigham Young University 1990

Suzanne Furesz
Instructor in Clinical Medicine (primary appointment)

Gary Gaddis, PHD, MD
Professor of Emergency Medicine in Medicine (Pending Executive Faculty Approval) (primary appointment)
PHD Indiana State University 1984
MD Indiana University School of M 1986

Brian F Gage, MD
Professor of Medicine (primary appointment)
MD University of California 1988
BS Stanford University 1984

Daniel Gaitan, MD
Associate Professor of Clinical Medicine (primary appointment)
BS University of AL Birmingham 1980
MD University of Mississippi 1986

Arthur H Gale, MD
Associate Professor of Clinical Medicine (primary appointment)
MD University of Missouri 1959

Feng Gao, PHD
Associate Professor of Surgery (Public Health Science) (primary appointment)
Associate Professor of Biostatistics
Associate Professor of Medicine
PHD Emory University 2003

Jane M. Garbutt, MHS, MBCHB
Professor of Medicine, Professor of Pediatrics
MHS University of Toronto 1988
MBCHB Bristol University 1977

John A Garcia, MD
Instructor in Clinical Medicine (primary appointment)
BA Carleton College 1985
MD University of Illinois 1990

Jacquelyn B Garrett, MD
Instructor in Clinical Medicine (Dermatology) (primary appointment)
MD Howard University 1985
BS Howard University 1983

Francisco J Garriga, MD
Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1970
BS University of Puerto Rico 1966

Felicitas Z Gatachalian, MD
Instructor in Clinical Medicine (primary appointment)
MD University of Santo Tomas 1976
BS University of Santo Tomas 1970

Joseph H Gatewood, MD
Instructor in Emergency Medicine in Medicine (primary appointment)
MD University of Chicago 1970
BA Swarthmore College 1966

Joseph P. Gaut, PHD, MD
Assistant Professor of Pathology and Immunology (primary appointment)
Assistant Professor of Medicine
BA Washington Univ in St. Louis 1996
PHD Washington Univ in St. Louis 2004
MD Washington Univ in St. Louis 2004

William M Gee, MD
Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1981
BA Cornell College 1977
Richard A Geisman, MD  Instructor in Clinical Medicine (primary appointment)  
MD Tulane University 1983  
BS Saint Louis University 1979  

Edward M Geltman, MD  Professor of Medicine (primary appointment)  
Assistant Professor of Radiology  
BS Mass Inst of Technology (MIT) 1967  
MD New York University 1971  

Ige A George, MBBS  Instructor in Medicine (primary appointment)  
MBBS Christian Medical College 1998  

Armin Ghobadi, MD  Assistant Professor of Medicine (primary appointment)  
MD Iran Univ of Medical Sciences 2001  

Matthew John Gibfried, MD  Instructor in Clinical Medicine (primary appointment)  
MD University of MO Columbia 2003  

Stephen James Giddings, MD, PHD  Associate Professor of Medicine (primary appointment)  
MD University of Rochester 1976  
PHD Dartmouth College 1973  
BA Dartmouth College 1968  

Thomas J Girard, PHD  Assistant Professor of Medicine (primary appointment)  
BS Univ of Wisconsin Oshkosh 1979  
PHD Iowa State University 1985  

Margo Renee Girardi, MD  Assistant Professor of Medicine (primary appointment)  
MD Saint Louis University 2005  
BS University of Illinois 2001  

Gardar T Gislason  Adjunct Instructor in Medicine (primary appointment)  
Josephine Lee Aguhob Glaser  Instructor in Clinical Medicine (primary appointment)  

Marye J Gleva, MD  Professor of Medicine (primary appointment)  
MD University of Washington 1988  
BA Wellesley College 1984  

Andrew S Gold, MD  Instructor in Clinical Medicine (primary appointment)  
MD University of Iowa 1989  
BS University of Illinois 1985  

Anne Carol Goldberg, MD  Professor of Medicine (primary appointment)  
BA Harvard University 1973  
MD University of Maryland 1977  

Daniel E Goldberg, MD  David M and Paula L Kipnis Distinguished Professor (primary appointment)  
Professor of Molecular Microbiology  
MD Washington Univ in St. Louis 1985  

Gregory I Goldberg, PHD  Professor of Medicine (Dermatology) (primary appointment)  
Professor of Biochemistry and Molecular Biophysics  
PHD Weizmann Institute of Science 1977  

Seth Goldberg, MD  Assistant Professor of Medicine (primary appointment)  
BS University of South Florida 1999  
MD University of South Florida 2003  

Scott Ryan Goldsmith  Instructor in Medicine (primary appointment)  

Benjamin M Goldstein, MD  Associate Professor of Clinical Medicine (primary appointment)  
BA Washington Univ in St. Louis 1960  
MD Washington Univ in St. Louis 1964  

Yong-feng Gong, MS, PHD  Instructor in Medicine (primary appointment)
MS China Medical University 2005
PHD Zhejiang Medical University 2009

Maria Cristina Gonzalez-Mayda, MD Assistant Professor of Medicine (primary appointment)
MD University of Puerto Rico 2008
BS University of Puerto Rico 2004

Daniel M Goodenberger Professor of Medicine (primary appointment)

Jeffrey I Gordon, MD Professor of Pathology and Immunology (primary appointment)

Dr Robert J Glaser Distinguished University Professor
Director of the Center for Genome Sciences

Professor of Medicine
Professor of Developmental Biology
BA Oberlin College 1969
MD University of Chicago 1973

Mary Jo Gorman, MBA Instructor in Clinical Medicine (primary appointment)
MBA Washington Univ in St. Louis 1996
BA Saint Louis University 1981

Ramaswamy Govindan, MD Professor of Medicine (primary appointment)
MD University of Madras 1986
Siddhesh Gowda Associate Professor of Clinical Medicine (primary appointment)

Gregory Alan Grant, PHD Professor of Biochemistry in Medicine (Dermatology) (primary appointment)

Professor of Developmental Biology
PHD Univ of Wisconsin Madison 1975
BS Iowa State University 1971

Jonathan M Green, MD Professor of Medicine (primary appointment)
Associate Dean for Human Studies
Professor of Pathology and Immunology
BS University of Michigan 1982
MD Wayne State University 1986

Aaron Greenspan Instructor in Clinical Medicine (primary appointment)

Mark H Gregory, MD Assistant Professor of Clinical Medicine (primary appointment)
MD University of Vermont 1986

Walter Blake Gribben, MD Instructor in Medicine (primary appointment)
MD University of Alabama 2010

Richard T Griffey Jr, MD Associate Professor of Emergency Medicine in Medicine (primary appointment)
MD Norfolk General Hospital 1977

Obi Lee Griffith, PHD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Genetics
PHD British Columbia Open Univ 2008

Scott D. Groesch, MD Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1994

John R Groll, MD Instructor in Clinical Medicine (primary appointment)
MD University of Illinois 1988
BA Illinois Wesleyan University 1984

Robert John Gropler, MD Professor of Radiology (primary appointment)
Associate Professor of Medicine
Associate Professor of Biomedical Engineering
Richard Warren Gross, PHD, AB, MD
Professor of Medicine (primary appointment)
Professor of Developmental Biology
Professor of Chemistry
PHD Washington Univer in St. Louis 1982
AB Columbia University 1972
MD New York University 1976

Brenda Jean Grossman, MS, MD
Professor of Pathology and Immunology (primary appointment)
Professor of Medicine
MS Saint Louis University 2003
MD Medical College Georgia 1980
BS Ohio University 1976

Jessica Rosenbaum Grubb, MD
Assistant Professor of Medicine (primary appointment)
BA John Hopkins University 1992
MD University of Maryland 1996

Brian Anthony Grus, MD
Instructor in Clinical Medicine (primary appointment)
MD University of Pennsylvania 1992
BS University of Pittsburgh 1988

Guner B Gulmen, PHD
Assistant Professor of Clinical Medicine (primary appointment)
PHD University of Minnesota 1974

Vyjanthanath R. Gunasingham, MD
Instructor in Clinical Medicine (primary appointment)
MD School Not Listed 1982
BS School Not Listed 1975

Mark Cobb Gunby, DOST
Assistant Professor of Clinical Medicine (primary appointment)
BS University of Tulsa 1981
DOST Oklahoma St University 1988

Maria Gurrieri, MD, DIP
Instructor in Clinical Medicine (primary appointment)
MD Catholic University 1989
DIP School Not Listed 1982

Reena Gurung, MD
Instructor in Medicine (primary appointment)
MD Kathmandu University 2007

Alexandra Gutierrez, MD, M PH
Associate Professor of Medicine (primary appointment)
MD Case Western Reserve Univ 2000
M PH Harvard University 2006
BS Brown University 1996

Chandra Prakash Gyawali, MBBS, MD
Professor of Medicine (primary appointment)
MBBS University of Calicut 1985
MD University of Calicut 1990

Ramsey R Hachem, MD
Professor of Medicine (primary appointment)

Tracey C Marshall - Dr. Elbert P Trulock Distinguished Professor of Medicine
MD1 University of Texas Southwest 1997
MD University of Texas Southwest 1997
BA1 Southern Methodist University 1992
BA Southern Methodist University 1992

Matthew D Hageman
Instructor in Clinical Medicine (primary appointment)

Jennifer Christine Hagopian
Adjunct Instructor in Medicine (primary appointment)

Ashfaq H Hakim, MD, MBBS
Instructor in Clinical Medicine (primary appointment)
Ilia Gueorguev Halatchev, MD Assistant Professor of Medicine (primary appointment)

Sarah Eliza Halcomb, MD Assistant Professor of Emergency Medicine in Medicine (primary appointment)

Angela Marie Hall, PHD Assistant Professor of Medicine (primary appointment)

Ira McCarthy Hall, PHD Associate Professor of Medicine (primary appointment)

Ira McCarthy Hall, PHD Associate Professor of Genetics
Associate Director of the Genome Center

Yasir A Hamad Instructor in Medicine (primary appointment)

Stephanie M Hammer, MD Instructor in Clinical Medicine (primary appointment)

Se Young Han Instructor in Medicine (primary appointment)

Zahirul Haque Instructor in Clinical Medicine (primary appointment)

Charles A. Harris Assistant Professor of Medicine (primary appointment)

Lydia-Ann Lynell Harris, PHD Instructor in Medicine (primary appointment)

Anisa Hassan, MD Instructor in Clinical Medicine (primary appointment)

Krysta Lynn Heath, MD Instructor in Medicine (primary appointment)

George Heberton, MD Instructor in Medicine (primary appointment)

James N Heins, MD Professor of Clinical Medicine (primary appointment)

Adjunct Professor of Medicine

Laura Elaina Heitsch Assistant Professor of Emergency Medicine in Medicine (primary appointment)

Jeffrey P. Henderson, PHD, MD Assistant Professor of Medicine (primary appointment)

Assistant Professor of Molecular Microbiology
PHD Washington Univ in St. Louis 2002
BS Univ of Wisconsin Madison 1994
MD Washington Univ in St. Louis 2002
**Katherine Eileen Henderson** Assistant Professor of Clinical Medicine (primary appointment)
BS Univ of Wisconsin Madison 1993
**Kristina Louise Henderson, MD** Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1991
BA Saint Louis University 1982
Daniel Robert Herleth Instructor in Clinical Medicine (primary appointment)
Catherine Hermann Instructor in Clinical Medicine (primary appointment)
**Leonel F. Hernandez Aya, MD** Assistant Professor of Medicine (primary appointment)
MD Universidad Nacional de Columb 2007
**Cynthia Joan Herrick, MD** Assistant Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 2006
BS Princeton University 2002
**Andreas Herrlich, PHD, MD** Associate Professor of Medicine (primary appointment)
PHD Freie University 1998
MD Freie University 1994
**Virginia M Herrmann, MD** Professor of Surgery (General Surgery) (primary appointment)
Professor of Medicine
MD Saint Louis University 1974
Jennifer Kristen Hester Instructor in Clinical Medicine (primary appointment)
**Scot G Hickman, MD** Professor of Medicine (primary appointment)
BA Duke University 1966
MD Washington Univ in St. Louis 1970
**Stuart T. Higano, MD** Instructor in Clinical Medicine (primary appointment)
MD University of Massachussetts 1984
SueLin Ming Hilbert Assistant Professor of Emergency Medicine in Medicine (primary appointment)
**Elizabeth Hilliker, MA** Assistant Professor of Emergency Medicine in Medicine (primary appointment)
Assistant Professor of Surgery (General Surgery)
BA Washington Univ in St. Louis 1965
MA Washington Univ in St. Louis 1970
**Paul Flack Hintze, MD** Assistant Professor of Clinical Medicine (primary appointment)
MD University of Utah 1978
BS Brigham Young University 1974
**Angela Christine Hirbe, MD, PHD** Assistant Professor of Medicine (primary appointment)
BS Washington Univ in St. Louis 2001
MD Washington Univ in St. Louis 2009
PHD Washington Univ in St. Louis 2009
**Grant S. Hoekzema, MD** Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1992
**J. Langston Hoffman, MD** Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1999
BS Univ of Wisconsin Madison 1994
**Sandra S Hoffmann, MD** Instructor in Clinical Medicine (primary appointment)
BA University of Kansas 1972
John Otto Holloszy, MD Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1957
Christopher Vincent Holthaus Assistant Professor of Emergency Medicine in Medicine (primary appointment)
Michael J Holtzman Selma and Herman Seldin Professor of Medicine (primary appointment)
Professor of Cell Biology and Physiology
Neal Holzum Instructor in Clinical Medicine (primary appointment)
Hitoshi Honda Adjunct Assistant Professor of Medicine (primary appointment)
Barry Allen Hong, MD Professor of Psychiatry (primary appointment)
Professor of Psychological & Brain Sciences
Vice Chairman for Clinical Affairs, Department of Psychiatry
Professor of Medicine
BA Concordia University 1969
MDI Concordia University 1972
Bruce Jay Hookerman, MD Assistant Professor Emeritus of Clinical Medicine (Dermatology) (primary appointment)
Asst Prof Emeritus of Clin Medicine (Derm) (primary appointment)
MD Saint Louis University 1968
BA Dartmouth College 1964
Barbra A Horn, MD Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1982
BA Clark University 1975
Ian Kerst Hornstra, PHD, MD Associate Professor of Medicine (Dermatology) (primary appointment)
PHD University of Florida 1993
MD University of MO Kansas City 1986
BA University of MO Kansas City 1985
Timothy Adam Horwedel Adjunct Instructor in Medicine (primary appointment)
Richard S Hotchkiss Professor of Anesthesiology (primary appointment)
Professor of Surgery (General Surgery)
Professor of Developmental Biology
Professor of Medicine
Jianghui Hou, PHD Associate Professor of Medicine (primary appointment)
PHD Edinburgh University 2003
BS Nanjing University 1999
Dennis Emil Hourcade, MA, PHD Professor of Medicine (primary appointment)
BS Mass Inst of Technology (MIT) 1971
MA Harvard University 1974
PHD Harvard University 1978
Stacey L House Instructor in Emergency Medicine in Medicine (primary appointment)
BS Yale University 1999
Jacqueline Howard Instructor in Clinical Medicine (primary appointment)
UNKNOWN School Not Listed 1995
David Thomas Howell Instructor in Clinical Medicine (primary appointment)
Randall A Howell, MD Assistant Professor of Emergency Medicine in Medicine (primary appointment)
BS Kansas State University 1974
Keith A Hruska, MD Professor of Pediatrics (primary appointment)
Professor of Cell Biology and Physiology

Professor of Medicine
BS Creighton University 1965
MD Creighton University 1969

Chyi-Song Hsieh Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology

Alan A and Edith L Wolff Distinguished Professor
Fong Fu Hsu, PHD, MS Professor of Medicine (primary appointment)

PHD University of Utah 1986
MS Tsinghua University, China 1975

Kevin Hsueh, MD Instructor in Medicine (primary appointment)
BS Williams College 2003
BS1 Williams College 2003
MD New York University 2008

Raymond J Hu Instructor in Clinical Medicine (primary appointment)

Wei-Wei Huang Instructor in Clinical Medicine (Dermatology) (primary appointment)

Yafei Huang, PHD, MS Instructor in Medicine (primary appointment)

PHD Univ of Texas Med Sch Houston 2007
MS Beijing Medical University 2000

John W Hubert, MD Associate Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1975
BA Wabash College 1971

Elizabeth Stack Huebner, MD Assistant Professor of Medicine (primary appointment)
BA Washington Univ in St. Louis 1995
MD Loyola University Chicago 2000

Laura Huff, MD Assistant Professor of Medicine (Dermatology) (primary appointment)
MD U of Colorado Health Sci Ctr 2011
BS Colorado St University 2006

Jing Hughes, MD Instructor in Medicine (primary appointment)
MD University of Pennsylvania 2009
BS Stanford University 2002

Benjamin Duane Humphreys Associate Professor of Medicine (primary appointment)

Eva A Hurst, MD Associate Professor of Medicine (Dermatology) (primary appointment)
MD Washington Univ in St. Louis 2002

Mark Albert Hurt, MD Instructor in Clinical Medicine (Dermatology) (primary appointment)
MD University of Missouri 1982
BS Southeast Missouri St Univers 1978

Jennifer L Hyde, PHD Instructor in Medicine (primary appointment)
BS University of Queensland 2005
PHD University of Queensland 2011

Richard G. Ihnat Instructor in Clinical Medicine (primary appointment)
Shin-Ichiro Imai Professor of Developmental Biology (primary appointment)

Professor of Medicine
Belinda K. Ireland, MD Adjunct Assistant Professor of Medicine (primary appointment)
MD University of MO Columbia 1976

Warren Isakow, MD Associate Professor of Medicine (primary appointment)
MD University of the Witwatersra 1998

**Hassan Issa, MD**  Instructor in Medicine  (primary appointment)

MD Tishreen Univ College of Med 2003

**Eva Susanne Istvan** Assistant Professor of Medicine  (primary appointment)

HHMI Specialist II

BS University of Houston 1993

**Carolyn M Jachna, MD**  Assistant Professor of Medicine  (primary appointment)

BS Washington Univ in St. Louis 1993

MD Northwestern University Med 1998

**Daryl Jacobs, MD, ME**  Instructor in Clinical Medicine  (primary appointment)

BS Washington Univ in St. Louis 1977

MD Washington Univ in St. Louis 1983

ME Carnegie Mellon University 1979

**Myron H Jacobs, MD**  Instructor in Clinical Medicine  (primary appointment)

BA Vanderbilt University 1965

MD Louisiana St Univ Hlth Sci 1969

**Steven Jacobson, MD**  Instructor in Clinical Medicine  (primary appointment)

MD Saint Louis University 1985

**Meagan A. Jacoby, MD**  Assistant Professor of Medicine  (primary appointment)

MD Washington Univ in St. Louis 2005

**Sanjay Jain**  Associate Professor of Medicine  (primary appointment)

Associate Professor of Pathology and Immunology

BA University of California 1990

**Sudhir Kumar Jain, MBBS**  Associate Professor of Medicine  (primary appointment)

MBBS Maulana Azad Medical College 1986

George Jarad  Assistant Professor of Medicine  (primary appointment)

**Daniel Ragin Jasper, MD**  Instructor in Clinical Medicine  (primary appointment)

BA University of Texas Austin 1990

MD Saint Louis University 1994

**Anuja Java, MD**  Instructor in Medicine  (primary appointment)

MD Government Medical College 2002

**Donna Beth Jeffe, MA**  Professor of Medicine  (primary appointment)

MA Washington Univ in St. Louis 1990

BA Washington Univ in St. Louis 1972

**Christopher M. Jenkins, PHD**  Assistant Professor of Medicine  (primary appointment)

PHD Vanderbilt University 1997

BS Michigan State University 1991

**Xuntian Jiang, PHD**  Assistant Professor of Medicine  (primary appointment)

PHD China Pharmaceutical Univ 1992

**Morris Joftus, MD**  Assistant Professor of Clinical Medicine  (primary appointment)

MD University of Illinois 1967

**Eric Keith Johnson, MD**  Instructor in Medicine  (primary appointment)

MD Univ of Wisconsin Madison 1999

**Reuben D Johnson, BE, MD**  Assistant Professor of Emergency Medicine in Medicine  (primary appointment)

BE Georgia Tech 1996

BS1 Morehouse College 1996

MD Howard University College of M 2002
William F Johnson, Adjunct Instructor in Medicine (primary appointment)
Sushma Jonna, MD, Instructor in Medicine (primary appointment)
MD Saint Louis University 2013
Amy M Joseph, Associate Professor of Medicine (primary appointment)
BA Johnston Community College 1977
Barbara Jost, MS, Instructor in Clinical Medicine (primary appointment)
MS Northwestern University 1995
BS University of Missouri 1993
Randall S Jotte, Associate Professor of Emergency Medicine in Medicine (primary appointment)
Brad S Kahl, MD, Professor of Medicine (primary appointment)
BS University of Wisconsin-Madison 1989
MD Tufts University 1994
Caroline Holleck Kahle, MD, Assistant Professor of Medicine (primary appointment)
MD University of North Carolina 2006
Sona Sharad Kamat, Instructor in Clinical Medicine (primary appointment)
Vinay Gopal Kamat, MD, Instructor in Clinical Medicine (primary appointment)
MD University of Pennsylvania 1994
Deborah Shipley Kane, MD, Assistant Professor of Emergency Medicine in Medicine (primary appointment)
BA University of MO Kansas City 2006
MD University of MO Kansas City 2006
Patricia F Kao, BE, MD, Associate Professor of Medicine (Pending Executive Faculty Approval)
MS2 Ohio State University 1997
BE Princeton University 1994
MD Case Western Reserve Univ 2001
Robert S Karsh, MD, Professor of Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1951
MD Washington Univ in St. Louis 1952
Victoria Kaskutas, MHS, Associate Professor of Occupational Therapy (primary appointment)
Andrew M. Kates, MD, Associate Professor of Medicine (primary appointment)
BS Tufts University 1990
MD Tufts University 1994
Shashi Krishna Katukoori, MS, Instructor in Medicine (primary appointment)
BS Kakatiya Medical College 2004
MS Eastern Kentucky University 2010
David A Katzman, MD, Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1991
BA Brown University 1986
Andrew L. Kau, MD, PhD, Assistant Professor of Medicine (primary appointment)
BS Emory University 1998
MD Washington Univ in St. Louis 2006
PHD Washington St University 2006
Charles Kaufman, PhD, MD, Assistant Professor of Medicine (Pending Executive Faculty Approval)
(secondary appointment)
Assistant Professor of Developmental Biology
PHD University of Chicago 2003
MD University of Chicago 2005
BA Washington Univ in St. Louis 1997

Robert L Kaufman, MD Assistant Professor of Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1959
MD Washington Univ in St. Louis 1963

Elizabeth Jane Keath, PHD Assistant Professor of Medicine (primary appointment)
BA University of MO St Louis 1978
PHD Saint Louis University 1985

Dalius Kedainis, MD Instructor in Clinical Medicine (primary appointment)
MD Kaunas University of Medicine 1998

Jacob Brian Keeperman, MD Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Emergency Medicine in Medicine
MD Loyola University Chicago 2006

Eirini Kefalogianni Instructor in Medicine (primary appointment)
Jesse Wade Keller Instructor in Medicine (primary appointment)
BS University of Tulsa 2005

Daniel P Kelly, MD Adjunct Professor of Medicine (primary appointment)
BS University of Illinois 1978
MD University of Illinois 1982

John J Kelly, MD Associate Professor of Medicine (primary appointment)
BS Rockhurst College 1959
MD Saint Louis University 1963

Charlotte J Kennedy, PHD, MD Assistant Professor of Clinical Medicine (primary appointment)
PHD Washington Univ in St. Louis 1992
MD Washington Univ in St. Louis 1992
BA Agnes Scott College 1984

Joseph L Kenzora, MD Associate Professor of Medicine (primary appointment)
MD University of New Mexico 1975

Martin Hurley Kerrigan Assistant Professor of Medicine (primary appointment)
BS Saint Josephs University 2001

Ahmed Sultan Khan Adjunct Instructor in Medicine (primary appointment)

Thomas B Kibby, MD Instructor in Emergency Medicine in Medicine (primary appointment)
MD Eastern Virginia Med School 1979

Daniel Jason Kichura, MD Instructor in Medicine (primary appointment)
MD Israel Institute of Technology 2012

George Kichura, MD Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1993

Mary Kiehl, AS Assistant Professor of Clinical Medicine (primary appointment)
BA University of California 1985
AS Long Beach City College 1976

Kenneth Richard Kilian, MD Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1984

Charles Kilo, MD Professor of Medicine (primary appointment)
Professor of Pathology and Immunology
MD Washington Univ in St. Louis 1959

Charles John Kilo, MD Instructor in Clinical Medicine (primary appointment)
Albert J Kim, MD
Instructor in Emergency Medicine in Medicine (primary appointment)
BS University of Chicago 2005
MD Northwestern University 2009

Alfred Kim
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology

Brian Kim, MD
Assistant Professor of Medicine (Dermatology) (primary appointment)
Assistant Professor of Anesthesiology
Assistant Professor of Pathology and Immunology

Helen Young Kim-James
Instructor in Clinical Medicine (Dermatology) (primary appointment)

Rosa Anne Kincaid
Instructor in Clinical Medicine (primary appointment)
BA City College 1970

Allison A King, MD
Associate Professor of Occupational Therapy (primary appointment)
Associate Professor of Pediatrics
Associate Professor of Pediatrics
Associate Professor of Education (Courtesy)
Associate Professor of Surgery (General Surgery)
Associate Professor of Medicine
Associate Professor of Medicine

Donald Kevin King, MD
Assistant Professor of Clinical Medicine (primary appointment)
BA Fairfield University 1966
MD Johns Hopkins University 1970

Kevin Patrick King, MD
Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 2006

Tinna P King
Instructor in Clinical Medicine (primary appointment)
BA University of Missouri 1988

Erik Paul Kirk, MS, PhD
Adjunct Assistant Professor of Medicine (primary appointment)
MS University of Kansas 2001
PHD University of Kansas 2004

Nigar Kirmani, MD
Professor of Medicine (primary appointment)
MD King Edward Medical College 1973

Sameer M. Kirtane, MD
Instructor in Clinical Medicine (primary appointment)
MD Jefferson Medical College 2008

Michael K Klebert, BN, PHD, MSN
Instructor in Medicine (primary appointment)
BA Southern Illinois University 1979
BN Southern Illinois University 1981
PHD University of MO St Louis 2008
MSN University of Texas Austin 1987

Robert E Kleiger
Professor of Medicine (primary appointment)

Robyn Sue Klein, PHD
Professor of Medicine (primary appointment)
Professor of Pathology and Immunology
Professor of Neuroscience

Samuel Klein, MD, MS
Danforth Professor of Medicine (primary appointment)
PHD Albert Einstein College of Med 1993
Professor of Cell Biology and Physiology
BA Brandeis University 1974
MD Temple University 1979
MS Massachusetts Institute of Technology (MIT) 1984
Linda Marie Klutho Instructor in Clinical Medicine (primary appointment)
Paula J Knapp-Baker Instructor in Clinical Medicine (primary appointment)
Eric Knoche, MD Assistant Professor of Medicine (primary appointment)
MD Washington University in St. Louis 2006
BS Davidson College 2001
Kathryn Knoop Instructor in Medicine (primary appointment)
Carolyn Koenig, MD Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 2002
Ismail Kola, PhD Adjunct Professor of Medicine (primary appointment)
PHD School Not Listed 1985
UNKNOWN Rhodes College 1982
BS Rhodes College 1982
Marin H Kollef, MD Professor of Medicine (primary appointment)
BS United States Military Academy 1979
MD University of Rochester 1983
Hermann M Koller, MD Instructor in Medicine (primary appointment)
MD Washington University in St. Louis 1978
BS Stanford University 1974
Sri Devi Kolli, MBBS Instructor in Clinical Medicine (primary appointment)
MBBS Guntur Medical College 1989
Mary E. Koly, MD Instructor in Clinical Medicine (primary appointment)
BS University of Missouri Kansas City 1995
MD University of Missouri Kansas City 1995
Kevin L Konzen Assistant Professor of Clinical Medicine (primary appointment)
Robert G Kopitsky, MD Assistant Professor of Clinical Medicine (primary appointment)
BS Emory University 1978
MD Duke University 1982
Kevin Marc Korenblat, MD Professor of Medicine (primary appointment)
MD Washington University in St. Louis 1996
Phillip E Korenblat Professor of Clinical Medicine (primary appointment)
Stuart A Kornfeld David C and Betty Farrell Professor of Medicine (primary appointment)
Professor of Biochemistry and Molecular Biophysics
BS Dartmouth College 1958
Alex H Kosloff, MD Instructor in Clinical Medicine (primary appointment)
BS Washington University in St. Louis 1975
MD Saint Louis University 1980
Attila Kovacs Associate Professor of Medicine (primary appointment)
BS School Not Listed 1981
Sandor J Kovacs, MD, MS, PhD Professor of Medicine (primary appointment)
Adjunct Professor of Physics
Professor of Biomedical Engineering
Professor of Cell Biology and Physiology
MD University of Miami 1979
MS California Institute of Technology 1972
Mark S Krasno, MD  Instructor in Clinical Medicine  (primary appointment)
BA Amherst College 1987
MD Johns Hopkins University Med 1991

Ronald J Krone, MD  Professor of Medicine  (primary appointment)
John E Simon Scholar in Medicine

Elaine Susan Krul, PhD  Adjunct Associate Professor of Medicine  (primary appointment)

Kilannin Cathleen Krysiak, PhD  Instructor in Medicine  (primary appointment)

Thomas Kuciejczyk-Kernan, MD  Instructor in Clinical Medicine  (primary appointment)

Ralph F Kuhlman, MD  Assistant Professor of Clinical Medicine  (primary appointment)

Frederick Matthew Kuhlmann, MD  Instructor in Medicine  (primary appointment)

Anthony Kulczycki Jr, MD  Associate Professor of Medicine  (primary appointment)
Associate Professor of Molecular Microbiology

Robin A. Kundra, PhD, MD  Instructor in Clinical Medicine  (primary appointment)

David I. Kuperman  Instructor in Clinical Medicine  (primary appointment)

Howard I. Kurz, MEE, MD  Professor of Medicine  (primary appointment)

Vladimir Kushnir, MD  Assistant Professor of Medicine  (primary appointment)

Jennie H Kwon, DOST  Instructor in Medicine  (primary appointment)

George B Kyei, MS, MD, PhD  Assistant Professor of Medicine  (primary appointment)

Jack H Ladenson, PhD  Oree M Carroll and Lillian B Ladenson Professor of Clinical Chemistry in
Pathology and Immunology (primary appointment)
Professor of Clinical Chemistry in Medicine
PHD University of Maryland 1971
BS Pennsylvania State University 1964
Albert Max Lai, PHD, M PHIL Associate Professor of Medicine (primary appointment)
PHD Columbia University 2007
M PHIL Columbia University 2005
Roop Lal, MS Instructor in Clinical Medicine (primary appointment)
MS Osmania Medical College 1971
Irena Lanc Instructor in Medicine (primary appointment)
Michael A. Lane, MD, MS Assistant Professor of Medicine (primary appointment)
MD Drexel University 2004
MS John Hopkins University 2000
BA Colgate University 1995
Gabriel David Lang, MDA Assistant Professor of Medicine (primary appointment)
MD University of Illinois Chicago 2009
Gregory Mark Lanza, PHD, MS Oliver M Langenberg Distinguished Professor of Science and Practice of Medicine (primary appointment)
Professor of Biomedical Engineering
BA Colby College 1975
PhD University of Georgia 1981
MS University of Georgia 1978
Gina N LaRossa, MDA Assistant Professor of Medicine (primary appointment)
MD Yale University 2007
BS Yale University 2001
Shane Joseph LaRue, MDA Assistant Professor of Medicine (primary appointment)
MD Medical College of Wisconsin 2005
John M Lasala, MDP Professor of Medicine (primary appointment)
Professor of Surgery (Cardiothoracic Surgery)
BA Drew University 1975
MD University of Connecticut 1983
Steven A Lauter, MDA Associate Professor of Medicine (primary appointment)
MD Wayne State University 1971
BS Wayne State University 1967
Kory J. Lavine, PHD, MDA Assistant Professor of Medicine (primary appointment)
Assistant Professor of Development Biology
PHD Washington Univ in St. Louis 2008
BS University of Rochester 2001
MD Washington Univ in St. Louis 2008
Steven Jay Lavine Professor of Medicine (primary appointment)
BA Temple University 1972
Steven J Lawrence, MSA Associate Professor of Medicine (primary appointment)
MS University of London 2004
BS Rose Hulman Institute 1992
Caroline Martz Lee, PHD, MDA Instructor in Medicine (primary appointment)
BS Knox College 2003
PHD University of North Carolina 2009
MD University of North Carolina 2011
Eileen May Lee, MD Assistant Professor of Medicine (primary appointment)  
BA University of Iowa 2002  
MD University of Iowa 2006  
Kim Lynette Lee Instructor in Clinical Medicine (primary appointment)  
BS Washington Univ in St. Louis 1979  
Sena Lee, PHD Assistant Professor of Medicine (Dermatology) (primary appointment)  
PHD Rockefeller University 2002  
Wang Sik Lee, PHD, MA Assistant Professor of Medicine (primary appointment)  
PHD Korea University Medical Coll 1990  
MA Korea University Medical Coll 1982  
BA Korea University Medical Coll 1978  
Robert B Lehman Instructor in Clinical Medicine (primary appointment)  
BA Texas Tech University 1977  
Deborah J. Lenschow, MD, PHD Associate Professor of Medicine (primary appointment)  
Associate Professor of Pathology and Immunology  
MD University of Chicago 1998  
PHD1 University of Chicago 1995  
PHD University of Chicago 1995  
MD1 University of Chicago 1998  
Marc Stephen Levin, MD Professor of Medicine (primary appointment)  
MD Columbia University 1981  
Mark D Levine, MD Associate Professor of Emergency Medicine in Medicine (primary appointment)  
MD New York University 1996  
BA Washington Univ in St. Louis 1991  
Lawrence M Lewis, AA, MD Professor of Emergency Medicine in Medicine (primary appointment)  
AA University of Florida 1972  
MD University of Miami 1976  
Warren Graybill Lewis, PHD Instructor in Medicine (primary appointment)  
BS State Univ of NY Buffalo 1998  
PHD Scripps Research Institute 2005  
Timothy J Ley Lewis T and Rosalind B Apple Professor of Medicine (primary appointment)  
Professor of Genetics  
BA Drake University 1974  
Li Li, MD, PHD Instructor in Clinical Medicine (primary appointment)  
MD Shanghai Medical University 1988  
PHD Loyola University Chicago 1998  
Shunqiang Li, PHD Assistant Professor of Medicine (primary appointment)  
PHD Chinese Academy of Med Science 1999  
Tingting Li, MD Associate Professor of Medicine (primary appointment)  
MD State Univ of NY Buffalo 1999  
Min Lian, PHD Assistant Professor of Medicine (primary appointment)  
PHD Texas Tech University 2006  
Stephen Yuan-Tung Liang Assistant Professor of Medicine (primary appointment)  
Charles H Lieu, MD Instructor in Clinical Medicine (primary appointment)  
MD State Univ of NY Buffalo 1993  
Stephen Bradley Lillard, MD Instructor in Clinical Medicine (primary appointment)  
MD Univ of Health Sciences KC 1970
Kian-Huat Lim, PHD, MD  
**Assistant Professor of Medicine** (primary appointment)  
PHD Duke University 2006  
MD National Taiwan University 1999  

Congxing Lin  
**Instructor in Medicine** (primary appointment)  

Michael Yun Lin, MD  
**Assistant Professor of Medicine** (primary appointment)  
MD University of Iowa 1994  
BA Harvard University 1990  

Kathryn Jessica Lindley, MD  
**Assistant Professor of Medicine** (primary appointment)  
BS University of Illinois 2003  
MD Emory University 2007  

Michael Yun Lin, MD  
**Associate Professor of Medicine** (primary appointment)  
MD University of Iowa 1994  
BA Harvard University 1990  

Kathryn Jesseca Lindley, MD  
**Assistant Professor of Medicine** (primary appointment)  
BS University of Illinois 2003  
MD Emory University 2007  

Brian Richard Lindman, MD, MA  
**Associate Professor of Medicine** (primary appointment)  
MD Vanderbilt University 2003  
BS Duke University 1997  
MA Reformed Theological Seminary 2001  

Daniel C Link, MD  
**Alan A and Edith L Wolff Distinguished Professor of Medicine** (primary appointment)  
Professor of Pathology and Immunology  
MD Univ of Wisconsin Milwaukee 1985  

Michael Brayer Lippmann, MD  
**Professor of Medicine** (primary appointment)  
MD State University of New York 1977  
BA State University of New York 1973  

Mauricio Lisker-Melman, MD  
**Professor of Medicine** (primary appointment)  
MD National Autonomous U of Mex 1980  

Mary Kathryn Liszewski  
**Assistant Professor of Medicine** (primary appointment)  

Howard S Lite, MD  
**Instructor in Clinical Medicine** (primary appointment)  
BA Washington Univ in St. Louis 1977  
MD University of Missouri 1983  

Patricia Elizabeth Litkowski, MD  
**Instructor in Medicine** (primary appointment)  
MD Washington Univ in St. Louis 2013  

Adam Daniel Littich, MD  
**Instructor in Medicine** (primary appointment)  
MD Saint Louis University 2009  

Marina Litvin  
**Assistant Professor of Medicine** (primary appointment)  
BA Washington Univ in St. Louis 2003  

Jianmei Liu, MS  
**Instructor in Clinical Medicine** (primary appointment)  
MS Shanghai Medical University 1987  

Xinping Liu, MS, PHD  
**Instructor in Medicine** (primary appointment)  
MS Southeast Missouri St Univers 1999  
BS School Not Listed 1986  
PHD Washington Univ in St. Louis 2005  

Albert C Lockhart, MHS, MD  
**Professor of Medicine** (primary appointment)  
BA Rice University 1989  
MHS Duke University 2001  
MD University of Texas Dallas 1993  

Amy Loden, MD  
**Instructor in Medicine** (primary appointment)  
MD University of MO Columbia 2010  

Irfan J Lodhi, PHD, MS  
**Assistant Professor of Medicine** (primary appointment)  
PHD University of Michigan 2007  
BS University of Michigan 1993
Beverly A Logan-Morrison
Instructor in Clinical Medicine (primary appointment)
BA Webster University 1976
Andrea Loiselle, MD, M PH
Assistant Professor of Medicine (primary appointment)
BS University of California 1995
MD Drexel University 2005
M PH California State University 1999
Jane Loitman, MS, MD
Assistant Professor of Clinical Neurology (primary appointment)
Instructor in Clinical Medicine
MS Georgetown University 1988
MD University of Minnesota 1992
BA Tufts University 1982
Fanxin Long, PHD
Professor of Orthopaedic Surgery (primary appointment)
Professor of Developmental Biology
Professor of Medicine
PHD Tufts University 1997
Gregory D Longmore, MD, MS
Professor of Medicine (primary appointment)
Professor of Cell Biology and Physiology
MD McGill University 1983
BS University of Western Ontario 1977
MS University of Toronto 1979
Dwight C Look, MD
Professor of Medicine (primary appointment)
MD University of MO Kansas City 1985
BA University of MO Kansas City 1985
James F Loomis Jr, MD, MBA
Instructor in Clinical Medicine (primary appointment)
MD University of Arkansas 1985
BA Hendrix College 1981
MBA Washington Univ in St. Louis 1997
Herbert Lubowitz, MD
Associate Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1958
BA Clark University 1954
Philip A Ludbrook, MBBS
Professor Emeritus of Medicine (primary appointment)
Prof Emeritus of Medicine (primary appointment)
Professor Emeritus of Psychiatry
MBBS University of Adelaide 1963
BS School Not Listed 1957
Kenneth M Ludmerer, MA
Professor of Medicine (primary appointment)
Mabel Dorn-Reeder Distinguished Professor of the History of Medicine
MA Johns Hopkins University 1971
Lauren Michelle Ludwig Lee, MD
Instructor in Clinical Medicine (primary appointment)
MD University of MO Kansas City 2008
Susan L Luedke, MD
Instructor in Clinical Medicine (primary appointment)
MD University of Rochester 1972
Jingqin Luo, PHD, MS
Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
Assistant Professor of Biostatistics
Assistant Professor of Medicine
PHD Duke University 2006
Barbara A Lutey, MD, MLS, Assistant Professor of Medicine (primary appointment)
BA Indiana University Bloomington 1982
MD University of Iowa 1999
MLS Indiana University Bloomington 1983
Christopher Raymond Lynch, Instructor in Clinical Medicine (primary appointment)
John P Lynch, MD, Professor of Medicine (primary appointment)
BA Saint Louis University 1983
MD Georgetown University 1989
Alan P Lyss, MD, Associate Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1976
BA Washington Univ in St. Louis 1972
Carl A Lyss, Assistant Professor of Clinical Medicine (primary appointment)
Cynthia Xiuguang Ma, PHD, MD, Associate Professor of Medicine (primary appointment)
PHD University of Cincinnati 1997
MD Beijing Medical University 1990
Hongming Ma, MS, PHD, Instructor in Medicine (primary appointment)
BA Qufu Normal University 1993
MS Fudan University 1996
PHD Ocean University of China, Qin 2004
Liang Ma, PHD, Associate Professor of Medicine (Dermatology) (primary appointment)
Associate Professor of Developmental Biology
PHD University of CA Los Angeles 1995
BA University of CA Berkeley 1989
Ningning Ma, Instructor in Medicine (primary appointment)
Julie Kathleen MacPhee, MD, Instructor in Clinical Medicine (primary appointment)
MD Albert Einstein College of Med 2008
BS Trinity College 2003
Blair B Madison, PHD, Assistant Professor of Medicine (primary appointment)
PHD University of Michigan 2005
BS Washington Univ in St. Louis 1998
William Edwin Magee, MD, Associate Professor of Clinical Medicine (primary appointment)
MD Duke University 1950
Leonard B Maggi Jr, PHD, Assistant Professor of Medicine (primary appointment)
BA Cornell College 1995
PHD Saint Louis University 2001
BA1 Cornell College 1995
Jambunathan Mahadevan, Instructor in Clinical Medicine (primary appointment)
Christopher A Maher, PHD, Assistant Professor of Medicine (primary appointment)
Assistant Director of The Genome Institute
PHD Stony Brook School of Medicine 2006
Nicole Maher, PHD, Instructor in Medicine (primary appointment)
PHD Case Western Reserve Univ 2007
BA Ithaca College 1998
Mohamed Mahjoub, Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
Robert John Mahoney, MD
Associate Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1997
BA Princeton University 1993

Elaine Michelle Majerus, MD
Associate Professor of Medicine (primary appointment)
Associate Professor of Cell Biology and Physiology
BA Washington Univ in St. Louis 1986
MD Saint Louis University 1998
BS Washington Univ in St. Louis 1986

Majesh Makan, MD
Associate Professor of Medicine (primary appointment)
MD Univ of Panama School of Med 1984

Mohsin Ilyas Malik, MBBS
Instructor in Clinical Medicine (primary appointment)
MBBS Army Medical College 1999

Andrew F. Malone
Assistant Professor of Medicine (primary appointment)
BA Trinity College Dublin 2000
MBCHB1 Royal College of Surgeons 2005

Hersh Maniar, MD
Associate Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Associate Professor of Medicine
MD University of Illinois 1998
BS University of Michigan 1994

Shivaprasad Gowda Manjappa, MBBS
Instructor in Clinical Medicine (primary appointment)
MBBS Medical College of India 2004

Caroline Mann, MS, MD
Associate Professor of Medicine (Dermatology) (primary appointment)
BS Indiana University Bloomington 1986
MS Sarah Lawrence College 1988
MD Indiana University Bloomington 1993

Douglas L. Mann, MD
Tobias and Hortense Lewin Professor of Medicine (primary appointment)
Professor of Cell Biology and Physiology
MD Temple University 1979
BA Lafayette College 1973

George Mansour, MD
Instructor in Medicine (primary appointment)
MD Tishreen Univ College of Med 2010

Sarah K Margolis, MD
Associate Professor of Clinical Medicine (primary appointment)
MD State University of New York 1989
BA Barnard College 1984

Jonas Marschall, MD
Adjunct Assistant Professor of Medicine (primary appointment)
MD University of Basel 1996

Jay Phillips Marshall II, MD
Assistant Professor of Clinical Medicine (primary appointment)
MD University of Missouri 1972
BA De Paul University 1968

Ann G Martin
Associate Professor of Medicine (Dermatology) (primary appointment)
BS University of Notre Dame 1977

Nathan Russell Martin, MD
Assistant Professor of Medicine (primary appointment)
MD University of Texas Southwest 2005
BA University of Pennsylvania 2001

Thomas F Martin, MD
Associate Professor of Clinical Medicine (primary appointment)
MD Saint Louis University 1965
BS Saint Louis University 1961

Wade H Martin III, MD
Associate Professor of Medicine (primary appointment)
Jerald Arthur Maslanko, MD  
Instructor in Clinical Medicine  
(Primary appointment)

Mary Vest Mason, MD, MBA  
Instructor in Clinical Medicine  
(Primary appointment)

Joan Alice Mass, MD  
Assistant Professor of Clinical Medicine  
(Primary appointment)

Stanley Mathew, MBBS  
Instructor in Clinical Medicine  
(Primary appointment)

Scot J. Matkovich, PhD  
Assistant Professor of Medicine  
(Primary appointment)

Anthony J-P Mattaline, DOST  
Assistant Professor of Clinical Medicine  
(Primary appointment)

Caline Mattar, MD  
Instructor in Medicine  
(Primary appointment)

Henry E Mattis, MD  
Instructor in Clinical Medicine  
(Primary appointment)

Thin Thin Maw, MS, MBBS  
Assistant Professor of Medicine  
(Primary appointment)

Gabriel Mbalaviele, PhD, MA  
Associate Professor of Medicine  
(Primary appointment)

Timothy Joseph McCann, MD  
Instructor in Clinical Medicine  
(Primary appointment)

Donte D McClary, MD  
Instructor in Clinical Medicine  
(Primary appointment)

Leslie Rose McCrary-Etuk, MD  
Instructor in Clinical Medicine  
(Primary appointment)

Jay R. McDonald, MD  
Assistant Professor of Medicine  
(Primary appointment)

Debra Ann McDonnell, MS, DPT, AS  
Associate Professor of Emergency Medicine in Medicine  
(Primary appointment)

Associate Professor of Orthopaedic Surgery
Associate Professor of Physical Therapy
BS Washington Univ in St. Louis 1990
MS Washington Univ in St. Louis 1990
DPT Washington Univ in St. Louis 2005
AS Oakton Community College 2000

Cheryl Riddle McDonough, MD
Instructor in Medicine (primary appointment)
BS Vanderbilt University 1997
MD University of Tennessee 2001

Colleen McEvoy, MD
Assistant Professor of Medicine (primary appointment)
BS Fairfield University 2004
MD University of MO Columbia 2008

Janet B McGill, MA, MD
Professor of Medicine (primary appointment)
BS University of Michigan 1972
MA Northern Michigan University 1980
MD Michigan State University 1979

Oliver McKee, MD
Instructor in Clinical Medicine (Dermatology) (primary appointment)
MD School Not Listed 1981
BA McGill University 1975

Clark R McKenzie, MD
Instructor in Clinical Medicine (primary appointment)
MD University of Missouri 1989
BA University of Missouri 1989

Robert M McMahon
Instructor in Clinical Medicine (primary appointment)
MD University of CA San Diego 1996

Robert Paul Mecham, PhD
Alumni Endowed Professor of Cell Biology and Physiology (primary appointment)

Professor of Medicine
Professor of Biomedical Engineering
Professor of Pediatrics

Gerald Medoff, MD
Professor Emeritus of Medicine (primary appointment)

Neha Mehta-Shah, MD
Assistant Professor of Medicine (primary appointment)

Anibal G Melo, MD
Instructor in Clinical Medicine (primary appointment)

Gary Jay Meltz, MD
Instructor in Clinical Medicine (primary appointment)

Robert S Mendelsohn
Associate Professor of Clinical Medicine (primary appointment)

Paul A Mennes, MD
Professor of Clinical Medicine (primary appointment)

Ronald L Mera, MD
Instructor in Clinical Medicine (primary appointment)

MD School Not Listed 1976
Adam Vogeler Meyer, MD Assistant Professor of Medicine (primary appointment)
MD Baylor College of Medicine 2009
Claire Elizabeth Meyer, MD Assistant Professor of Medicine (primary appointment)
BS Roanoke College 2004
MD Washington Univ in St. Louis 2009
Rabya Mian, MBBS Instructor in Clinical Medicine (primary appointment)
MBBS King Edward Medical College 1999
Scott Micek, MD Adjunct Instructor in Medicine (primary appointment)
MD University of Iowa 1999
Gina Michael Instructor in Clinical Medicine (primary appointment)
BS University of Missouri 1978
Andrew Philip Michelson, MD Instructor in Medicine (primary appointment)
MD Case Western Reserve Univ 2013
BS Case Western Reserve Univ 2007
William Samuel Micka, MD Instructor in Clinical Medicine (primary appointment)
BA Saint Louis University 1999
MD Saint Louis University 2003
Jeffrey D Milbrandt, PhD, MD James S McDonnell Professor of Genetics (primary appointment)
Professor of Medicine
Professor of Neurology
Professor of Pathology and Immunology
Head of the Department of Genetics
PHD University of Virginia 1983
MD Washington Univ in St. Louis 1978
BS Univ of Nebraska at Kearney 1974
Brent William Miller, MD Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1990
BS Stanford University 1986
Charles William Miller Assistant Professor of Clinical Medicine (Dermatology) (primary appointment)
Christopher A Miller, PHD Instructor in Medicine (primary appointment)
PHD Baylor University 2011
BS Truman State University 2005
BS1 Truman State University 2005
Heidi B Miller, MD Instructor in Clinical Medicine (primary appointment)
BS Yale University 1994
MD Harvard University 2000
J. Philip Miller Professor of Biostatistics (primary appointment)
Professor of Medicine
Tenure Held At-Large in the Medical School
BA Washington Univ in St. Louis 1965
Lara Elizabeth Miller, DOST Instructor in Clinical Medicine (primary appointment)
DOST Midwestern University 2000
BS Carleton College 1996
Mark James Miller, PHD Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology
BS University of California 1991
Jeffrey R Millman, PHD
Assistant Professor of Biomedical Engineering
PHD Massachusetts Institute of Technology (MIT) 2011
BS North Carolina State University 2005

Jason C Mills, MD, AB, PHD
Professor of Medicine (primary appointment)
Professor of Developmental Biology
Professor of Pathology and Immunology
MD University of Pennsylvania 1997
BA Washington University in St. Louis 1989
AB Washington University in St. Louis 1989
PHD University of Pennsylvania 1997
MD University of Pennsylvania 1997

Graeme Mindel, MS, MBBCH
Instructor in Clinical Medicine (primary appointment)
MS University of the Witwatersrand 1992
MBBCH University of the Witwatersrand 1992

Jeffrey H Miner, PHD
Professor of Medicine (primary appointment)
Professor of Cell Biology and Physiology
PHD California Institute of Technology 1991

Jonathan J Miner, MD
Instructor in Medicine (primary appointment)
MD University of Oklahoma 2010

Khurram Rehman Mirza, MBBCH
Instructor in Medicine (primary appointment)
MBBCH King Edward Medical College 2002

Makedonka Mitreva, PHD, MS
Associate Professor of Medicine (primary appointment)
Associate Professor of Genetics
PHD Wageningen University 2001
MS University of Skopje - Macedonia 1994

Bettina Mittendorfer, PHD, MS
Professor of Medicine (primary appointment)
PHD University of Texas Austin 1999
MS University of Vienna 1999

C. Scott Molden, MD
Instructor in Clinical Medicine (primary appointment)
BA DePaul University 1968
MD Case Western Reserve University 1972

Hector D Molina-Vincenty, MD
Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology
BS University of Puerto Rico 1982
MD University of Puerto Rico 1985

Cynthia L Monaco, MD, PHD
Instructor in Medicine (primary appointment)
BS Texas Tech University 2000
MD University of Texas Southwest 2009

Michael David Monaco, MD
Instructor in Medicine (primary appointment)
MD University of Texas Health Science Center 2009

Jennifer Marie Monroy, MD
Assistant Professor of Medicine (primary appointment)
BS Incarnate Word College 2003
MD University of Texas Health Science Center 2008

Austin F Montgomery, MD
Instructor in Clinical Medicine (primary appointment)
MD University of Pittsburgh 1954
BA Washington Univ in St. Louis 1950
BS University of Missouri 1952
Sung Ho Moon, MS, PHD Instructor in Medicine (primary appointment)
BS Yonsei University 1997
MS Yonsei University 1999
PHD Washington Univ in St. Louis 2006
Nathan Moore, MD Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 2013
BS Texas College 2007
Timothy D Moore Instructor in Clinical Medicine (primary appointment)

Daniel Morgensztern, MD Associate Professor of Medicine (primary appointment)
MD FTE Souza Marques 1995
Donald G Morris, MS, MD Instructor in Clinical Medicine (primary appointment)
BA Benedictine College 1987
MS Saint Louis University 1989
MD University of Missouri 1993
Aubrey R Morrison, MBBS Professor of Medicine (primary appointment)
Professor of Developmental Biology
MBBS University of London 1970

Hawnwan P Moy, MD Instructor in Emergency Medicine in Medicine (primary appointment)
MD Loyola University Chicago 2008
Richard Gerard Mrad Instructor in Clinical Medicine (primary appointment)
BA University of Missouri 1981

Mike Max Mueckler, PhD Professor of Cell Biology and Physiology (primary appointment)
Professor of Medicine
BA Univ of Wisconsin Madison 1976
PHD Univ of Wisconsin Madison 1982

Kristen L Mueller, MD Instructor in Emergency Medicine in Medicine (primary appointment)
MD Medical College of Wisconsin 2010
Faquir Muhammad Instructor in Clinical Medicine (primary appointment)
Joshua Mutambuki Muiia, PhD Instructor in Medicine (primary appointment)
BA University of Nairobi 2003
PHD Western Michigan University 2010

Daniel Kast Mullady, MD Associate Professor of Medicine (primary appointment)
MD University of Connecticut 2001
Monalisa Mullick Assistant Professor of Medicine (primary appointment)
Michael E Mullins, MD Associate Professor of Emergency Medicine in Medicine (primary appointment)
MD Hahnemann University 1987

Steven Robert Mumm, PhD, MS Associate Professor of Medicine (primary appointment)
BS University of Missouri 1978
PHD Saint Louis University 1992
MS University of Missouri 1984
Amy Musiek, MD Associate Professor of Medicine (Dermatology) (primary appointment)
MD Vanderbilt University 2004
BS College of William and Mary 1999

Umadevi Muthyala Instructor in Clinical Medicine (primary appointment)
Elna M Nagasako, PhD, MD Assistant Professor of Medicine (primary appointment)
Jyotirmaya Nanda, Instructor in Clinical Medicine (primary appointment)
Nicola Napoli, Adjunct Research Assistant Professor of Medicine (primary appointment)
Michael J. Naughton, MD, Associate Professor of Medicine (primary appointment)
MD State Univ of NY Buffalo 1993
BA Williams College 1989
Rosanne S Naunheim, MD, Associate Professor of Emergency Medicine in Medicine (primary appointment)
MD University of Chicago 1978
BA Carleton College 1970
Robert F Nease Jr, Adjunct Associate Professor of Medicine (primary appointment)
Burton M Needles, MD, Instructor in Clinical Medicine (primary appointment)
BS City College 1970
MD Loyola University Chicago 1974
Jeanne M Nerbonne, PhD, Professor of Medicine (primary appointment)
Alumni Endowed Professor of Molecular Biology and Pharmacology in Developmental Biology
BS Framingham State College 1974
PHD Georgetown University 1978
Elizabeth P. Newberry, PhD, Assistant Professor of Medicine (primary appointment)
PHD Washington Univ in St. Louis 1995
BA Knox College 1988
Rodney D Newberry, MD, Professor of Medicine (primary appointment)
BA Washington Univ in St. Louis 1987
MD Washington Univ in St. Louis 1991
Amy C Ney, MD, Instructor in Clinical Medicine (Dermatology) (primary appointment)
MD University of Virginia 2001
BS Mary Washington College 1997
Khanh Nguyen, MD, Instructor in Medicine (primary appointment)
MD University of Illinois Chicago 2013
BS Loyola University Chicago 2008
Nguyet Minh Nguyen, MD, Assistant Professor of Medicine (primary appointment)
MD Wayne State University 1993
BS1 University of Michigan 1989
BS University of Michigan 1989
Joan P Noelker, MD, Instructor in Emergency Medicine in Medicine (primary appointment)
MD Royal College of Surgeons 2010
BA University of Virginia 2004
Amit Noheria, Assistant Professor of Medicine (primary appointment)
Lemuel Benedict R Non, MD, Instructor in Medicine (primary appointment)
BS Mindanao State University 2003
MD University of the Philippines 2008
Scott Monroe Nordlicht, MD, Professor of Medicine (primary appointment)
BA Columbia University 1969
MD State University of New York 1973
Tracy Wynette Norfleet, MD, Instructor in Clinical Medicine (primary appointment)
MD Louisiana St Univ Hlth Sci 2002
Deborah Veis Novack, PHD, MD Associate Professor of Medicine (primary appointment) 
Associate Professor of Pathology and Immunology
BA Princeton University 1987
PHD Washington Univ in St. Louis 1995
MD Washington Univ in St. Louis 1995

Sabrina Nunez, PHD Assistant Professor of Medicine (primary appointment)
PHD Stony Brook School of Medicine 2007

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MD School Not Listed 1973

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UNKNOWN Nishtar Medical College Multa 1974
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BA University of Kansas 1972
MD School Not Listed 1977

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BS University of MO Columbia 1999
PHD Washington Univ in St. Louis 2009

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BS Gustavus Adolphus College 2003
MD University of Minnesota 2007

Devin Christopher Odom, MD Instructor in Medicine (primary appointment)
MD Wake Forest University 2010

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Assistant Professor of Pathology and Immunology
PHD Northwestern University 2002
MD Northwestern University 2004
BS Harvard University 1996

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BS University of Ibadan 1975
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Prof Emeritus of Clinical Medicine (primary appointment)
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BS Southern Illinois University 1976

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MD Washington Univ in St. Louis 1987
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MD University of Miami 1979
BS Yale University 1975

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MD Washington Univ in St. Louis 1970
BS Saint Louis University 1966

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Professor of Cell Biology and Physiology
Alan A and Edith L Wolff Professor of Cardiology
MD Harvard University 1986
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M PH London Hygiene & Tropical Med 2009
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MD Univ Texas Health Sci San Anto 1997

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MD University of Utah 1970
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UNKOWN School Not Listed 1983

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BA University of Tennessee 1992

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MD Univ of Wisconsin Madison 2003

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Associate Professor of Neurology
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MBBS Byramjee Jeejeebhoy Medical Co 2009
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MD Saba University School of Med 2001
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BS Tulane University 2000
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Instructor in Clinical Medicine (primary appointment)

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Assistant Professor of Clinical Medicine (primary appointment)

Iskra Pusic, MD  
Assistant Professor of Medicine (primary appointment)

Usman Qayyum  
Instructor in Clinical Medicine (primary appointment)

Nishath Quader, MD  
Assistant Professor of Medicine (primary appointment)

Patricia M Quinley, MD  
Instructor in Clinical Medicine (primary appointment)

Abdul H Qureshi, MS  
Instructor in Clinical Medicine (primary appointment)

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Professor of Physical Therapy (primary appointment)

Britney Martin Ramgopal, MD  
Instructor in Medicine (primary appointment)

Rajeev Ramgopal, MD  
Instructor in Medicine (primary appointment)

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Unanue Distinguished Professor of Immunology (primary appointment)

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MBBS Kilpauk Medical College 1990
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BA University of Verona 1984
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Alan A and Edith L Wolff Professor of Oncology
BA Harvard University 1973
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PHD Yale University 1979
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MD University of Cincinnati 2013
Daniel Rauch, PHD Assistant Professor of Medicine (primary appointment)
PHD University of Iowa 2001
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BS1 Augustana College 1996
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MD Emory University 1997
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PHD Albert Einstein College of Med 2003
MD Albert Einstein College of Med 2003
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BS Southeast Missouri St Univers 1979
MD University of MO Columbia 1985
MS University of MO Columbia 1981
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Kavitha Reddy Assistant Professor of Emergency Medicine in Medicine (primary appointment)
Katherine Marie Reeder, PHD Adjunct Assistant Professor of Medicine (primary appointment)
PHD University of Iowa 2007
Dominic N Reeds Associate Professor of Medicine (primary appointment)
BA University of Texas Austin 1992
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Lester T Reese, MD Professor of Clinical Medicine (Dermatology) (primary appointment)
BS Tulane University 1962
MD Tulane University 1966
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BS East Carolina University 2002
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UNKOWN Saint Louis University 1986
MD Saint Louis University 1993
PHD Saint Louis University 1991
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Professor of Clinical Medicine (primary appointment)
MD University of Missouri 1983
BA University of Missouri 1979
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Instructor in Clinical Medicine (primary appointment)
BA University of MO Kansas City 1989
MD University of Missouri 1990
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Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
PHD University of Cordoba 1999
MS University of Cordoba 1989
BS University of Cordoba 1987
Hilary Elizabeth Lee Reno, MD, MS, PHD
Assistant Professor of Medicine (primary appointment)
MD University of Illinois 2002
MS University of Illinois 1997
PHD University of Illinois 2000
Stacey L. Rentschler, MS, PHD, MD
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Developmental Biology
MS Mount Sinai School of Medicine 2000
PHD Mount Sinai School of Medicine 2002
MD Mount Sinai School of Medicine 2004
Nicholas R Renz
Instructor in Emergency Medicine in Medicine (primary appointment)
BA University of MO Columbia 2004
Michael P Rettig, PHD
Assistant Professor of Medicine (primary appointment)
BS Illinois State University 1993
PHD Purdue University 2000
Michael W Rich, MD
Professor of Medicine (primary appointment)
BA University of Illinois 1974
MD University of Illinois 1979
Lois F. Richard, PHD
Assistant Professor of Medicine (primary appointment)
BS Murray St University 1982
PHD Saint Louis University 1998
Cheryl Richards, MA, PHD
Assistant Professor of Psychiatry (primary appointment)
Assistant Professor of Medicine
MA University of Illinois 1981
BS Ohio University 1977
PHD University of Illinois 1987
Justin M Richner, PHD
Instructor in Medicine (primary appointment)
BS Washington Univ in St. Louis 2006
PHD University of CA Berkeley 2011
Terrence E Riehl, MS, PHD
Associate Professor of Medicine (primary appointment)
MS Rutgers University 1976
BS Rutgers University 1974
PHD Ohio University 1981
Amy Elizabeth Riek, Assistant Professor of Medicine (primary appointment)
Robert D. Rifkin, MD, Professor of Medicine (primary appointment)
BS Mass Inst of Technology (MIT) 1968
MD New York University 1972
Caron E. Rigden, BFA, MD, Assistant Professor of Medicine (primary appointment)
BFA Tulane University 1996
MD Tulane University 2000
Joan K. Riley, PHD, Assistant Professor of Obstetrics and Gynecology (primary appointment)
Assistant Professor of Pediatrics
Instructor in Medicine
PHD Washington Univ in St. Louis 1998
Tracy Marie Riordan, MD, Instructor in Clinical Medicine (primary appointment)
BA Saint Louis University 1996
MD Saint Louis University 2000
Elisha D.O. Roberson, PhD, Assistant Professor of Medicine (primary appointment)
Assistant Professor of Genetics
BS Western Kentucky University 2004
PHD Johns Hopkins University 2009
Paul Arthur Robiolio, M Phil, MD, Assistant Professor of Clinical Medicine (primary appointment)
M Phil Cambridge University 1985
MD Washington Univ in St. Louis 1989
BS Haverford College 1983
M. Reza Rofougaran, MD, Instructor in Clinical Medicine (primary appointment)
MD Tehran University 1988
H. Bryan Rogers, MD, Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1965
Felice A Rolnick, MD, Instructor in Clinical Medicine (primary appointment)
MD School Not Listed 1987
BS Union College New York 1982
Rizwan Romee, MD, Assistant Professor of Medicine (primary appointment)
MD Gov't Gandhi Memorial Sci Coll 2004
Arthur G. Romero, Associate Professor of Medicine (primary appointment)
BS Johns Hopkins University 1979
Ernesto J. Romo, Instructor in Emergency Medicine in Medicine (Pending Dean's Approval) (primary appointment)
Daniel B. Rosenbluth, MD, Professor of Medicine (primary appointment)
Professor of Pediatrics
Tracey C and William J. Marshall Professor of Medicine
MD Mount Sinai School of Medicine 1989
BS Columbia University 1985
Anna Roshal, Assistant Professor of Medicine (primary appointment)
BS University of Rochester 1993
Ilana Shaina Rosman, MD, Assistant Professor of Medicine (Dermatology) (primary appointment)
Assistant Professor of Pathology and Immunology
MD Washington Univ in St. Louis 2008
Ian Ross, Instructor in Medicine (primary appointment)
Willie Ray Ross, M Phil, MD, Associate Dean for Diversity (primary appointment)
Professor of Medicine
BS Yale University 1980
M PH Saint Louis University 2007
MD Washington Univ in St. Louis 1984
Bruce J Roth, MD Professor of Medicine (primary appointment)
MD Saint Louis University 1980
Marcos Rothstein, MD Professor of Medicine (primary appointment)
MD University of Zulia 1974
Ernest Tuttle Rouse III, MD Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1971
Jeremy Rower, MD Instructor in Clinical Medicine (primary appointment)
MD University of Cincinnati 1997
BS University of Cincinnati 1993
Deborah C Rubin, MD Professor of Medicine (primary appointment)
Professor of Developmental Biology
MD Albert Einstein College of Med 1981
BS Mass Inst of Technology (MIT) 1977
Myra L. Rubio, MD Associate Professor of Medicine (primary appointment)
MD Indiana University Bloomington 1998
BA Washington Univ in St. Louis 1994
Paetra Ruddy, MD Assistant Professor of Medicine (Dermatology) (primary appointment)
BA Bard College 1997
MD University of Iowa 2011
Emily Lindholm Rumora, MD Instructor in Medicine (primary appointment)
MD Dartmouth College 2013
Brent E Ruoff, MD Associate Professor of Emergency Medicine in Medicine (primary appointment)
BS Graceland College 1977
MD Saint Louis University 1981
Michael B Rusche Adjunct Instructor in Medicine (primary appointment)
Tonya D Russell, MD Associate Professor of Medicine (primary appointment)
MD University of Florida 1997
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Kenneth J Rybicki, MS, MD, PHD Instructor in Clinical Medicine (primary appointment)
MS Southern Illinois University 1980
MD University of Texas Austin 1987
BA Southern Illinois University 1978
PHD University of Texas Austin 1984
Raya Saba, MD Instructor in Medicine (primary appointment)
MD Damascus University 2011
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MD Washington Univ in St. Louis 2007
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Professor of Biochemistry and Molecular Biophysics
MD Duke University 1979
PHD Duke University 1978
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M PH University of Kentucky 2012
MD Baghdad University 2007
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MD School Not Listed 2000

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PHD Washington Univ in St. Louis 2009
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UNKNOWN1 School Not Listed 1961

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BS Reading University 1982
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BS Washington & Lee 1964
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PHD Hebrew University 2009

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MD Harvard University 1978
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MD University of Iowa 2002

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PHD Washington Univ in St. Louis 1978
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Assistant Professor of Cell Biology and Physiology
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BA Washington Univ in St. Louis 1976
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Robert Jay Schneider, MD Assistant Professor of Clinical Medicine (primary appointment)
MD Johns Hopkins University 1976
BA Johns Hopkins University 1973
Erin R. Schockett, MD Instructor in Clinical Medicine (primary appointment)
MD Brown University 2005
Mark Andrew Schroeder, MD Assistant Professor of Medicine (primary appointment)
MD University of Cincinnati 2003
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BS University of Washington 2001
PHD University of Washington 2008

John Spertus
Adjunct Professor of Medicine (primary appointment)
Michael Spezial
Instructor in Clinical Medicine (primary appointment)
Erik Christian Stabell
Instructor in Clinical Medicine (primary appointment)
Paul M Stein, MD  
Professor of Clinical Medicine (primary appointment)  
MD Saint Louis University 1971  
BA University of Rochester 1967  

Phyllis K Stein, PHD  
Associate Professor of Medicine (primary appointment)  
BA Barnard College 1962  
PHD University of Virginia 1990  

Richard Ian Stein, PHD  
Associate Professor of Medicine (primary appointment)  
PHD Arizona State University 2000  

Emily Steiner, MD  
Instructor in Medicine (primary appointment)  
MD University of Toledo 2013  

William F Stenson  
Dr Nicholas V Costrini Professor of Medicine (primary appointment)  
BS Providence College 1967  

Barbara B Sterkel  
Adjunct Associate Professor of Medicine (primary appointment)  

Karin Sterl, MD  
Instructor in Medicine (primary appointment)  
MD Luliu Hatieganu U of Med 2007  

Kara Ellen Sternhell-Blackwell, MA, MD  
Assistant Professor of Medicine (Dermatology) (primary appointment)  
MA Washington Univ in St. Louis 2003  
MD Washington Univ in St. Louis 2005  
BA Washington Univ in St. Louis 1999  

Sheila Stewart-Wigglesworth, PHD  
Professor of Cell Biology and Physiology (primary appointment)  
Professor of Medicine  
BS University of Minnesota 1990  
PHD University of CA Los Angeles 1996  

Nathan O. Stitziel  
Assistant Professor of Medicine (primary appointment)  
Assistant Professor of Genetics  
BA1 Washington Univ in St. Louis 1998  

Keith Evan Stockerl-Goldstein, MD  
Associate Professor of Medicine (primary appointment)  
MD University of CA Los Angeles 1991  
BA Washington Univ in St. Louis 1986  

James Andrew Stokes, MD  
Instructor in Clinical Medicine (primary appointment)  
MD University of Missouri 1984  
BA Stanford University 1976  

Michael Gary Stone, MD  
Instructor in Clinical Medicine (primary appointment)  
MD Kansas Cty Univ Med/Bioscience 2008  

Gregory A Storch, MD  
Ruth L. Siteman Professor of Pediatrics (primary appointment)  
Professor of Molecular Microbiology  
Professor of Medicine  
MD New York University 1973  
BA Harvard University 1969  

James Stowe, PHD, MS  
Instructor in Medicine (primary appointment)  
PHD Columbia, MO 2014  
BA Kansas State University 2006  
MS Kansas State University 2009  
Cristina Strong  
Assistant Professor of Medicine (Dermatology) (primary appointment)  

Christopher Michael Sturgeon, PHD  
Assistant Professor of Medicine (primary appointment)  
Assistant Professor of Developmental Biology  
PHD University of British Columbia 2006
Xinming Su, Instructor in Medicine (primary appointment)
Xiong Su, PhD, Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
PHD Washington Univ in St. Louis 2004
BS Beijing University 1998
Hamsa Subramanian, Instructor in Clinical Medicine (primary appointment)
BS St. Joseph's Convent - Trichy 1986
Kanagaraj Subramanian, PhD, MS, Assistant Professor of Medicine (primary appointment)
PHD Heidelberg University 2007
MS Heidelberg University 2000
Hani Suleiman, MD, Instructor in Medicine (primary appointment)
MD Regensburg University 2007
Kaharu Sumino, PhD, MPA, MD, Associate Professor of Medicine (primary appointment)
PHD Yokohama City Univ Sch Med 1999
MPA Johns Hopkins University 2008
MD Yokohama City Univ Sch Med 1992
William Craig Summers, MD, Instructor in Clinical Medicine (primary appointment)
MD University of AL Birmingham 1999
BS University of Alabama 1994
Walton Sumner II, MD, Associate Professor of Medicine (primary appointment)
MD Southwestern University 1985
BA Rice University 1981
Rama Suresh, MBBS, Assistant Professor of Medicine (primary appointment)
MBBS University of Madras 1993
Rudee Suwannasri, MD, Instructor in Clinical Medicine (primary appointment)
MD Chiang Mai University 1973
BS Chiang Mai University 1971
Bridgette B Svancarek, Assistant Professor of Emergency Medicine in Medicine (primary appointment)
Elzbieta Anna Swietlicki, MS, PhD, Instructor in Medicine (primary appointment)
MS Medical Academy Lodz 1975
PHD Medical Academy Lodz 1981
Steven D Taff, MS, PhD, Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Medicine
MS Washington Univ in St. Louis 1997
BS MO State U (formerly SW MO St) 1989
PHD University of MO St Louis 2005
Mohammad Tahir, MD, Instructor in Clinical Medicine (primary appointment)
MD Dow Medical College Karachi 1976
Benjamin R Tan, MD, Associate Professor of Medicine (primary appointment)
BS University of the Philippines 1985
MD University of the Philippines 1990
David Tan, MD, Associate Professor of Emergency Medicine in Medicine (primary appointment)
MD Loma Linda University 1997
Kongsak Tanphaichitr, MD, Professor of Clinical Medicine (primary appointment)
MD Siriraj Medical School 1970
Richard S Tao, MD, Instructor in Emergency Medicine in Medicine (primary appointment)
MD Indiana State University 1995
BA Indiana State University 1991
Steven L Teitelbaum, MD
Messing Professor of Pathology and Immunology (primary appointment)
Professor of Medicine
MD Washington Univ in St. Louis 1964
Arnold S Tepper, MD
Instructor in Clinical Medicine (primary appointment)
MD University of Missouri 1970
BS School Not Listed 1966
Wanda T Terrell, MD
Associate Professor of Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1975
MD Washington Univ in St. Louis 1979
Larissa Bryka Thackray, PHD
Assistant Professor of Medicine (primary appointment)
BS Cornell University 1991
PHD U of Colorado Health Sci Ctr 2003
George K. Thampy
Instructor in Clinical Medicine (primary appointment)
Daniel Leonidas Theodoro, MD
Assistant Professor of Emergency Medicine in Medicine (primary appointment)
BA Washington Univ in St. Louis 1975
MD Washington Univ in St. Louis 1979
BS Cornell University 1991
PHD U of Colorado Health Sci Ctr 2003
J. Allen Thiel, MD
Associate Professor of Clinical Medicine (primary appointment)
BS Rockhurst College 1956
MD Saint Louis University 1960
Mark S Thoelke, MD
Associate Professor of Medicine (primary appointment)
BS University of Illinois 1982
MD University of Illinois 1990
Benjamin S Thomas, MD
Adjunct Instructor in Medicine (primary appointment)
MD Mercer University Macon 2009
BS Georgia Tech 2002
Erik P Thyssen, MD
Assistant Professor of Clinical Medicine (primary appointment)
MD University of Copenhagen 1984
BS University of Copenhagen 1980
LinLin Tian, PHD
Instructor in Emergency Medicine in Medicine (primary appointment)
PHD Beijing Institute of Radiation 2009
BS Hebei Medical University 2004
Lawrence S Tierney, MD
Associate Professor of Clinical Medicine (primary appointment)
BS University of Illinois 1984
MD University of Illinois 1988
Jeffrey P Tillinghast, MD
Associate Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1980
Wael Toama, MD
Instructor in Medicine (primary appointment)
MD Damascus U. Medical School 2005
Garry S Tobin, MD
Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1985
BS MO S&T (formerly UofMO Rolla) 1981
Douglas M Tollefson, MD
Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1977
Michael H. Tomasson, MD
Adjunct Assistant Professor of Medicine (primary appointment)
BA Wesleyan University 1986
MD Stanford University 1992
Robert R Townsend, MD, PHD, MS
Professor of Medicine (primary appointment)
Professor of Cell Biology and Physiology
BS Centenary College 1972
MD Tulane University 1976
PHD Johns Hopkins University 1982
MS Tulane University 1976
Elizabeth A Tracy, MD Instructor in Clinical Medicine (primary appointment)
BS Marquette University 1982
MD Univ of Wisconsin Milwaukee 1986
Doris Janet Tribune-Brown Instructor in Clinical Medicine (primary appointment)
Sandeep Kumar Tripathy, PHD Assistant Professor of Medicine (primary appointment)
PHD University of Chicago 1995
Elbert P Trulock III, MD Rosemary and I Jerome Flance Professor of Pulmonary Medicine in Medicine (primary appointment)
MD Emory University 1978
BS Emory University 1968
Thomas F Tse, MD Instructor in Clinical Medicine (primary appointment)
BS University of Nebraska 1972
MD Univ of Nebraska at Omaha 1976
David J Tucker Assistant Professor of Clinical Medicine (primary appointment)
Dolores R Tucker, MD Assistant Professor of Clinical Medicine (Dermatology) (primary appointment)
MD Washington Univ in St. Louis 1974
BS Saint Mary's College 1958
Stacey S Tull, MD, M PH Assistant Professor of Clinical Medicine (Dermatology) (primary appointment)
MD Duke University 1997
M PH Duke University 1997
John W Turk, PHD, MD Professor of Medicine (primary appointment)
Alan A and Edith L Wolff Professor of Endocrinology
Professor of Pathology and Immunology
BA Washington Univ in St. Louis 1970
PHD Washington Univ in St. Louis 1976
MD Washington Univ in St. Louis 1976
Robert C. Uchiyama, MD Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1980
Fumihiko Urano, MD Samuel E Schechter Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology
MD Keio University 1994
Geoffrey L Uy, MD Associate Professor of Medicine (primary appointment)
BA1 Cornell University 1996
BA Cornell University 1996
MD Washington Univ in St. Louis 2001
Justin Marinus Vader, MD Assistant Professor of Medicine (primary appointment)
MD University of Texas Southwest 2006
Brij R Vaid, MD Instructor in Clinical Medicine (primary appointment)
MD Rush University 1992
Albert Lee Van Amburg Iii, MD Assistant Professor of Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1968
Brian Andrew Van Tine, MD, PHD  
Assistant Professor of Medicine (primary appointment)  
BS University of Arizona 1995  
MD University of AL Birmingham 2005  
PHD University of AL Birmingham 2005

Gil M Vardi, MD  
Assistant Professor of Clinical Medicine (primary appointment)  
MD Tel-Aviv University 1988

Emmanuel A Venkatesan, MBBS  
Associate Professor of Clinical Medicine (primary appointment)  
MBBS CMC, Vellore, India 1990

Kiran Raj Vij, MD  
Assistant Professor of Pathology and Immunology  
MD Indira Gandhi Medical College 1993

Ravi Vij  
Professor of Medicine (primary appointment)

Anitha Vijayan  
Professor of Medicine (primary appointment)

Dennis T Villareal  
Adjunct Associate Professor of Medicine (primary appointment)

Herbert W Virgin IV, PHD  
Mallinckrodt Professor of Pathology and Immunology (primary appointment)  
PHD Harvard University 1985

Oksana Volshteyn, MD  
Professor of Neurology (primary appointment)

Benjamin Allen Voss, MD  
Instructor in Clinical Medicine (primary appointment)  
MD Creighton University 2007  
BA Saint Louis University 2003  
BA1 Saint Louis University 2003

Stanley G Vriezelaar, MD  
Instructor in Clinical Medicine (primary appointment)  
MD University of Iowa 1981

Harry Lee Wadsworth, MD  
Instructor in Clinical Medicine (primary appointment)  
MD Texas Tech University 1983  
BS Texas Tech University 1978

Jason Cass Wagner, MD  
Assistant Professor of Emergency Medicine in Medicine (primary appointment)  
MD University of Colorado Denver 2001

Stanley M Wald, MD  
Associate Professor of Clinical Medicine (primary appointment)  
MD Washington Univ in St. Louis 1946

David Wallace, MD  
Instructor in Clinical Medicine (primary appointment)  
BA Saint Anselm College 1980  
MD Saint Louis University 1984

David A Walls, MD  
Instructor in Clinical Medicine (primary appointment)  
MD Southern Illinois University 1982  
BA Southern Illinois University 1979

Sarah N. Walsh  
Instructor in Clinical Medicine (Dermatology) (primary appointment)

Matthew John Walter  
Associate Professor of Medicine (primary appointment)

Richard Coburn Walters, MD  
Instructor in Clinical Medicine (Dermatology) (primary appointment)
Jean S Wang, PHD Associate Professor of Medicine (primary appointment)
Associate Professor of Surgery (General Surgery)

Lawrence L. Wang, MD, PHD Instructor in Clinical Medicine (Dermatology) (primary appointment)

Andrea Wang-Gillam, MD Associate Professor of Medicine (primary appointment)

Sarah Qian Wang Instructor in Medicine (primary appointment)

Jeffrey Peter Ward, MD, PHD Instructor in Medicine (primary appointment)

Corinna Hendrell Warren, MD Instructor in Clinical Medicine (primary appointment)

David K. Warren, MD, MPH Professor of Medicine (primary appointment)

Saiama Naheed Waqar, MD Assistant Professor of Medicine (primary appointment)

Lukas Delbert Wartman, MD Assistant Professor of Medicine (primary appointment)

Andrzej J. Wasiak, PHD, MD Assistant Professor of Clinical Medicine (primary appointment)

Scott P Wasserstrom, MD, MA Instructor in Clinical Medicine (primary appointment)

Michael J. Weaver, MD Instructor in Medicine (primary appointment)

Jason Dean Weber, PHD Associate Professor of Medicine (primary appointment)
Associate Professor of Cell Biology and Physiology

H. James Wedner, MD Philip & Arleen Korenblat Professor of Allergy and Immunology in Medicine (primary appointment)

Xiaochao Wei, PHD Instructor in Medicine (primary appointment)
Kevin D Weikart, MD Instructor in Clinical Medicine (primary appointment)
MD American Univ of the Caribbean 1979
Gary J Weil, MD Professor of Medicine (primary appointment)
Professor of Molecular Microbiology
MD Harvard University 1975
BA Harvard University 1971
Katherine N Weilbaecher, MD Professor of Medicine (primary appointment)
Professor of Pathology and Immunology
Professor of Cell Biology and Physiology
BA Harvard University 1987
MD Stanford University 1992
Carla Joy Weinheimer, MS Associate Professor of Medicine (primary appointment)
MS Washington Univ in St. Louis 1997
BS University of Illinois 1984
Leonard B Weinstock Associate Professor of Clinical Medicine (primary appointment)
Assistant Professor of Clinical Surgery (General Surgery)
BA University of Vermont 1977
Steven Jay Weintraub, MD, MS Assistant Professor of Medicine (primary appointment)
BA State Univ of NY Binghampton 1978
MD University of Virginia 1985
MS University of Virginia 1981
Edmond Weisbart Assistant Professor of Clinical Medicine (primary appointment)
Alan N Weiss, MD Professor of Medicine (primary appointment)
BA Ohio State University 1963
MD Ohio State University 1966
Edward P Weiss, PHD, MS Adjunct Research Assistant Professor of Medicine (primary appointment)
BS Southern Illinois University 1989
PHD University of Maryland 2003
MS Southern Illinois University 1992
Peter Douglas Weiss, MD Instructor in Clinical Medicine (primary appointment)
MD Case Western Reserve Univ 1980
BA Harvard University 1975
John Sutton Welch, PHD, MD Assistant Professor of Medicine (primary appointment)
PHD University of CA San Diego 2002
MD San Diego St University 2004
BS Brigham Young University 1995
Lynn Ellis Welling Adjunct Associate Professor of Medicine (primary appointment)
Alvin S Wenneker, MD Professor of Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1949
MD Washington Univ in St. Louis 1953
Jennifer Marie Wessels, MD Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 2009
Brian T Wessman, MD Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Emergency Medicine in Medicine
MD Commonwealth College 2005
BS College of William and Mary 2000
Peter Westervelt, MD, PHD Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1992
PHD Washington Univ in St. Louis 1992

Alison J Whelan, MD Professor of Medicine (primary appointment)
Senior Associate Dean for Education
Professor of Pediatrics
MD Washington Univ in St. Louis 1986

Neil Harris White, MD Professor of Pediatrics (primary appointment)
Professor of Medicine
MD Albert Einstein College of Med 1975
BS State Univ of NY at Albany 1971

Patrick White, MD Assistant Professor of Medicine (primary appointment)
BS Notre Dame College 2002
MD Ohio State University 2007

Michael Peter Whyte, MD Professor of Medicine (primary appointment)
Professor of Pediatrics
Professor of Genetics
MD State University of New York 1972
BA New York University 1968

Burton M Wice, PhD Associate Professor of Medicine (primary appointment)
PHD Washington Univ in St. Louis 1992

Cynthia A Wichelman Associate Professor of Emergency Medicine in Medicine (primary appointment)
Course Director for the Mini-Medical School
Course Director for the Mini-Medical School
Course Director for the Mini-Medical School
BA University of California 1982

John F Wiedner, MD Instructor in Clinical Medicine (primary appointment)
BA Knox College 1982
MD School Not Listed 1985

Deborah A Wienski, MD Instructor in Clinical Medicine (primary appointment)
BA Smith College 1979
MD Tufts University 1983

Tanya M Wilde, MD Assistant Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 2002
BS Illinois Wesleyan University 1998

Denise Wilfley, PhD Professor of Psychiatry (primary appointment)
Professor of Medicine
Professor of Psychological & Brain Sciences
Professor of Pediatrics
Scott Rudolph University Professor
PHD University of Missouri Columbi 1989

Nancy J Williams Instructor in Clinical Medicine (primary appointment)
BA Dartmouth College 1982

Timothy John Williams, MD Instructor in Medicine (primary appointment)
BA McKendree College 2008
MD University of Cincinnati 2012

George A Williams III, MD, MA Assistant Professor of Clinical Medicine (primary appointment)
MD Univ of Wisconsin Madison 1972
MA Columbia University 1968
BA University of Notre Dame 1967

R. Jerome Williams Jr, Associate Professor of Clinical Medicine (primary appointment)
BA Harvard University 1973

Monita Elaine Wilson, MS, PHD, Associate Professor of Medicine (primary appointment)
MS Southern Illinois University 1984
BS Southern Illinois University 1981
PHD Brandeis University 1992

Patrick H Win, Instructor in Clinical Medicine (primary appointment)

David William Windus, MD, Professor of Medicine (primary appointment)
BS Iowa State University 1974
MD Creighton University 1978

Karen Winters, MD, Associate Professor of Medicine (primary appointment)
Director of the Student and Employee Health Service - Medical Campus
BS Illinois State University 1975
MD Southern Illinois University 1983

Chad Alan Witt, MD, Assistant Professor of Medicine (primary appointment)
MD University of Texas Southwest 2005
BS Texas Tech University 2001

Keith Frederic Woeltje, MD, PHD, Professor of Medicine (primary appointment)
MD Texas Southern University 1991
PHD Texas Southern University 1991
BS University of Dallas 1984

Edward M Wolfe, MD, Instructor in Clinical Medicine (Dermatology) (primary appointment)
BA Hobart College 1956
MD Washington Univ in St. Louis 1960

Gerald Wolff, MD, Assistant Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1961
BA Harvard University 1955

Nathan E Wolin, Assistant Professor of Medicine (primary appointment)

Terrence N Wong, MD, PHD, Instructor in Medicine (primary appointment)
MD Dartmouth College 2009
PHD University of Chicago 2007

John A Wood, MD, Associate Professor of Clinical Medicine (primary appointment)
MD University of Oklahoma 1968

Megan Elizabeth Wren, MD, Associate Professor of Medicine (primary appointment)
BA Washington Univ in St. Louis 1981
MD Washington Univ in St. Louis 1985

Jeffrey M Wright, MD, Assistant Professor of Clinical Medicine (primary appointment)
Assistant Professor of Clinical Pediatrics
BS Vanderbilt University 1975
MD Washington Univ in St. Louis 1979

Xiaobo Wu, MD, Assistant Professor of Medicine (primary appointment)
MD Tongji University 1986

Yan Xie, MD, MS, Instructor in Medicine (primary appointment)
MD Tongji University 1986
MS Hubei Medical University 1991
Mai Xu, PHD, MS, MD, Instructor in Medicine (primary appointment)
PHD China Medical University 1992
MS China Medical University 1983
MD China Medical University 1981

Naga M Yalla, MD, Instructor in Medicine (primary appointment)
MD SRTR Medical College 2005

Timothy Teng-Kay Yau, MD, Assistant Professor of Medicine (primary appointment)
MD Saint Louis University 2005

Wayne M Yokoyama, MD, Sam and Audrey Loew Levin Professor of Medicine (Rheumatology) (primary appointment)

Howard Hughes Medical Institute Investigator in Medicine
Professor of Pathology and Immunology
BA University of Rochester 1974
MD University of Hawaii 1978

Jun Yoshino, PHD, MD, Assistant Professor of Medicine (primary appointment)
Assistant Professor of Developmental Biology
PHD Keio University 2004
MD Keio University 2000

Mihoko Yoshino, PHD, MD, Instructor in Medicine (primary appointment)
PHD Shimane Medical University 2006
MD Keio University 2000

Zhongsheng You, MS, Associate Professor of Cell Biology and Physiology (primary appointment)
Associate Professor of Medicine
MS Shanghai Inst of Biochemistry 1997
BS Zhejiang Medical University 1994

Simon Yu, MD, Instructor in Clinical Medicine (primary appointment)
MD University of MO Columbia 1984

Roger D. Yusen, MPH, MD, Associate Professor of Medicine (primary appointment)
BS University of Illinois 1986
MPH Saint Louis University 2002
MD University of Illinois 1990

Alan Zajarias, MD, Associate Professor of Medicine (primary appointment)
Associate Professor of Surgery (Cardiothoracic Surgery)
MD National Autonomous U of Mex 2000

John F. Zalewski, Instructor in Clinical Medicine (primary appointment)

Yong Zhang, MD, PHD, MS, Instructor in Medicine (primary appointment)
MD Anhui Medical University 1978
PHD Albert Ludwig University 1999
MS Sun Yat-Sen University 1983

Amy Wei Wei Zhou, MD, Instructor in Medicine (primary appointment)
MD Wayne State University 2009

Li Zhou, MD, Instructor in Medicine (primary appointment)
MD Vanderbilt University 2013

Jian Zhu, PHD, Instructor in Medicine (primary appointment)
PHD Oklahoma St University 2004

Robert E Ziegler, PHD, MD, Assistant Professor of Clinical Medicine (Dermatology) (primary appointment)
PHD Duke University 1980
Department of Molecular Microbiology

The Department of Molecular Microbiology teaches introductory courses in microbiology and pathogenic microorganisms for first-year medical students and graduate students. In conjunction with the DBBS program in Molecular Microbiology and Microbial Pathogenesis, the department also offers a number of advanced courses, primarily designed for graduate students, but open to medical students. Advanced elective research activities are offered by faculty in the department.

Please visit the Department of Molecular Microbiology website for more information.

MD Courses — Molecular Microbiology

First year

M30 526 MICROBES AND PATHOGENESIS
Instructors: Henry V. Huang, PhD, 362-2755; Scott Hultgren, PhD, 362-6772
The course emphasizes the importance of understanding molecular and cellular paradigms of how pathogenic microbes interact with their hosts and cause disease. Selected pathogenic microbes, including bacteria, viruses, parasites and fungi, will be utilized as models to explain general principles of host-pathogen interactions and their
consequences. Mechanisms by which microbes evade host defenses to cause acute and chronic infections will be highlighted. Problems facing the medical community in the 21st century such as rising antibiotic resistance and tropical diseases will be addressed. The main objective of this course is to teach students how to think about microbial pathogenesis in a way that will provide them a conceptual framework that relates mechanisms of pathogenesis to symptomology and pathophysiology.

L41 (Bio) 5392 MOLECULAR MICROBIOLOGY AND PATHOGENESIS
Instructor: Joseph P. Vogel, PhD, 747-1029
This course is similar to M30 526 but focuses more on the molecular mechanisms used by pathogens to cause disease. L41 (Bio) 5392 encompasses all areas of medical microbiology including bacteriology, eukaryotic pathogens, and virology. Completion of the course will provide a student with a background in microbial pathogenesis and prepare them to perform research in a microbiology laboratory. The primary enrollees in the course are students working for a PhD degree. However, this course is recommended for interested medical students, especially those who may be considering a career in medical research, including MSTP students. MSTP students can take Bio 5392 in place of the Medical Microbiology course (M30 526) and obtain dual credit for both medical school and graduate school.

Fourth year

Electives

L41 (Bio) 5217 SPECIAL TOPICS IN MICROBIAL PATHOGENESIS
Detailed course description is presented under Division of Biology and Biomedical Sciences.

Note — The number preceding the course title indicates that the course carries credit in the Graduate School of Arts & Sciences.
M30 – MOLECULAR MICROBIOLOGY

MOLECULAR MICROBIOLOGY RESEARCH OPPORTUNITIES (M30 900)

(M30 900)
Cross-listed with L41 (Bio) 590

Stephen M. Beverley, PhD
9th Floor, McDonnell Pediatric Research Building
314-747-2630
Molecular genetics of protozoan parasites and tropical diseases; biosynthesis of the parasite surface, genomics, virulence and drug action or resistance.

Michael Caparon, PhD
10th Floor, McDonnell Pediatric Research Building
314-362-1485
Molecular genetics and pathogenicity of the streptococci and other pathogenic gram positive bacteria.

Tamara L. Doering, MD, PhD
10th Floor, McDonnell Pediatric Research Building
314-747-5597
The Doering lab studies the opportunistic fungal pathogen, Cryptococcus neoformans, with the dual motivations of elucidating basic biology and identifying potential drug targets. Projects include studies of the synthesis and regulation of the main cryptococcal virulence factor, its polysaccharide capsule, and investigation of host fungal interactions. Current approaches include those of biochemistry, cell and molecular biology, and genetics; studies also include high-throughput analysis of host-
pathogen interactions and computational approaches to reconstructing the capsule regulatory network.

Daniel Goldberg, MD, PhD
9th Floor, McDonnell Pediatric Research Building
314-362-1514
Biochemistry of malaria.

Henry Huang, PhD
8th Floor, McDonnell Pediatric Research Building
314-362-2755

Scott J. Hultgren, PhD
10th Floor, McDonnell Pediatric Research Building
314-362-6772
Pathogenic mechanisms and disease outcomes in the urinary tract. Work in the Hultgren lab blends multiple scientific disciplines to elucidate bacterial and host mechanisms that determine the onset, course and outcome of interactions between a host mucosal surface and bacterial pathogens. Using genetics, genomics, biochemistry, structural biology, high-resolution imaging, animal models, clinical studies and combinatorial chemistry, we have illuminated new ways in which intracellular lifestyles and community behavior play critical roles in the pathogenesis of urinary tract infection. We have uncovered new principles of adhesive pili biogenesis in Gram Negative bacteria by the chaperone/usher pathway; delineating the fine molecular details of a donor strand complementation and exchange mechanism by which the energy of final subunit folding is used to complete assembly and extrusion of pili across the outer membrane. We revealed how UPEC use type 1 pili to invade and establish biofilm-like intracellular bacterial communities within bladder cells as part of a mechanism that subverts host defenses and how quiescent intracellular reservoirs can seed recurrent infections. We have uncovered complex networks that govern mucosal epithelial response to infection, which we have shown
determines disease outcome. Further, we have made seminal contributions to our understanding of the pathogenesis and response to other uropathogens, polymicrobial infections and catheter-associated UTIs and to the mechanisms by which bacteria form a directed amyloid fiber, curli, which is important in biofilm formation. Together, this work is changing the way UTIs are evaluated, re-shaping models of bacterial infections in general and spawning new technologies to design novel vaccines and anti-microbial therapeutics to diagnose, treat and/or prevent UTIs and their sequelae.

Amanda Lewis, PhD
10th Floor, BJC Institute of Health
314-286-0016

Polymicrobial Infection and Women's Health. Our lab is using biochemical, cellular and animal models to study infectious processes of the female urogenital tract that involve multiple bacterial species. For example, Bacterial vaginosis (BV) is a polymicrobial imbalance of the vaginal flora characterized by reductions in beneficial lactobacilli and an overgrowth of mostly Gram negative bacteria. BV is the most common of all vaginal infections and is associated with increased risks of adverse pregnancy outcomes and greater susceptibility to sexually transmitted infections. We are collaborating with clinical investigators to define molecular and biochemical processes of BV and identify patient groups most at risk for adverse events. Another active area of study in the lab involves polymicrobial urinary tract infection (UTI). We have developed a mouse model of polymicrobia UTI and are currently defining novel processes, bacterial factors and the impact of host that contribute to susceptibility.

Jennifer Lodge, PhD
McDonnell Pediatric Research Building 10210A
314-286-2125

Antifungal therapy and vaccine development against a fungal pathogen: Cryptococcus neoformans is a significant fungal pathogen, particularly in immunocompromised patients, that causes pulmonary infections and meningoencephalitis. It has been estimated that over 1,000,000 new cases of Cryptococcus occur, with over 650,000
deaths per year, and the majority of these cases are in Africa. Our lab focuses on understanding the structure and the synthesis of the fungal cell wall. We are working on it as a target for antifungal therapies and for vaccine development.

David Sibley, PhD
9th Floor, McDonnell Pediatric Research Building
314-362-8873
We study the intracellular survival mechanisms of protozoan parasites, focusing on the model parasite Toxoplasma gondii. Current approaches include high-resolution microscopy, genetic mapping of virulence traits, comparative genomic analyses and development of animal models for studying pathogenesis and resistance.

Christina L. Stallings, PhD
8th Floor, McDonnell Pediatrics Research Building
314-286-0276
Molecular Pathogenesis of Mycobacteria. Our laboratory integrates in vivo disease modeling, molecular biology, and biochemistry to provide answers to the fundamental biological questions regarding molecular pathogenesis and yield therapeutic strategies for treatment of mycobacterial infections.

Niraj H. Tolia, PhD
8th Floor, McDonnell Pediatric Research Building
314-286-0134
Structural and Mechanistic Studies of Malaria Pathogenesis. Our lab is interested in the molecular events that occur during erythrocyte invasion by Plasmodium parasites. We use the tools of structural biology, biochemistry and biophysics to examine proteins and protein complexes associated with these events.

Joseph P. Vogel, PhD
10th Floor, McDonnell Pediatric Research Building
314-747-1029
Legionella pneumophila, the causative agent of Legionnaires’ pneumonia, replicates inside alveolar macrophages by preventing phagosome-lysosome fusion.
Discovery and characterization of novel viruses. We use functional genomic technologies to identify novel viruses from a variety of clinical samples from diseases of unexplained etiology. We then use epidemiologic and molecular/cellular strategies to define the relevance of newly identified viruses to human disease. A range of new viruses, including polyomaviruses, astroviruses and picronaviruses are under investigation.

Faculty — Molecular Microbiology

**Stephen M Beverley, PHD**
Marvin A Brennecke Professor of Molecular Microbiology (primary appointment)
Head of the Department of Molecular Microbiology
PHD University of California 1979
BS California Institute Technolo 1973

**Shabaana Abdul Khader, PHD**
Associate Professor of Molecular Microbiology (primary appointment)
PHD Madurai Kamaraj University 2002

**Natalia S Akopyants**
Instructor in Molecular Microbiology (primary appointment)

**Gaya K Amarasinghe, PHD**
Associate Professor of Pathology and Immunology (primary appointment)

**Associate Professor of Biochemistry and Molecular Biophysics**
**Associate Professor of Molecular Microbiology**
PHD University of Maryland 2001

**John Patterson Atkinson, MD**
Samuel Grant Professor of Medicine (primary appointment)
Professor of Molecular Microbiology
BA University of Kansas 1965
MD University of Kansas 1969

**Megan Tierney Baldridge, MD, PHD**
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Molecular Microbiology
MD Baylor College of Medicine 2011
Wandy L. Beatty, PHD
Assistant Professor of Molecular Microbiology (primary appointment)
BS Montana State University 1989
PHD Univ of Wisconsin Madison 1994

Adrianus C Boon, PHD, MS
Assistant Professor of Pathology and Immunology
Assistant Professor of Molecular Microbiology
PHD Erasmus University Rotterdam 2003
MS University of Amsterdam 1997

Tamara L. Brent, PHD, MD
Professor of Molecular Microbiology
PHD Johns Hopkins University Medic 1991
MD Johns Hopkins University Medic 1991
BA Johns Hopkins University 1983

Carey-Ann Dawn Burnham, PHD
Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Pediatrics
Associate Professor of Molecular Microbiology
BS University of Alberta 2002
PHD University of Alberta 2007

Michael G Caparon Jr, PHD
Professor of Molecular Microbiology (primary appointment)
PHD University of Iowa 1985
BS Michigan State University 1981

Gautam Dantas
Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Biomedical Engineering
Associate Professor of Molecular Microbiology
BS Macalester College 2000

Michael Diamond, MD
Professor of Medicine (primary appointment)
Professor of Molecular Microbiology
Professor of Pathology and Immunology
Herbert S Gasser Professor
BA Columbia College 1985
MD Harvard University 1994

Deborah E Dobson, PHD
Associate Professor of Molecular Microbiology (primary appointment)
PHD University of CA Berkeley 1981
BS University of Illinois 1976

Karen W Dodson, PHD
Instructor in Molecular Microbiology (primary appointment)
PHD Washington Univ in St. Louis 1990
BA University of Missouri 1983

Mario Federico Feldman, PHD
Associate Professor of Molecular Microbiology (primary appointment)
PHD Universidad del Buenos Aires 2004

Daniel E Goldberg, MD
David M and Paula L Kipnis Distinguished Professor (primary appointment)
Professor of Molecular Microbiology
MD Washington Univ in St. Louis 1985

Dennis E Hallahan, MD
Professor of Radiation Oncology (primary appointment)
Professor of Cell Biology and Physiology
Professor of Pathology and Immunology
Elizabeth H and James S McDonnell III Distinguished Professor of Medicine
Head of the Department of Radiation Oncology
Professor of Molecular Microbiology
MD Rush University 1984
BS University of Illinois 1980
Jeffrey P. Henderson, PHD, MD
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Molecular Microbiology
PHD Washington Univ in St. Louis 2002
BS Univ of Wisconsin Madison 1994
MD Washington Univ in St. Louis 2002
Henry V Huang, PHD
Associate Professor of Molecular Microbiology (primary appointment)
PHD California Institute Technolo 1977
Scott James Hultgren, PHD
Helen L Stoever Professor of Molecular Microbiology (primary appointment)
BS Indiana University Bloomington 1981
PHD Northwestern University 1987
David A Hunstad, MD
Associate Professor of Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1995
BA Carleton College 1991
Audrey Ragan Odom John, PHD, MD
Associate Professor of Pediatrics (primary appointment)
BS Duke University 1996
PHD Duke University 2002
MD Duke University 2003
Anthony Kulczycki Jr, MD
Associate Professor of Medicine (primary appointment)
Associate Professor of Molecular Microbiology
MD Harvard University 1970
Sebla Bulent Kutluay, PHD
Assistant Professor of Molecular Microbiology (primary appointment)
PHD Michigan State University 2009
Amanda Lark Lewis, PHD
Assistant Professor of Molecular Microbiology (primary appointment)
Assistant Professor of Obstetrics and Gynecology
BS Cal Polytec San Luis Obispo 2001
PHD University of San Diego 2006
Efrem S Lim, PHD
Instructor in Molecular Microbiology (primary appointment)
PHD University of Washington 2012
BS University of Michigan 2008
Jennifer K Lodge, PHD
Professor of Molecular Microbiology (primary appointment)
Vice Chancellor for Research
Vice Chancellor for Research
Associate Dean for Research
BS Oberlin College 1979
PHD Washington Univ in St. Louis 1988
Paul D Olivo, PHD, MD
Adjunct Assistant Professor of Molecular Microbiology (primary appointment)
PHD University of Florida 1982
BA George Washington University 1972
Jennifer A Philips, MD, PHD, PHD
Assistant Professor of Medicine
Assistant Professor of Molecular Microbiology
MD University of CA San Francisco 2000
PHD University of CA San Francisco 1998
PHD University of CA San Francisco 2015
BA Columbia University 1991

Lee Ratner, MA, PHD
Professor of Medicine
Professor of Molecular Microbiology
MD University of Florida 1981

Alan A and Edith L Wolff Professor of Oncology
BA Harvard University 1973
MA Harvard University 1973
PHD Yale University 1979

Charles M Rice III, PHD
Adjunct Professor of Molecular Microbiology
PHD California Institute Technolo 1981

Robert D Schreiber, PHD
Alumni Endowed Professor of Pathology and Immunology
BA Harvard University 1973
MA Harvard University 1973
PHD Yale University 1979

Laurence David Sibley, PHD
Professor of Molecular Microbiology
BA Harvard University 1973
MA Harvard University 1973
PHD Yale University 1979

Christina Leigh Stallings, MS, MA, PHD
Assistant Professor of Molecular Microbiology
BA Oberlin College 1978
PHD Louisiana St University 1985

Gregory A Storch, MD
Ruth L. Siteman Professor of Pediatrics
Professor of Molecular Microbiology
Professor of Medicine
MD New York University 1973
BA Harvard University 1969

Phillip Irwin Tarr, MD
Melvin E Carnahan Professor of Pediatrics
Professor of Molecular Microbiology
BA Brown University 1975
MD Yale University 1980

Niraj Harish Tolia, PHD
Associate Professor of Molecular Microbiology
Associate Professor of Biochemistry and Molecular Biophysics
PHD Watson Sch of Biological Scien 2004

Herbert W Virgin IV, PHD
Mallinckrodt Professor of Pathology and Immunology
Professor of Medicine
Head of the Department of Pathology and Immunology
Department of Neurology

Neurology concerns itself with the diseases of brain, spinal cord, peripheral nerves and muscles. An introduction to the anatomy and physiology of the nervous system is presented in the first-year neuroscience course by faculty from the Department of Anatomy and Neurobiology, with participation of faculty from the Department of Neurology. A first-year selective titled Clinical Correlations in Neuroscience is available, which is an opportunity for interested students to shadow physicians in neuro-related fields and attend basic science or clinical conferences. Another first-year selective titled Alzheimer’s Disease (AD) in the Clinic and the Lab is also available, which is an opportunity for interested students to get an overview of the most exciting areas of AD clinical and science research. In the second year, the Department of Neurology presents the course Diseases of the Nervous System in conjunction with the Departments of Pathology and Immunology, Neurological Surgery and Ophthalmology. The course emphasizes the pathophysiology, pathology, clinical manifestations and treatment of the major neurological and neurosurgical diseases. The department also participates in the Practice of Medicine course, providing
lectures, demonstrations and teaching exercises with patients in neurological physical diagnosis.

In the third year, a four-week clerkship in Neurology introduces students to the clinical care of patients with diseases of the nervous system. Questions pertaining to neurosurgical treatment, neurorehabilitation and ethical issues in management also are addressed. In the fourth year, opportunities exist for many varieties of advanced clinical or research experience. A four-year residency program prepares medical graduates for specialization in neurology. Subspecialty fellowship programs routinely provide additional training in dementia, epilepsy, electrophysiology, electromyography, sleep medicine, cerebrovascular disease and stroke, neuroimmunology, neurological critical care, neuromuscular disease, neuropsychology and movement disorders.

Thirteen divisions and sections are in the department including the Division of Adult Neurology, the Division of Pediatric and Developmental Neurology and the Division of Neurorehabilitation. See www.neuro.wustl.edu for details.

**Division of Neuropsychology:** Steven Petersen, PhD (division director); Francis Miezin, BS, MS; Bradley Schlaggar, MD, PhD; Gordon Shulman, PhD

**Division of Neurorehabilitation:** Maurizio Corbetta, MD (division director); David Brody, MD, PhD; Alex Carter, MD, PhD; Robert Fucetola, PhD; Thy Huskey, MD; Sindhu Jacob, MD; Neringa Juknis, MD; Rimma Ruvinskaya, MD; Nicole Werner, PhD; Oksana Volshteyn, MD; Martin Wice, MD

**Division of Pediatric and Developmental Neurology:** Bradley Schlaggar, MD, PhD (division director); Michael Noetzel, MD (division associate director); Mary Bertrand, MD; Janice Brunstrom, MD; Anne Connolly, MD; Edwin Dodson, MD; Nico Dosenbach, MD, PhD; Rafael Galindo, MD, PhD; Paul Golumbek, MD, PhD; Christina Gurnett, MD, PhD; Kristin Guilliums, MD; David Gutmann, MD; Siddharth Jain, MD; Douglas Larsen, MD; Amy Licis, MD; Soe Mar, MD; Bryan McGill, MD, PhD; Arthur Prensky, MD; Robin Ryther, MD, PhD; Christopher Smyser, MD; Liu Lin Thio, MD, PhD; Jean Thurston, MD; Amy Viehoever, MD, PhD; Judy Weisenberg, MD; Michael Wong, MD, PhD; Kelvin
Aging and Dementia Section: John Morris, MD (section head); Randall Bateman, MD; Virginia Buckles, PhD; Nigel J. Cairns, PhD, FRC Path; David Carr, MD; John Cirrito, PhD; Anne Fagan, PhD; Nupur Ghoshal, MD, PhD; Jason Hassenstab, PhD; David Holtzman, MD (department chair); Terri Hosto, MSW; Eugene Johnson, Jr., PhD; Krista Moulder, PhD; Erik Musiek, MD, PhD; Catherine Roe, PhD; Davis Ryman, MD, PhD; Suzanne Schindler, MD, PhD; B. Joy Snider, MD, PhD

Hope Center for Neurological Disorders (specifically those faculty in the Department of Neurology): Alison Goate, D.Phil (director); Beau Ances, MD, PhD; Randall Bateman, MD; David Brody, MD, PhD; Janice Brunstrom, MD; Nigel Cairns, PhD, FRCPath, John Cirrito, PhD; Anne Cross, MD; Marc Diamond, MD; Anne Fagan Niven, PhD; Christina Gurnett, MD, PhD; Matthew Harms, MD; David Holtzman, MD (department chairman); Mark Jacquin, PhD; Eugene Johnson Jr., PhD; Paul Kotzbauer, MD, PhD; Terrance Kummer, MD, PhD; Jin-Moo Lee, MD, PhD; Mingjie Li, PhD; Timothy Miller, MD, PhD; John Morris, MD; Erik Musiek, MD, PhD; Joel Perlmutter, MD; Alan Pestronk, MD; Steve Petersen, PhD; Laura Piccio, MD, PhD; Anneliese Schaefer, PhD (executive director); Bradley Schlaggar, MD; B. Joy Snider, MD, PhD; Liu-Lin Thio, MD, PhD; Conrad Chris Weihl, MD, PhD; Michael Wong, MD, PhD; Gregory Wu, MD, PhD; Kelvin Yamada, MD

Cerebrovascular Disease Section: Jin-Moo Lee, MD, PhD (section head); David Carpenter, MD; Amar Dhand, MD; Andria Ford, MD; Kristin Guilliams, MD; Salah Keyrouz, MD; Renee Van Stavern, MD; Allyson Zazulia, MD

Clinical Neurophysiology Section: Muhammad Al-Lozi, MD, Edward Hogan, MD (section heads); Mary Bertrand, MD; Anne Connolly, MD; Keith Day, MD, PhD; Lawrence Eisenman, MD, PhD; Christina Gurnett, MD, PhD; Amy Licis, MD; Glenn Lopate, MD; Luigi Maccotta, MD, PhD; Samiya Rashid, DO; Liu Lin Thio, MD, PhD; Judy Weisenberg, MD; Michael Wong, MD, PhD; Kelvin Yamada, MD; John Zempel, MD, PhD

Pediatric Epilepsy and Sleep Section: Liu Lin Thio, MD, PhD (section co-head); Kelvin
Yamada, MD (section co-head); Mary Bertrand, MD; Christina Gurnett, MD, PhD; Jean Holowach-Thurston, MD; Siddharth Jain, MD; Amy Licis, MD; Robin Ryther, MD, PhD; Judy Weisenberg, MD; Michael Wong, MD, PhD; John Zempel, MD, PhD

**Adult Epilepsy Section:** Edward Hogan, MD (section heard); Keith Day, MD, PhD; Laurence Eisenman, MD, PhD; Yuan Fan, MD, PhD; Luigi Maccotta, MD, PhD

**Neuroimaging Section:** Beau Ances, MD; Kevin Black, MD; Maurizio Corbetta, MD; Colin Derdeyn, MD; Morvarid Karimi, MD; Francis Miezin, MS; Scott Norris, MD; Joel Perlmutter, MD; Steven Petersen, PhD; Bradley Schlaggar, MD, PhD; Gordon Shulman, PhD; Mwiza Ushe, MD; Allyson Zazulia, MD

**Neuroinfectious Disease Section:** David Clifford, MD (section head); Beau Ances, MD

Neurofibromatosis and Neuro-Oncology: David Gutmann, MD, PhD

**Movement Disorders Section:** Joel Perlmutter, MD (section head); Kevin Black, MD; Meghan Campbell, PhD; Susan Criswell, MD; Marc Diamond, MD; Gammon Earhart, PhD; Erin Foster, OTD; Johanna Hartlein, APRN; Tamara Hershey, PhD; Morvarid Karimi, MD; Paul Kotzbauer, MD, PhD; Scott Norris, MD; Brad Racette, MD; Bradley Schlaggar, MD, PhD; LinLin Tian, MD, PhD; Mwiza Ushe, MD; Amy Viehoever, MD, PhD; Brenton Wright, MD

**Neuroimmunology Section:** Anne Cross, MD (section head); Becky Parks, MD; Robert Naismith, MD; Laura Piccio, MD, PhD; Gregory Wu, MD

**Neurological Critical Care Section:** Michael Diringer, MD (section head-NNICU); Salah Keyrouz, MD (Medical Director, NNICU); Rajat Dhar, MD; Terrance Kummer, MD; Michael Rubin, MD

**Neuromuscular Diseases Section:** Alan Pestronk, MD (section head); Muhammad Al-Lozi, MD; Robert Bucelli, MD, PhD; Anne Connolly, MD; Julaine Florence, PT, DPT; Paul Golumbek, MD, PhD; Matthew Harms, MD, Glenn Lopate, MD; Timothy Miller, MD, PhD; Brian Sommerville, MD; Arun Varadhachary, MD, PhD; Chris Weihl, MD, PhD;
Craig Zaidman, MD

**Sleep Section:** Kelvin Yamada, MD (section head); Gabriela de Bruin, MD; Yo-El Ju, MD; Amy Licis, MD; Rachel Darken, MD, PhD; Brendan Lucey, MD; Terri Riutcel, MD; Luqi Chi, MD

**General Neurology Section:** General Neurology Section: Sylvia Awadalla, MD (section head); William Landau, MD (Emeritus); Robert Bucelli, MD, PhD; Rachel Darken, MD, PhD; Gabriela de Bruin, MD; Arun Varadhachary, MD, PhD

**For more information**

Please visit the [Department of Neurology website](#) for more information.

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**MD Courses — Neurology**

**First year**

**Selectives**

**M04 5017 01 CLINICAL CORRELATIONS IN NEUROSCIENCE**

Instructor: Allyson Zazulia, MD, 362-2560

Clinical faculty for this selective are members of the following departments or divisions: Neurology, Pediatric Neurology, Neurological Surgery, Neuro ICU, Radiology, Pathology and Immunology, and Psychiatry. Students will shadow physicians, attend rounds and meet for seminars and demonstrations to discuss particular patient cases and research studies. Teaching Objective: to gain exposure to medical career options involving neuroscience.
Alzheimer’s disease (AD) affects more than 5 million Americans, and will increase substantially as our population ages. Of the top 10 causes of death in the United States, AD is the only disease without any way to prevent, cure or slow the progression. The cost of caring for AD patients has been estimated at over $172 billion annually, and the human toll on patients and family members can be devastating. Patients and families turn to primary care and specialist physicians (e.g., neurologists, psychiatrists, geriatricians) for answers to their plight. The good news for physicians is that research on AD is moving at a rapid pace. Exciting advances in our understanding of AD etiology, early diagnosis and treatment are changing the landscape of dementia care.

Students in this course are offered a dynamic and interactive overview of the most exciting areas of AD clinical and science research from one of the top Alzheimer’s disease research centers in the world. Find out how amyloid plaques and other AD-related abnormalities form in the brain and new discoveries about their possible reversal! The course includes lecture and student presentation components, plus opportunities to observe patients and families in an active neurology memory disorder clinic, participate in neuropathology evaluations of demented individuals, experience and administer psychometric evaluation tools and interact with investigators from the fields of molecular genetics, cell biology and neuropathology.

Second year

M35 632 DISEASES OF THE NERVOUS SYSTEM
Instructor: Allyson Zazulia, MD, 362-2560
The goal of this course is to provide an introduction to diseases of the central and peripheral nervous systems, including their clinical manifestations, pathology, pathophysiology and pharmacotherapy. The course includes reading assignments, lectures, laboratories, conferences and clinical presentations.
Third year

M35 720 NEUROLOGY CLERKSHIP
Instructor: Robert Naismith, MD, 362-3998
A full-time, four-week clerkship is provided on the inpatient neurology services at Barnes-Jewish Hospital south. Patients are assigned to students, who evaluate and follow them with the resident staff and discuss them regularly in conferences with the senior neurological staff. Students also work in the neurology clinic under staff supervision and attend a series of lectures on neurosurgical problems. The goal of this rotation is to gain expertise in the evaluation and treatment of patients with neurologic diseases.

Up to two students may elect to obtain their clerkship experience on the neurosurgery service. Up to two students may elect to obtain their clerkship experience on the inpatient pediatric neurology service. Students participate in the neurology specialty clinics at St. Louis Children’s Hospital, working under the supervision of pediatric neurology fellows and senior staff.

M25 730 PHYSICAL MEDICINE AND REHABILITATION CLERKSHIP
Coursemaster: Neringa Juknis MD, 454-7757
The clerkship in PM&R for third-year medical students provides an opportunity to gain basic knowledge and clinical skills in evaluation and management of a wide range of neurological and musculoskeletal diseases and conditions that require specialized rehabilitative medical and therapeutic care. Students spend two weeks on the Spinal Cord Injury Unit (SCI) and two weeks on the Brain Injury (BI) and Stroke Unit at The Rehabilitation Institute of St. Louis. Students are expected to be a part of the rehabilitation team, follow two to three patients, participate in daily morning rounds, participate in performing consults and attend team meetings and family conferences.

Students are required to attend several outpatient clinics such as SCI, BI, Amputee and Stroke. During the entire rotation, students work together with PM&R residents and fellows, and under direct guidance of the neurorehabilitation faculty. The usual duty hours are 7-7:30 a.m. to 5 p.m. on weekdays and 8 a.m. to noon on Saturdays. There is
Students are required to attend all PM&R curriculum lectures and conferences. On the first day of rotation, students meet briefly with the PM&R program coordinator. Students will meet with the coursemaster at The Rehab Institute during their first week to go over goals, objectives. Upon completion of the rotation, students are required to provide written email feedback regarding the rotation experience.

Fourth year

Electives

SCHOOL OF MEDICINE STUDENTS

M35 827 / NEUROLOGY SUB-INTERNSHIP FOR WASHINGTON UNIVERSITY SCHOOL OF MEDICINE STUDENTS

Instructor(s): Director: Robert Naismith, MD, 314-362-3998
Location: Barnes-Jewish Hospital or St. Louis Children’s Hospital
Elective Contact: Chrissy McIntosh, 362-3998

Other Information: Completion of the WU neurology clerkship is a prerequisite for this elective. WU medical students will not repeat clerkship orientation and student-specific neurology conferences. Students will present to their team at the beginning of day one, and will attend resident-oriented conferences (i.e. Morning Report, Journal Club, Clinical Neuroscience).

Enrollment limit per period: 2
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This four-week elective will be customized to include inpatient and outpatient experiences desired by WU students who have completed the WU Neurology Clerkship. Students may choose this elective to further improve their Neurology knowledge and skills. Students considering Neurology as a career may also desire
additional exposure to supplement their prior clerkship experience.

The elective is split into two 2-week rotations which may include:

1. Adult Inpatient General Service (with 1 clinic/week)
2. Adult Inpatient Stroke Service (with 1 clinic/week)
3. Adult Inpatient Consult Service (with 1 clinic/week)
4. Pediatric Neurology Consult Service (with 1 clinic/week)
5. Adult Neurology ICU (with 1 clinic/week)
6. Outpatient Clinics (with 8-10 clinics/week)

Student time distribution: Consult Service: Inpatient 90%, Outpatient 10%; Inpatient Service: Inpatient 90%, Outpatient 10%; Inpatient 90-50% (with 2 clinic/week); Outpatient 10-50% (with 2 clinic/week)

Major teaching responsibility: Consult Service: Single attending and resident; Inpatient Service: Single attending, chief resident, junior resident

Patients seen/weekly: Consult Service: 10-12; Inpatient Service: 8-12

On call/weekend responsibility: Consult Service: No call. Work one day per weekend; Inpatient Service: Every 4th night

M35 828 / NEUROLOGY SUB-INTERNSHIP FOR VISITING US MEDICAL STUDENTS

Instructor(s): Robert Naismith, MD, 314-362-3998
Location: Barnes-Jewish Hospital
Elective Contact: Christy McIntosh, 314-362-3998

Other Information: Visiting students will attend Orientation on the first day of the elective, in addition to Neurology Clerkship student conferences.

Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This four-week elective for fourth-year visiting students from a US medical school provides the option (space permitting) of four weeks of Adult Inpatient Service (Stroke
for 2 weeks, General Neurology for 2 weeks), or two weeks on an Adult Inpatient Service and two weeks on the Adult Consult Service.

Students on the inpatient service will function as a Sub-Intern under the supervision of their junior resident, chief resident, and attending physician. The student will also attend weekly clinical conferences and a weekly outpatient clinic experience. This elective is suitable for visiting fourth-year students interested in Neurology, who wish to improve their Neurology knowledge and skills.

Student time distribution: Consult Service: Inpatient 90%, Outpatient 10%; Inpatient Service: Inpatient 90%, Outpatient 10%
Major teaching responsibility: Consult Service: Single attending and resident; Inpatient Service: Single attending, chief resident, junior resident
Patients seen/weekly: Consult Service: 10-12; Inpatient Service: 8-12
On call/weekend responsibility: Consult Service: No call. Work one day per weekend; Inpatient Service: Every 4th night

M35 830 / NEURO-ONCOLOGY
Instructor(s): David H. Gutmann, MD, PhD, 362-7379
Location: Suite C, 6th Floor CAM Building
Elective Contact: David H. Gutmann, MD, PhD, gutmannd@neuro.wustl.edu, Kristi Bullock, 362-7379
Other Information: Students should email Dr. Gutmann at least one week prior to the start date of elective.
Enrollment limit per period: 1
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Provide an outpatient-oriented combined pediatric and adult neuro-oncology experience for 4th year medical students. (1) Attend multidisciplinary adult and pediatric neuro-oncology clinics and case conferences (tumor boards); (2) Attend adult and pediatric radiation oncology clinics; (3) Attend neuropathology brain tumor review; (4) Participate in subspecialty brain tumor clinics; (5) Attend monthly brain tumor research conferences.
Student time distribution: Outpatient 90%, Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Team teaching in clinic
Patients seen/weekly: 50 patients
On call/weekend responsibility: None

M35 851 / CLINICAL ASPECTS OF AGING AND DEMENTIA
Instructor(s): Joy Snider, MD, PhD, and John C. Morris, MD
Location: Knight Alzheimer’s Disease Research Center (ADRC), 4488 Forest Park Ave. (two-story brick building at intersection with Taylor)
Elective Contact: Jennifer Phillips, MPA (coordinator), 314-286-2882, phillipsj@wustl.edu
Other Information: Please contact Jennifer Phillips to discuss what type of elective experience you would like to have.
Enrollment limit per period: 1
Valid start weeks for 4-week blocks are: Weeks 9, 13, 17, 21, 33, 37 and 41.

This elective provides the opportunity to learn about clinical research and clinical care in health brain aging and dementia. Students should contact Dr. Morris or Dr. Snider to discuss this, as this elective is customized based on student interests. This can be a two-week or four-week elective. Students can gain proficiency in interviewing techniques and in the neurologic examination of the geriatric patient, and be introduced to neuropsychology, neuropathology, biomarkers, neuroimaging, genetics, and other biomedical procedures important in the diagnostic evaluation of older adults. The Knight ADRC is an interdisciplinary group, so students have the opportunity to interact with physicians, nurse clinicians, psychologists, and social workers, and to explore the neuropsychology, neuropathology, biomarkers, neuroimaging, genetics, and other biomedical procedures used in the diagnosis of dementing disorders such as Alzheimer’s disease, dementia with Lewy bodies, frontotemporal dementias, cerebrovascular disorders, and affective disorders.

Student time distribution: Varies based on student interest: a typical distribution would be Research and Clinical Patient Evaluation 80%, Conferences/Lectures 20%,
Subspecialty Care 100%
Major teaching responsibility: Attending neurologists, psychiatrists, and geriatricians involved in the evaluation of memory and aging
Patients seen/weekly: 6-12
On call/weekend responsibility: None

M35 859 / NEONATAL NEUROLOGY
Instructor(s): Chris Smyser, MD, 314-454-6120, smyserc@neuro.wustl.edu
Location: 1260 Northwest Tower
Elective Contact: Chris Smyser, MD, 314-454-6120, smyserc@neuro.wustl.edu
Other Information: Meet at St. Louis Children's Hospital NICU, West Library, 8:30 a.m. first day of the elective.
Enrollment limit per period: 1
Valid start weeks for two-week blocks are: Weeks 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, and 43.

The Neonatal Neurology elective will consist of a combination of inpatient and outpatient experiences designed to provide medical students with comprehensive exposure to the field. Through the rotation, students will actively participate in all aspects of patient care, acquiring the knowledge and skill necessary to effectively manage infants with neurological disorders, including encephalopathy, stroke, seizures, hypotonia, intraventricular hemorrhage, and periventricular leukomalacia, among others. Clinical activities will be tailored to fit the interests and goals of the individual student and include a combination of inpatient and outpatient exposures. Inpatient activities will occur in the St. Louis Children's Hospital Neonatal Intensive Unit as part of the Neonatal Neurology Consultation service. Outpatient activities will occur in the St. Louis Children's Hospital Outpatient Clinics. Students will also attend educational conferences specific to the field during the rotation, including Neonatal Neurology Clinical Conference and Neonatal Neuroradiology Conference.

Student time distribution: Inpatient 60%; Outpatient 30%; Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Pediatric Neurology faculty attending on consult service
and in outpatient clinics
Patients seen/weekly: 25-30
On call/weekend responsibility: None

M35 860 / PEDIATRIC NEUROLOGY
Instructor(s): Douglas Larsen, MD, MEd, 314-454-6042
Location: 12th Floor, Suite 1260 Northwest Tower
Elective Contact: Christy McIntosh, 314-362-3998
Other Information: Students report to Dr. Larsen on the 12th floor, Suite 1260 Northwest Tower, 8:00 a.m. first day of elective for orientation.
Enrollment limit per period: 1 (Inpatient); 1 (Consultation Office Service)
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The senior elective experience in child neurology is designed to adapt to the individual goals and objectives of students. The elective takes place in two 2-week blocks that occur among five possible venues as chosen by the student: (1) Outpatient clinics, (2) In-patient ward service, (3) In-patient general consult service, (4) NICU consult service, and (5) Video EEG (VEEG) monitoring service. The combination of services and experiences will be arranged directly between the student and the Course Master prior to beginning the rotation. In the outpatient clinics, students will rotate between a variety of subspecialty clinics and work with a variety of attendings in order to experience the breadth of outpatient pediatric neurology. Students rotating on the inpatient ward service will have a different role than the third-year student on pediatrics. The fourth-year student will focus solely on neurology patients and work closely with the pediatric neurology resident to develop neurology-specific care plans. No call or weekend duties will be expected on this rotation. On the general consult services, students will work with the consult attending and pediatric neurology residents on that team to see consults in the PICU, CICU, ER, and other hospital floors. The NICU consult team focuses on infants in the NICU. Student rotating on the VEEG monitoring service will focus on learning the indications and uses of VEEG and basic EEG reading skills. All students choosing a pediatric neurology elective will arrange
their specific schedule with the Course Master beforehand.

Student time distribution: Inpatient rotation 80%; Outpatient rotation 80%; Conferences/Lectures 20%; Subspecialty Care 100%
Major teaching responsibility: Inpatient: Single attending and senior resident; Outpatient: Multiple attendings
Patients seen/weekly: Inpatient: 5-9; Outpatient: 20-25
On call/weekend responsibility: None

M35 861 / NEUROLOGY/NEUROSURGERY ICU
Instructor(s): Raj Dhar, MD, 314-362-2999
Location: 10400B Barnes-Jewish Hospital
Elective Contact: Liz Vansickle, 314-362-2999
Other Information: Students report to 10400 ICU, 7:30 a.m. first day of elective.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The student will be integrated into the Critical Care Team that provides care in the Neurology/Neurosurgery ICU. Diseases frequently encountered include intracerebral hemorrhage, head trauma, subarachnoid hemorrhage, and stroke. The student will follow patients, participate in rounds and perform some procedures under supervision. Didactic sessions will be provided as conferences or lectures from the ICU attending.

Student time distribution: Inpatient 80%; Conferences/Lectures 20%; Subspecialty Care 100%
Major teaching responsibility: Fellows and residents
Patients seen/weekly: 25
On call/weekend responsibility: Variable

M35 865 / ADULT AND PEDIATRIC EPILEPSY
Instructor(s): Edward Hogan, MD, 314-362-3944
Location: 11400 EMU Barnes Jewish Hospital
Elective Contact: Donna Theiss, 314-362-7845, theissd@neuro.wustl.edu
Other Information: Students should meet on 11400 EMU 9:00 a.m. first day of elective.
   Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Students will learn how epileptologists diagnose and manage epilepsy in adults and children. They will learn how to use the history and physical exam and laboratory studies such as EEG, MRI, PET, and SPECT to diagnose and manage patients with new onset epilepsy, established epilepsy, and medically intractable epilepsy. They will become familiar with the medical management of epilepsy as well as the treatment options for medically intractable epilepsy including surgery, the vagus nerve stimulator, and the ketogenic diet. They will also learn how to manage the co-morbid conditions that accompany epilepsy such as depression, behavioral problems, cognitive impairment, sleep disturbance, and non-epileptic events. Students will accomplish these goals by attending epilepsy clinics and rounding on the inpatient epilepsy service with the epilepsy team at Barnes-Jewish Hospital and St. Louis Children's Hospital. They will attend the Adult Epilepsy Conference, the Pediatric Epilepsy Conference, and Neurology Grand Rounds. Students will also have the opportunity to observe epilepsy surgery if they wish. They will have the option to present one 15-30 minute talk on a topic relevant to epilepsy.

Student time distribution: Inpatient 70%; Outpatient 10%; Conferences/Lectures 20%; Subspecialty Care 100%
Major teaching responsibility: Attending faculty, fellows
Patients seen/weekly: 40
On call/weekend responsibility: None

M35 871 / CLINICAL NEUROIMMUNOLOGY & MULTIPLE SCLEROSIS
Instructor(s): Becky Parks, MD, parksb@neuro.wustl.edu
Location: Various clinic locations
Elective Contact: Nanette Bladdick, 314-362-3307
Other Information: Contact Dr. Parks by email to arrange time and location to report on first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 5, 13, 17, 21, 25, 29, 33, 37, and 41.

Students will have the opportunity to interview and examine patients with multiple sclerosis or related neuroimmunological disorders. They will become familiar with the differential diagnosis of MS, appropriate laboratory evaluation and common MRI findings in MS. This elective will also familiarize students with the disease-modifying therapies used to treat MS. They will gain practical knowledge about evaluation and treatment of spasticity, neurogenic bladder, fatigue and other common symptoms.

Third-year medical students rotating as part of a core rotation will attend the required conferences for third-year students. Students choosing this elective to gain additional experience in the field of Neurology will attend Neurology Grand Rounds on Friday morning. Students may also attend our MS Journal Club and the MS Patient Care conference held on the first and third Thursdays of every month, respectively.

Student time distribution: Inpatient 0%; Outpatient 90%; Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Becky Parks, MD
Patients seen/weekly: 30+
On call/weekend responsibility: None

M35 872 / MS CENTER/OUTPATIENT – MISSOURI BAPTIST
Instructor(s): Barry Singer, MD, 314-996-7966
Location: Missouri Baptist Medical Center, 3009 N. Ballas Rd, Building B, Ste. 207B, St. Louis, MO 63131
Elective Contact: Barry Singer, MD, 314-996-7966
Other Information: Students meet at 8:00 a.m., Missouri Baptist Medical Center, 3009 N. Ballas Rd, Building B, Ste. 207B, St. Louis, MO 63131, first day of elective.
Enrollment limit per period: 2
Valid start weeks for 4-week blocks are: Weeks 5 and 9.
Students will develop their skills in taking histories and performing neurological examinations on patients with multiple sclerosis under direct supervision of multiple sclerosis specialists. Localization of neurological findings and symptoms to the neuro-axis will be emphasized. A major goal for the students will be to increase the understanding of comprehensive patient management including disease treatment, symptom management, adjunctive therapy services, and psychosocial issues.

The outpatient rotation will be four weeks at The MS Center for Innovations in Care at Missouri Baptist Medical Center with Dr. Barry Singer and Dr. Mark Tullman. An additional goal for students will be to understand process of clinical research and translation into approved therapies. The center has been a leader in clinical trial development of therapeutics that have been or will soon be FDA-approved as new medications for multiple sclerosis.

Student time distribution: Outpatient 100%; Subspecialty Care 100%
Major teaching responsibility: Barry Singer, MD, Mark Tullman, MD
Patients seen/weekly: 20
On call/weekend responsibility: None

M80 807 / PHYSICAL MEDICINE AND REHABILITATION
Instructor(s): Neringa Juknis, MD, 314-454-7757, juknisn@neuro.wustl.edu
Location: Suite 2304, Rehabilitation Division, Neurology Department, 4444 Forest Park
Elective Contact: Donna Barbier, 314-454-7757, barbierd@neuro.wustl.edu
Other Information: Students report to Suite 2304, Rehabilitation Division, Neurology Department, 4444 Forest Park, 9:00 a.m. first day of elective.
Rotation location: The Rehabilitation Institute of St. Louis, 4455 Duncan Ave.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The elective is designed to provide the student with a broad introduction to the field of Physical Medicine and Rehabilitation. Major objective of this clinical elective is to achieve greater knowledge of the neurological and musculoskeletal diseases and their
treatment, and gain understanding of basic principles of rehabilitation. The student will learn the clinical and rehabilitative care of patients with strokes, traumatic brain injury, spinal cord trauma and diseases, and limb amputations. Student will gain clinical skills in evaluating in management of functional impairments. Students will be expected to participate in daily rounds on inpatient rehabilitation units with the clinical care team, follow 3-5 patients, attend multidisciplinary team conferences and family meetings, attend outpatient rehabilitation clinics in spinal cord, stroke, traumatic brain injury, and amputee. Teaching and supervision is provided by the physiatry and neurology faculty of the Division of Rehabilitation. Rehabilitation and neurology residents are involved in student teaching as well. Students are required to participate in didactic teaching conferences within the PM&R residency.

This rotation is particularly useful for students considering careers in rehabilitation, neurology, geriatrics, primary care, neurosurgery, or any other field that will require experience in the evaluation and management of patients with physical impairment and disabilities.

Student time distribution: Inpatient 80%; Outpatient 10%; Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attending faculty and residents
Patients seen/weekly: 20
On call/weekend responsibility: None

Research — Neurology

NEUROLOGY RESEARCH OPPORTUNITIES (M35 900)

Beau Ances, MD
2nd Floor, Storz Building
314-747-8423
Neuroimaging of Neurodegenerative Disorders. Students can work in a neuroimaging laboratory that is focused on translational discovery of neuroimaging biomarkers for neurodegenerative diseases. The laboratory focuses on the pathogenesis of HIV dementia and Alzheimer’s disease. We are investigating the effects of neurodegenerative diseases on brain networks using blood oxygen level dependent imaging and arterial spin labeling. Multiple projects that involve bioengineering, neuroimaging, and infectious disease are available depending on the interest of the student.

Randall Bateman, MD
304 Biotechnology Center
314-747-7066
Central Nervous System protein metabolism in aging and dementia. This research elective will expose the student to translational research in the study of Alzheimer’s disease. The student will participate in multiple areas of the research including participant consent, enrollment, and admission to a research hospital unit. Lumbar catheter placement and CSF sample collection will be demonstrated. The student will participate in sample analysis including processing for mass spectrometry quantitation, ELISA, and western gel methods. Quantitation, analysis and modeling of the data will be taught in the context of data interpretation and study design.

Maurizio Corbetta, MD
4525 East Building, Room 2127
314-362-7620
Website: www.nil.wustl.edu/labs/corbetta
The elective will provide the opportunity to learn about neuroimaging (Structural MRI, functional MRI, Diffusion MRI, Functional Connectivity MRI), behavior methods (reaction times; psychophysics; eye movement recordings), and their application to cognitive neuroscience, and investigations of brain injury (stroke, TBI) and recovery of function. A 3-month project will involve typically a well-defined data analysis project on
available data either neuroimaging or behavioral, while a longer rotation may provide the opportunity for a more substantial project that can lay the foundation for a training or fellowship. Experience in programming (C++, Matlab) is desirable for neuroimaging projects.

Anne H. Cross, MD, and Laura Piccio, MD, PhD
3rd Floor, McMillan
314-747-4591 or 314-747-0405
Understanding interactions of the immune system with the central nervous system as it relates to multiple sclerosis and other neuroimmunological disorders. Our goal is to understand how immune cells cross the blood-brain barrier and initiate the cascade of events leading to lesions of multiple sclerosis. We are also funded to study the effects of diet and adipokines on neuro-inflammation. Depending upon the time commitment of the student and their individual interests and goals, they will either assist with ongoing projects, or be given a laboratory project on which to work. Projects may involve animal models for MS, cell culture or studies of human samples (CSF, blood, autopsied specimens).
Interested students should contact Dr. Cross (crossa@neuro.wustl.edu) or Dr. Piccio (picciol@neuro.wustl.edu) several weeks in advance before signing up for this research to allow for sufficient planning.

Robert T. Naismith, MD
310B McMillan
314-747-0432
Clinical Imaging Research in Multiple Sclerosis (8 weeks). The student will learn about neuroimaging, imaging analyses, data collection, data management, and clinical study endpoints in multiple sclerosis (MS). They will observe patient participants undergoing a detailed evaluation of disability measures, such as ambulation, symptom scales, cognition, vision, upper extremity function, etc. They will witness the entire process of image acquisition, processing, analyses, and data extraction. They will have the opportunity to interact with many people who are vital to the research, including research coordinators, imaging technologists, imaging physicists/chemists, and
specialized research clinicians (i.e. neurocognitive and physical therapy research specialists).

The student will assist with hands-on clinical investigative research. They will gain an excellent appreciation of MS, from its pathophysiology within the central nervous system, to how it affects the neurological function of individuals. Through detailed and quantitative imaging analysis, the student will become very adept at analyzing brain MRI scans. They will mark and track lesions, determine their effects on clinical function, normal appearing white matter, cortex and gray-matter structures. They will become familiar with Amira Imaging Analysis Software, SPSS Statistical Analysis Software, SIENA Volume Analysis Software, and Matlab Imaging Analysis Software.

Steven E. Petersen, PhD
2108 East Building
314-362-3319
This lab is interested in brain organization and function, particularly for language, attention, and memory. Our main approaches to these issues is through functional MRI and large-scale network analysis.

Joel S. Perlmutter, MD
2nd Floor East Building
314-362-6026
Pathophysiology of Movement Disorders. The lab is primarily interested in etiology, pathophysiology and treatment of basal ganglia disorders. We have several studies of PD. We investigate mechanisms of action of deep brain stimulation, a dramatic new treatment. These studies combine PET, cognitive testing and quantified measures of movement. We also test new drugs that might rescue injured nigrostriatal neurons (a model of PD). For these, we use PET to measure dopamine pathways and also quantify motor behavior. We also have an active program developing and validation neuroimaging biomarkers for PD and integrity of the nigrostriatal pathway that includes studies in people and animal models of PD. We have an active program combining a variety of approaches to develop biomarkers and investigate the pathophysiology of dementia associated with PD. We use PET to measure radioligand
binding and sensorimotor processing in dystonia. We developed a new animal model of dystonia to investigate pharmacologic and physiologic changes. We use PET to investigate drug-mediated pathways in the brain and parse out the effects of selective dopaminergic agonists. We also are working to develop MR-based methods including DTI and resting state functional connectivity to investigate brain mechanisms underlying PD and dystonia.

Brad A. Racette, MD
9th Floor, McMillan
314-362-5291
Our lab is primarily interested in environmental risk factors associated with Parkinson disease. We use a variety of techniques to study these risk factors, including traditional field epidemiology in which we evaluate workers exposed to metals in the US and residents living near a smelter in South Africa, neuroimaging where we study the pathophysiology of toxin mediated parkinsonism, geographic information systems research where we associate environmental toxin exposures with incident and prevalent Parkinson disease in the US and Finland, and neuropathologic studies in manganese exposed workers from South Africa. There are numerous opportunities available for students to be involved with any of these projects. Students will have some clinical exposure, as well, to familiarize them with pertinent clinical syndrome.

Marcus E. Raichle, MD
Neuro Imaging Laboratory – 2nd Floor, East Building
314-362-6907
In vivo brain hemodynamic, metabolic and functional studies of human cognition and emotion using cyclotron-produced isotopes and emission tomography (PET) as well as functional magnetic resonance imaging (fMRI) in humans. See also Steven E. Petersen, PhD.

Gregory Wu, MD, PhD
3rd Floor, McMillan
314-362-3293
Understanding how immune responses are generated that target the central nervous
system. Specifically, studies on antigen presentation cell contributions to autoimmune animal models of multiple sclerosis. Our goal is to understand what cellular interactions are critical to the development of immune-mediated demyelination.

Faculty — Neurology

**David Michael Holtzman, MD**
**Andrew B. and Gretchen P. Jones Professor of Neurology** (primary appointment)
Head of the Department of Neurology
Professor of Developmental Biology
MD Northwestern University 1985
BS Northwestern University 1983

**Aninda Bhat Acharya, MD**
**Instructor in Clinical Neurology** (primary appointment)
MD1 University of Kansas 1996
BS University of Kansas 1992
MD University of Kansas 1996

**Muhammad Taher Al-Lozi, MD**
**Professor of Neurology** (primary appointment)
MD University of Panjab 1980

**Amber Salter Albright, PHD, M PH**
**Assistant Professor of Biostatistics** (primary appointment)
Assistant Professor of Neurology
PHD University of Alabama-Birmingham 2015
M PH University of North Texas Heal 2005

**Denis Ian Altman, MBBCH**
**Associate Professor of Clinical Neurology** (primary appointment)
Assistant Professor of Clinical Pediatrics
MBBCH University of the Witwatersra 1975

**Lizette Alvarez-Montero, MD**
**Instructor in Clinical Neurology** (primary appointment)
MD School Not Listed 1991
BA Washington Univ in St. Louis 1987

**Beau Mark Ances, MS, PHD, MD**
**Associate Professor of Neurology** (primary appointment)
Associate Professor of Biomedical Engineering
Associate Professor of Radiology
MS London School of Economics 1994
BS University of Pennsylvania 1993
PHD University of Pennsylvania 2000
MD University of Pennsylvania 2001

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**Sylvia Awadalla, MD**
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MD Ohio State University 1985
Robert H Baloh, MD, PHD
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MD Washington Univ in St. Louis 2001
BS Brown University 1995
PHD Washington Univ in St. Louis 2005
MD1 Washington Univ in St. Louis 2001

Randall John Bateman, MD
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BS1 Washington Univ in St. Louis 1995
MD Case Western Reserve Univ 2000
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Professor of Occupational Therapy (primary appointment)
Professor of Neurology (Occupational Therapy)
Elias Michael Executive Director of the Program in Occupational Therapy
BS University of Kansas 1966
MA Webster University 1979
PHD Washington Univ in St. Louis 1993

Max Prely Benzaquen
Instructor in Clinical Neurology (primary appointment)

Christine R. Berg, MS, BSOT, PHD
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MS Boston University 1980
BSOT Tufts University 1976
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Associate Professor of Pediatrics
BS McKendree College 1987
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MA Indiana University Bloomington 1970
BS Univ of Wisconsin Madison 1968
PHD Indiana University Bloomington 1972

Marghuretta Dakota Bland, MS
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Assistant Professor of Occupational Therapy
MS Washington Univ in St. Louis 2008
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BA Drury College 1976

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Associate Professor of Biomedical Engineering (Courtesy)
BA Stanford University 1992
MD Johns Hopkins University 2000
Janice E Brunstrom-Hernandez, Adjunct Associate Professor of Neurology (primary appointment)
Robert Charles Bucelli, PHD, MD, Assistant Professor of Neurology (primary appointment)

Robert Charles Bucelli, PHD, MD
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PHD State Univ of NY Buffalo 2007
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MD State Univ of NY Buffalo 2007

Virginia D Buckles, PHD, MS
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MS California St Poly Pomona 1977

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Associate Professor of Clinical Pediatrics
BS School Not Listed 1964
MD Saint Louis University 1968

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Professor of Pathology and Immunology
PHD University of London 1995
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Assistant in Clinical Pediatrics

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Assistant Professor of Medicine (primary appointment)
Assistant Professor of Neurology
MD Albert Einstein College of Med 2002

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MD Huabei Medical College for Coa 1984

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Melba and Forest Seay Professor of Clinical Neuropharmacology in Neurology (primary appointment)
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Anne Maureen Connolly, MD
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Maurizio Corbetta, MD
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BS PT Washington University in St. Louis 1989
M PP University of Missouri St Louis 1997
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---
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---
Royal Gene Grueneich, PHD | Assistant Professor of Clinical Neurology (primary appointment)
---
Rejean Michael Guerriero, MD | Assistant Professor of Neurology (primary appointment)
---
Kristin Guilliams, MD | Assistant Professor of Neurology (primary appointment)
---
David H Gutmann | Donald O. Schnuck Family Professor of Neurology (primary appointment)
---
Joseph Hanaway, MD | Assistant Professor of Clinical Neurology (primary appointment)
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J Michael Hatlelid, MD | Associate Professor of Clinical Neurology (primary appointment)
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---

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Instructor in Radiology
PHD Washington Univ in St. Louis 2006
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M PH Harvard University 1981
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Associate Professor of Developmental Biology

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MD Dow Medical College Karachi 1985

Terrance T. Kummer, PHD, MD
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BS Louisiana College 1994

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Professor of Occupational Therapy
MS University of Vermont 1997
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Associate Professor of Neurology (primary appointment)
Associate Professor of Pediatrics
BA Brigham Young University 1999
MD University of Utah 2003

Jin-Moo Lee, MD
Professor of Neurology (primary appointment)
Professor of Radiology
MD Cornell University 1993
Walter Lemann III, MD
Associate Professor of Clinical Neurology (primary appointment)
MD Tulane University 1979
BS Yale University 1975

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Assistant Professor of Clinical Neurology (primary appointment)
MD Washington Univ in St. Louis 2001
BS University of Illinois 1990
PHD University of Chicago 2000

Mingjie Li, MD, PHD
Assistant Professor of Neurology (primary appointment)
MD Heilong jiang Coll of Trad Med 1983
PHD Kochi Medical School 1989

Amy K Licis, MD
Assistant Professor of Neurology (primary appointment)
MD Washington Univ in St. Louis 2004
BS Rice University 2000

Jane Loitman, MS, MD
Assistant Professor of Clinical Neurology (primary appointment)

Instructor in Clinical Medicine
MS Georgetown University 1988
MD University of Minnesota 1992
BA Tufts University 1982

Glenn Lopate, MD
Professor of Neurology (primary appointment)
BS Colorado St University 1983
MD Ohio State University 1987

Brendan Patrick Lucey, MD
Assistant Professor of Neurology (primary appointment)
BA University of Vermont 1999
MD John Hopkins University 2003

Shannon L. Macauley-Rambach, PHD
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BS Middlebury College 1999

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PHD Washington Univ in St. Louis 2005

Baijayanta Maiti
Instructor in Neurology (Pending Dean's Approval) (primary appointment)

John F Mantovani, MD
Associate Professor of Clinical Neurology (primary appointment)

Assistant Professor of Clinical Pediatrics
BA University of Evansville 1971
MD University of Missouri 1974

Soe S Mar
Associate Professor of Neurology (primary appointment)

Robert P Margolis, MD
Assistant Professor of Clinical Neurology (primary appointment)
MD Saint Louis University 1975
BA Kent St University 1971

Pietro Mazzoni, PHD, MD
Associate Professor of Neurology (primary appointment)
PHD Mass Inst of Technology (MIT) 1994
BS University of CA San Diego 1988
MD Harvard University 1995

Eric Martin McCade, DOST
Assistant Professor of Neurology (primary appointment)
BA Canisius College 1998
DOST Chicago Coll of OsteopathicMed 2004
Bryan Edward McGill, MD
Instructor in Neurology (primary appointment)
Instructor in Pediatrics
MD Baylor University 2008
BS Denison University 1999

Marie Elizabeth McNeely, PHD
Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Neurology
BS Ohio Wesleyan University 2008
PHD Washington Univ in St. Louis 2012

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Associate Professor of Neurology
BS Texas A&M University 1991

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Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Neurology
Assistant Professor of Orthopaedic Surgery
PHD University of CA San Diego 2011
BS Washington Univ in St. Louis 2004
MS Washington Univ in St. Louis 2004

Francis M Miezin, MS
Associate Professor of Neurology (primary appointment)
Associate in Psychology
Associate Professor of Radiology
MS Univ of Wisconsin Madison 1972
BS Univ of Wisconsin Madison 1969

Jeffrey D Milbrandt, PHD, MD
James S McDonnell Professor of Genetics (primary appointment)
Professor of Medicine
Professor of Neurology
Professor of Pathology and Immunology
Head of the Department of Genetics
PHD University of Virginia 1983
MD Washington Univ in St. Louis 1978
BS Univ of Nebraska at Kearney 1974

Timothy M Miller
Clayson Professor of Neurology (primary appointment)

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MS Washington Univ in St. Louis 1998
BA Texas Christian University 1996

John Carl Morris, MD
Harvey A and Dorismae Hacker Friedman Distinguished Professor of Neurology (primary appointment)
Professor of Physical Therapy
Professor of Pathology and Immunology
Professor of Occupational Therapy
MD University of Rochester 1974
BA Ohio Wesleyan University 1970

Stephanie Morris, MD
Instructor in Neurology (primary appointment)
MD University of Phoenix 2011
BS University of Arizona 2007

Michael Justin Morrissey, PHD
Instructor in Clinical Neurology (primary appointment)
PHD Saint Louis University 2005
Krista L Moulder, PHD Associate Professor of Neurology (primary appointment)
  PHD Washington Univ in St. Louis 2001
Erik S Musiek, MD, PHD PMCG Assistant Professor of Neurology (primary appointment)
  MD Vanderbilt University 2007
  PHD PMCG Vanderbilt University 2005
  BS College of William and Mary 1999
Robert T Naismith II, MD Associate Professor of Neurology (primary appointment)
  MD Case Western Reserve Univ 1998
Susan Searles Nielsen, MA, PHD Assistant Professor of Neurology (primary appointment)
  MA University of Washington 2000
  PHD University of Washington 2004
Anne Fagan Niven, PhD Professor of Neurology (primary appointment)
  BA Wellesley College 1984
  PHD University of CA San Diego 1992
Michael Justin Noetzel, MD Professor of Neurology (primary appointment)
  Professor of Pediatrics
  Vice Chair of Pediatric and Developmental Neurology
  BA Yale University 1973
  MD University of Virginia 1977
Scott Norris, MD Assistant Professor of Neurology (primary appointment)
  BA Washington Univ in St. Louis 2000
  MD University of MO Columbia 2008
Barbara Jean Norton, MHS Professor of Physical Therapy (primary appointment)
  Associate Director for Education Technology in Physical Therapy
  Professor of Neurology
  MHS Washington Univ in St. Louis 1985
Sheel Jitendra Pathak Instructor in Clinical Neurology (primary appointment)
Robert Harris Paul, PHD, MS Adjunct Assistant Professor of Neurology (primary appointment)
  PHD Oklahoma St University 1998
  BS California State Long Beach 1993
  MS Oklahoma St University 1995
Katrina Paumier, PHD, PHD Assistant Professor of Neurology (Pending Executive Faculty Approval) (primary appointment)
  PHD University of Cincinnati 2015
  PHD University of Cincinnati 2014
Toni Shih Pearson, B MUS, MD Associate Professor of Neurology (primary appointment)
  B MUS University of Adelaide 2000
  MD University of Adelaide 1998
David M Peeples, MD Instructor in Clinical Neurology (primary appointment)
  BA Vanderbilt University 1982
  MD University of Chicago 1986
Karen J Pentella, MD Assistant Professor of Clinical Neurology (primary appointment)
  MD Ohio State University 1979
  BS Ohio State University 1975
Joel S Perlmutter, MD Professor of Neurology (primary appointment)
  Professor of Radiology
  Professor of Occupational Therapy
  Professor of Neuroscience
Professor of Physical Therapy
MD University of MO Columbia 1979
BA Princeton University 1975

**Alan Pestronk, MD**
**Professor of Neurology** (primary appointment)

**Professor of Pathology and Immunology**
MD Johns Hopkins University Medec 1970
BA Princeton University 1966

**Steven E Petersen, PHD**
**James S McDonnell Professor of Cognitive Neuroscience in Neurology**
(primary appointment)

**Professor of Neuroscience**
**Professor of Radiology**
**Professor of Psychology**
**Professor of Biomedical Engineering**

**Associate Professor of Neurological Surgery (Neuropsychology)**

**MD California Institute Technolo 1982**
**BA University of Montana Missoula 1974**

Benjamin Allen Philip
**Instructor in Occupational Therapy** (primary appointment)

**Instructor in Neurology**

Daniel Phillips
**Assistant Professor of Clinical Neurology** (primary appointment)

**Chia Ling Phuah**
**Assistant Professor of Neurology** (primary appointment)

**MS1 Cambridge University 2007**

**Laura Piccio, MD**
**Associate Professor of Neurology** (primary appointment)

**MD University of Milan 1997**

**Jose A Pineda Soto, MD**
**Associate Professor of Pediatrics** (primary appointment)

**Associate Professor of Neurology**

**BS Francisco Marroquin University 1988**
**MD Francisco Marroquin University 1993**

**Stephanie K Powell, PHD, MS**
**Instructor in Clinical Neurology** (primary appointment)

**PHD Univ of Wisconsin Milwaukee 2004**
**MS Univ of Wisconsin Milwaukee 2000**

**William John Powers, MD**
**Adjunct Professor of Neurology** (primary appointment)

**BA Dartmouth College 1971**
**MD Cornell University 1975**

**Heidi Prather, DOST**
**Professor of Orthopaedic Surgery** (primary appointment)

**Professor of Neurology**

**DOST Univ of Health Sciences KC 1991**
**BA Drury College 1987**

**Brad Alan Racette, MD**
**Professor of Neurology** (primary appointment)

**Executive Vice Chair of Clinical Affairs, Department of Neurology**

**MD Northwestern University 1992**

**Marcus E Raichle, MD**
**Professor of Radiology** (primary appointment)

**Professor of Neuroscience**
**Professor of Psychology**

**Alan A and Edith L Wolff Distinguished Professor of Medicine**

**Professor of Psychological & Brain Sciences**
**Professor of Biomedical Engineering**

**BS University of Washington 1960**
**MD University of Washington 1964**
David Martin Reisler, M PH, MD Assistant Professor of Clinical Neurology (primary appointment)
M PH Johns Hopkns University Medic 1971
MD Washington Univ in St. Louis 1961
BA Harvard University 1957
Dave A Rengachary, MD Instructor in Clinical Neurology (primary appointment)
MD Northwestern University 2000
Terri L Riutcel, MD Associate Professor of Neurology (primary appointment)
BS University of MO Columbia 1991
MD Vanderbilt University 1995
Catherine M Roe, MA Assistant Professor of Neurology (primary appointment)
MA Southern Illinois University 1990
BA Purdue University 1986
James R Rohrbaugh, MD Associate Professor of Clinical Neurology (primary appointment)
Associate Professor of Clinical Pediatrics
MD Ohio State University 1974
BA Yale University 1971
Joshua Bennet Rubin, MD, PHD, MS Professor of Pediatrics (primary appointment)
Professor of Neuroscience
Professor of Neurology
MD Albert Einstein College of Med 1994
BS Yale University 1982
PHD Albert Einstein College of Med 1994
MS Albert Einstein College of Med 1992
Rimma Ruvinskaya, MD Associate Professor of Neurology (primary appointment)
BA School Not Listed 1979
MD Leningrad Inst of Peds Med 1985
Robin C Ryther, PHD, MD Assistant Professor of Neurology (primary appointment)
PHD Vanderbilt University 2004
MD Vanderbilt University 2006
BS University of MO Columbia 1998
Chihiro Sato, PHD, MS Instructor in Neurology (primary appointment)
PHD University of Tokyo 2008
MS University of Tokyo 2005
BS University of Tokyo 2003
Anneliese M Schaefer, PHD, BBA Associate Professor of Neurology (primary appointment)
PHD Washington Univ in St. Louis 2001
BBA Washington Univ in St. Louis 1985
Suzanne E. Schindler, PHD, MD Assistant Professor of Neurology (primary appointment)
PHD Washington Univ in St. Louis 2008
MD Washington Univ in St. Louis 2008
BS Millsaps College 1999
Bradley L Schlaggar, PHD, MD Ernest and Jane G Stein Professor of Neurology (primary appointment)
Professor of Radiology
Professor of Psychiatry
Professor of Pediatrics
Professor of Neuroscience
BS Brown University 1986
Earl R Schultz, MD Professor of Clinical Neurology (primary appointment)
Associate Professor of Clinical Psychiatry
MD Washington Univ in St. Louis 1955
BS University of Missouri 1953
BA Southeast Missouri St Univers 1952

Christian T Sheline, PHD Adjunct Research Associate Professor of Neurology (primary appointment)
BA Dartmouth College 1983
PHD University of California 1989

Gordon L Shulman, MS, PHD Professor of Neurology (primary appointment)
BA Yale University 1975
MS University of Oregon 1977
PHD University of Oregon 1979

Eli R Shuter, MD Associate Professor of Clinical Neurology (primary appointment)
MD Washington Univ in St. Louis 1960

Todd B Silverman Instructor in Clinical Neurology (primary appointment)
Barry A. Singer Assistant Professor of Clinical Neurology (primary appointment)
Christopher D Smyser Assistant Professor of Neurology (primary appointment)

Assistant Professor of Radiology
Barbara Joy Snider, MD Professor of Neurology (primary appointment)
MD University of Texas Southwest 1989

Abraham Z Snyder, MD, PHD Professor of Radiology (primary appointment)
Associate Professor of Neurology
BA Columbia University 1970
MD State University of New York 1981
PHD Rockefeller University 1977

Richard Brian Sommerville, MD Assistant Professor of Neurology (primary appointment)
MD Columbia University 2005
BS Harvard University 1999

Tara V. Spevack, MS, PHD Instructor in Clinical Neurology (primary appointment)
BS McGill University 1987
MS University of Florida 1994
PHD University of Florida 1997

Susan L Stark, PHD, MS Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Neurology
PHD University of MO Columbia 1998
BS Alma College 1988
MS Washington Univ in St. Louis 1989

Jennifer S Stith, MSW, MS, PHD Professor of Physical Therapy (primary appointment)
Associate Director of Professional Curriculum in Physical Therapy
Division Director for Education in Physical Therapy

Professor of Neurology
BS University of California 1976
MSW Washington Univ in St. Louis 2006
MS University of Southern Calif 1979
PHD Washington Univ in St. Louis 1994
Chi-Tsai Tang  Assistant Professor of Orthopaedic Surgery (primary appointment)
Assistant Professor of Neurology
Sandra L Tate, MD  Instructor in Clinical Neurology (primary appointment)
MD Southern Illinois University 1987
BA School Not Listed
Mengesha A Teshome, MD  Instructor in Neurology (primary appointment)
MD Addis Ababa University 1989
Kwee L Thio, PHD, MD  Associate Professor of Neurology (primary appointment)
Associate Professor of Pediatrics
Associate Professor of Neuroscience
PHD Washington Univ in St. Louis 1992
MD Washington Univ in St. Louis 1992
BS Brown University 1984
Jeffrey B. Titus, MA, PHD  Assistant Professor of Clinical Neurology (primary appointment)
MA University of Northern Colora 1999
PHD Ball State University 2002
Norman Edwin Trevathan III, MS, MD  Adjunct Professor of Neurology (primary appointment)
MS Emory University 1982
BS David Lipscomb University 1977
MD Emory University 1982
Jason Daniel Ulrich  Assistant Professor of Neurology (primary appointment)
Mwiza Ushe, MD, MS  Assistant Professor of Neurology (primary appointment)
MD Washington Univ in St. Louis 2007
MS Washington Univ in St. Louis 2007
Gregory Paul Van Stavern, MD  Associate Professor of Ophthalmology and Visual Sciences (primary appointment)
Associate Professor of Neurology
MD Pennsylvania State University 1993
BS La Salle University 1989
Renee Bailey Van Stavern, MD  Associate Professor of Neurology (primary appointment)
MD Univ Texas Health Science Ctr 1997
Arun S. Varadachary  Assistant Professor of Neurology (primary appointment)
Erin Foster Voegtli, OTD  Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Neurology
Assistant Professor of Psychiatry
OTD Washington Univ in St. Louis 2005
BS Washington Univ in St. Louis 2003
Oksana Volshteyn, MD  Professor of Neurology (primary appointment)
Professor of Medicine
MD Minsk State Medical Institute 1976
Andrew M. Wayne  Instructor in Clinical Neurology (primary appointment)
Ling Wei, MD  Adjunct Research Assistant Professor of Neurology (primary appointment)
MD Beijing Medical University 1977
Conrad Christian Weihl, PHD, MD  Associate Professor of Neurology (primary appointment)
PHD University of Chicago 1998
BS University of Illinois 1993
MD University of Chicago 2001
Judith L. Weisenberg  Assistant Professor of Neurology (primary appointment)
BS Barnard College 1998
Howard I Weiss Assistant Professor of Clinical Neurology (primary appointment)
Nicole Joy Werner, PHD, MS Associate Professor of Neurology (primary appointment)
PHD Saint Louis University 2004
MS Saint Louis University 2000
BS Univ of Minnesota Twin Cities 1997
Martin B Wice, MD, MS Associate Professor of Neurology (primary appointment)
MD Northwestern University 1977
BS Grinnell College 1972
MS University of Washington 1983
Michael Wong, MD, PHD Allen P and Josephine B Green Professor of Pediatric Neurology (primary appointment)
Professor of Pediatrics
Professor of Neuroscience
MD University of Texas Southwest 1995
PHD University of Texas Southwest 1995
BA Princeton University 1987
Wing Kai Wong Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Neurology
Brenton Alan Wright, MD Assistant Professor of Neurology (primary appointment)
BS University of Virginia 2004
MD University of Louisville 2008
Stephanie Wrobel Goldberg, MD Assistant Professor of Neurology (primary appointment)
MD University of Rio de Janeiro 2007
Gregory Frederick Wu, MD, PHD Assistant Professor of Neurology (primary appointment)
Assistant Professor of Pathology and Immunology
MD University of Iowa 2001
BS Washington Univ in St. Louis 1993
PHD University of Iowa 2001
Chengjie Xiong, PHD, MS Professor of Biostatistics (primary appointment)
Professor of Neurology
Professor of Mathematics
PHD Kansas State University 1997
BS Xinjiang University 1983
MS Peking University 1989
Hiroko Yano, PHD, MS Assistant Professor of Neurological Surgery (primary appointment)
Assistant Professor of Genetics
Assistant Professor of Neurology
PHD University of Tokyo 1996
MS University of Tokyo 1993
BS Science University of Tokyo 1991
Carla Marie Yuede, PHD Assistant Professor of Neurology (primary appointment)
PHD University of MO St Louis 2006
Craig Mitchell Zaidman Associate Professor of Neurology (primary appointment)
Assistant Professor of Pediatrics
Allyson R Zazulia, MD Professor of Neurology (primary appointment)
Associate Dean for Continuing Medical Education
Professor of Radiology
Department of Neuroscience

The structure of the human body is presented in two courses: The Human Body: Anatomy, Embryology and Imaging, offered in the first semester, and Microscopic Anatomy, which extends over the first and second semesters. A third course, Neural Sciences, is taught at the end of the second semester.

The Human Body: Anatomy, Embryology, Imaging is largely a laboratory course, and lectures deal with anatomical principles and human growth and development. Instruction in Microscopic Anatomy (Histology) focuses on cell and tissue biology, with laboratory sessions paralleling the lectures in these areas. Neural Sciences is an integrated course that deals with the structure, function and development of the nervous system from molecular, cellular and systems perspectives. Throughout all three courses, attention is paid to the results of recent investigations and to major developments in each field. In addition, the departmental faculty have a lead role in many graduate courses that may be taken as electives by students in any of the four years.
The department is well-equipped for specialized work in several areas, including gross anatomy, tissue culture and all aspects of neurobiology.

Please visit the Department of Neuroscience website for more information.

MD Courses — Neurosciences

First year

Instructors: David C. Van Essen, PhD, 362-7043; Krikor Dikranian, MD, PhD, 362-3548; Timothy E. Holy, PhD, 362-0086; (Co-Coursemasters)

Neural Sciences is an intensive seven-week course that covers the structure, function and development of the nervous system as seen from molecular, cellular and systems-oriented perspectives. The emphasis is on the organization and function of the nervous system in health, but there is frequent reference to the clinical relevance of material presented. The course includes regular lectures, conference sessions and laboratories, plus a number of clinically oriented presentations. Computer-aided instructional programs, accessible from a variety of locations, provide auxiliary modes of self-paced learning and review. The midterm and final emphasize the core body of important facts and principles presented in lectures and laboratories. (SPRING ONLY).

M05 501B THE HUMAN BODY: ANATOMY, EMBRYOLOGY AND IMAGING
Instructor: Glenn C. Conroy, PhD, 362-3397

The course is based largely on the dissection of the human body. Lectures on functional and topographic anatomy emphasize the principles of organization of the various systems of the body. Lectures on developmental anatomy stress organogenesis as an adjunct to understanding the normal and abnormal anatomy. An extensive museum of labeled dissected specimens is housed in the dissection room.
for ready reference by students who encounter abnormalities or variations in their dissections. Frequent use of CT, MRI, and X-ray images aid in the synthesis of knowledge gained through dissection. Small group discussions emphasize radiological anatomy and clinical correlations. This course is restricted to first year medical students, but limited space is sometimes available for nonmedical students enrolled in the PhD program with instructor's permission. Cross-listed with L41 (Bio) 501.

**M05 502A01 HISTOLOGY AND CELL BIOLOGY**
Instructor: Paul C. Bridgman, PhD, 362-3449
The structures of cells, tissues, and major organ systems are studied in relationship to their functions. Lectures integrate histology with cell biology and physiology. The laboratories consist of the study of prepared slides and electron micrographs using an iBook or eBook (ePub) guide. An extensive online digital annotated atlas (SlideAtlas.org) and a video library are used to supplement the slides and electron micrographs. Presentations of case studies provide examples of clinical relevance. A dual-view microscope and slide set will be issued for each pair of students. Limited space is available for non-medical students, who must have permission from the coursemaster to enroll. The topics in this course are timed to integrate with the physiology course and span the fall and winter semesters.

**Selectives**

**M04 552 GENETICS AND MOLECULAR BIOLOGY OF ION CHANNELS**
Instructor: Lawrence B. Salkoff, PhD, 362-3644
A functional genomics approach to studying membrane excitability. How the new DNA sequence data from genomic and EST sequencing projects can be exploited to get a comprehensive picture of gene families that contribute to membrane excitability. How DNA sequence data can contribute to understanding questions of physiology, development, regulation and structure-function relationships.

**Fourth year**
Electives

The department offers a number of graduate-level courses that may be taken as electives by medical students. The department participates in the Division of Biology and Biomedical Sciences, which also offers courses relevant to anatomy and neurobiology.

These course descriptions are presented in the section on Biology and Biomedical Sciences.

L41 (Bio) 5571 CELLULAR NEUROBIOLOGY
L41 (Bio) 5651 NEURAL SYSTEMS
L41 (Bio) 590 RESEARCH OPPORTUNITIES

Note — The number preceding the course title indicates that the course is offered by the Division of Biology and Biomedical Sciences and carries credit in the Graduate School of Arts & Sciences.

M05 810 / ADVANCED DISSECTION
Instructor(s): Staff, 314-362-3397
Location: North Building
Elective Contact: Glenn Conroy, PhD, 314-362-3397
Other Information: Self Study. High Pass/Fail. Contact Dr. Conroy one week prior to the start of the elective.
Enrollment limit per period: 20
Valid start weeks for four-week blocks are: Weeks 33 and 37.

Different regions of the body will be dissected in detail. A period of four weeks should be allowed for each region: head and neck, thorax and abdomen, and superior and inferior limbs. Surgical approaches, cross-sections, X-rays, and CT scans can be studied.

Student time distribution: A minimum of 40 hours is required
Major teaching responsibility: N/A
Research — Neuroscience

(M05 900)

Cross-listed with L41 (Bio) 590

Kari Allen, PhD
3rd Floor North Building
314-747-6572

Martha Bagnall, PhD
4th floor McDonnell Science Building
314-362-9695
Molecular, electrophysiological, and behavioral analyses of neural circuits for vestibular control of spinal function.

Amy Bauernfeind, PhD
3rd Floor North Building
314-747-6566
Biological bases of human cognition; comparative neurobiology of primates.

Azad Bonni, MD, PhD
8th floor McDonnell Science Building
314-362-3033.
Principles & mechanisms governing assembly & function of neural circuits, deregulation of mechanisms in neurological diseases.

Paul Bridgman, PhD
8th Floor McDonnell Science Building
314-362-3449
Cell biology of the developing nervous system.

Andreas Burkhalter, PhD
4th Floor North Building
314-362-4068
Organization and function of neuronal circuits in mouse visual cortex.

Harold Burton, PhD
3rd Floor East McDonnell
314-362-3556
Cortical functional reorganization in response to sensory changes due to unilateral deafness or strabismus.

Valeria Cavalli, PhD
9th Floor McDonnell Science Building
314-362-3540
Cellular, molecular and epigentice mechanisms controlling axon regeneration.

Glenn C. Conroy, PhD
3rd Floor North Building
314-362-3397
Paleoanthropology; Geographical Information Systems (GIS).
Krikor Dikranian, MD, PhD
3rd Floor North Building
314-362-3548
Development and morphology of the amyloid plaques in experimental animals, neuropathological changes after head trauma.

James Fitzpatrick, PhD
Basement, McKinley Research Building
314-747-0838
Optical and charged particle multi-scale microscopy application method development.

Harrison Gabel, PhD
8th Floor McDonnell Science Building
314-362-3531
Gene regulation in the developing nervous system; molecular mechanisms of neurodevelopmental disorders.

Edward Han, PhD
9th Floor McDonnell Science Building
314-747-2505
Learning-related hippocampal network activation.

Timothy E. Holy, PhD
4th Floor North Building
314-314-362-0086
Mammalian pheromones: neural mechanisms of action.

Arthur D. Loewy, PhD
9th Floor McDonnell Science Building
314-362-3930
Analysis of brain circuits controlling cardiovascular functions.

Ilya Monosov, MS, PhD
Neuronal mechanisms of voluntary behavior.

Michael L. Nonet, PhD
9th Floor McDonnell Science Building
314-747-1176

Molecular genetic analysis of synaptic development and function.

Karen L. O'Malley, PhD
9th Floor McDonnell Science Building
314-362-7087

Molecular mechanisms underlying neurodegenerative processes. Signaling mechanisms associated with intracellular receptors.

Jane Phillips-Conroy, PhD
3rd Floor North Building
314-362-3396

Behavior, morphology and biology of living primate populations.

Camillo Padoa Schioppa, PhD
3rd Floor East McDonnell Science Building
314-362-3530

Neuronal bases of economic choice and decision making.

Lawrence B. Salkoff, PhD
9th Floor McDonnell Science Building
314-362-3644

The roles of ion channels in neuronal long term excitability changes.

Paul J. Shaw, PhD
9th Floor McDonnell Science Building
314-362-2703
Molecular genetics of sleep and circadian rhythms.

Lawrence H. Snyder, MD, PhD
3rd Floor East McDonnell
314-747-3530

Computational and cognitive issues in cortical control of eye and arm movement: electrophysiology and imaging.

Paul H. Taghert, PhD
9th Floor McDonnell Science Building
314-362-3641

I. Neurobiology of circadian rhythms.
II. Neurobiology of peptidergic neurotransmission.

David C. Van Essen, PhD
2nd Floor East McDonnell
314-362-7043

Organization, function, and development of primate cerebral cortex, especially in humans; generation and utilization of neuroinformatics tools for data mining.

Faculty — Neuroscience

Azad Bonni, MD, PHD Edison Professor of Neurobiology (primary appointment)
Head of the Department of Neuroscience
MD Queen's University 1986
PHD Harvard University 1996

Kari Leigh Allen, MA, PHD Assistant Professor of Anatomy (primary appointment)
Assistant Professor of Anthropology (Courtesy)
MA New Mexico St University 2008
PHD Duke University 2014
Amy Lynn Bauernfeind, PHD, M PHIL Assistant Professor of Anatomy (primary appointment)
Assistant Professor of Anthropology (Courtesy)
PHD George Washington University 2014
M PHIL George Washington University 2011
Kevin J. Black, MD Professor of Psychiatry (primary appointment)
Professor of Radiology
Professor of Neurology
Professor of Neuroscience
MD Duke University 1990
BS Brigham Young University 1986
Paul C Bridgman, MS, PHD Professor of Neuroscience (primary appointment)
Associate Professor of Biomedical Engineering
MS University of CA San Diego 1976
BA University of San Diego 1974
PHD Purdue University 1980
Michael Raymond Bruchas, PHD Associate Professor of Anesthesiology (primary appointment)
Associate Professor of Neuroscience
PHD Creighton University 2004
Andreas H Burkhalter, MS, PHD Professor of Neuroscience (primary appointment)
Associate Professor of Biomedical Engineering
Associate Professor of Neurobiology in Neurological Surgery
MS University of Zurich 1973
PHD University of Zurich 1977
Harold Burton, PHD Professor of Neuroscience (primary appointment)
Professor of Radiology
Professor of Biomedical Engineering
Professor of Cell Biology and Physiology
PHD Univ of Wisconsin Madison 1968
BA University of Michigan 1964
Valeria Cavalli Associate Professor of Neuroscience (primary appointment)
Theodore J Cicero, MS, PHD John P Feighner Professor of Psychiatry (primary appointment)
Vice Chairman for Research, Department of Psychiatry
Professor of Neuroscience
MS Purdue University 1966
BS Villanova University 1964
PHD Purdue University 1969
Glenn C Conroy, M PHIL, PHD Professor of Anatomy (primary appointment)
Professor of Anthropology
M PHIL Yale University 1972
PHD Yale University 1974
BA University of CA Berkeley 1970
Maurizio Corbetta, MD Norman J. Stupp Professor of Neurology (primary appointment)
Professor of Radiology
Associate Professor of Psychological & Brain Sciences
Professor of Neuroscience
MD University of Pavia 1985

Krikor T Dikranian, PHD, MD Professor of Anatomy (primary appointment)

Professor of Physical Therapy
PHD Medical University - Sofia 1992
MD Medical University - Varna 1978

Gammon Marie Earhart, MS, PHD Professor of Physical Therapy (primary appointment)

Professor of Neuroscience

Professor of Neurology

Associate Director of Movement Science PhD Program in Physical Therapy
Executive Director of the Program in Physical Therapy

MS Beaver College 1996
BS Beaver College 1994
PHD Washington Univ in St. Louis 2000

James Alexander John Fitzpatrick, PHD Associate Professor of Neuroscience (primary appointment)

Associate Professor of Cell Biology and Physiology
PHD University of Bristol 2003

Susan M Fitzpatrick, PHD Adjunct Associate Professor of Neuroscience (primary appointment)

Adjunct Associate Professor of Occupational Therapy
BS St Johns University 1978
PHD Cornell University 1984

Harrison W. Gabel, PHD, AB Assistant Professor of Neuroscience (primary appointment)
PHD Harvard University 2008
AB Princeton University 2001

Robert W Gereau, PHD Dr Seymour and Rose T Brown Professor of Anesthesiology (primary appointment)

Professor of Neuroscience
PHD Emory University 1995
BS Southwest Misouri St Universi 1991

Edward B. Han, PHD Assistant Professor of Neuroscience (primary appointment)

Assistant Professor of Anesthesiology
PHD University of CA San Diego 2004
BS Cornell University 1995

Martha B. Han, PHD Assistant Professor of Neuroscience (primary appointment)
BS Yale University 2000
PHD University of CA San Diego 2008

Timothy E. Holy, MA, PHD Associate Professor of Neuroscience (primary appointment)
MA Princeton University 1992
BA Rice University 1991
PHD Princeton University 1997

Vladimir Jivkov Kefalov, PHD Professor of Ophthalmology and Visual Sciences (primary appointment)

Professor of Neuroscience
PHD Boston University 1999

Daniel Kerschensteiner, PHD Associate Professor of Ophthalmology and Visual Sciences (primary appointment)

Associate Professor of Neuroscience

Associate Professor of Biomedical Engineering (Courtesy)
PHD Georg August University 2004
Robyn Sue Klein, PHD
Professor of Medicine (primary appointment)
Professor of Pathology and Immunology
Professor of Neuroscience
PHD Albert Einstein College of Med 1993

Vitaly A Klyachko, PHD, MS
Associate Professor of Cell Biology and Physiology (primary appointment)
Associate Professor of Biomedical Engineering
Associate Professor of Neuroscience
PHD Univ of Wisconsin Madison 2002
MS Moscow State University 1998
BS Moscow State University 1997

Eric Claude Leuthardt, MD
Professor of Neurological Surgery (primary appointment)
Professor of Neuroscience
Professor of Mechanical Engineering and Applied Science.
BS Saint Louis University 1995
MD University of Pennsylvania 1999

Christopher J Lingle
Professor of Anesthesiology (primary appointment)
Professor of Neuroscience
BS University of Oregon 1972

Arthur D Loewy, PHD
Professor of Anatomy and Neuroscience (primary appointment)
BA Lawrence University 1964
PHD Univ of Wisconsin Madison 1969

Peter David Lukasiewicz, PHD
Janet and Bernard Becker Professor of Ophthalmology (primary appointment)
Professor of Neuroscience
PHD University of Michigan 1984
BS Brown University 1977

Steven James Mennerick, PHD
Professor of Psychiatry (primary appointment)
Professor of Neuroscience
PHD Washington Univ in St. Louis 1995
BA Earlham College 1988

Ilya E. Monosov, MS, PHD
Assistant Professor of Neuroscience (primary appointment)
MS NewSchool Architecture Design 2005
BS University of CA San Diego 2004
PHD Brown University 2009

Joshua L. Morgan, PHD
Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)

Assistant Professor of Neuroscience
BA Florida Southern College 2001
PHD Washington Univ in St. Louis 2007

Jose Moron-Concepcion, PHD
Associate Professor of Anesthesiology (primary appointment)
Associate Professor of Neuroscience
PHD University of Barcelona 1998

Bruce L Nock, PHD, MS
Associate Professor of Neurobiology in Psychiatry (primary appointment)
Associate Professor of Neuroscience
PHD Rutgers University 1981
BA Elizabethtown College 1969
MS Bucknell University 1975
Michael L Nonet, PHD
Associate Professor of Neuroscience (primary appointment)
BS University of CA Davis 1984
PHD Mass Inst of Technology (MIT) 1989
Karen Laurel O'Malley, MS, PHD
Professor of Neuroscience (primary appointment)
MS Portland St University 1973
BA Sonoma State University 1971
PHD University of Texas Austin 1980
Camilo Padoa-Schioppa, PHD
Associate Professor of Neuroscience (primary appointment)
Associate Professor of Economics (Courtesy)
PHD Mass Inst of Technology (MIT) 2002
Tae Sung Park, MD
Shi Hui Huang Professor of Neurological Surgery (primary appointment)
Professor of Neuroscience
Professor of Pediatrics
MD Yonsei University 1971
BS Yonsei University 1967
Joel S Perlmutter, MD
Professor of Neurology (primary appointment)
Professor of Radiology
Professor of Occupational Therapy
Professor of Neuroscience
Professor of Physical Therapy
MD University of MO Columbia 1979
BA Princeton University 1975
Steven E Petersen, PHD
James S McDonnell Professor of Cognitive Neuroscience in Neurology
(primary appointment)
Professor of Neuroscience
Professor of Radiology
Professor of Psychology
Professor of Biomedical Engineering
Associate Professor of Neurological Surgery (Neuropsychology)
PHD California Institute Technolo 1982
BA University of Montana Missoula 1974
Jane Phillips Conroy, PHD, MA
Professor of Anatomy (primary appointment)
Professor of Anthropology
PHD New York University 1978
BA Brandeis University 1969
MA New York University 1973
Marcus E Raichle, MD
Professor of Radiology (primary appointment)
Professor of Neuroscience
Professor of Neurology
Alan A and Edith L Wolff Distinguished Professor of Medicine
Professor of Psychological & Brain Sciences
Professor of Biomedical Engineering
BS University of Washington 1960
MD University of Washington 1964
Keith M Rich, MD
Professor of Neurological Surgery (primary appointment)
Professor of Neuroscience
Professor of Radiation Oncology
BA Taylor University 1974
Joshua Bennett Rubin, MD, PHD, MS
Professor of Pediatrics
Professor of Neuroscience
MD Albert Einstein College of Med 1994
BS Yale University 1982
PHD Albert Einstein College of Med 1994
MS Albert Einstein College of Med 1992

Lawrence B Salkoff, PHD
Professor of Neuroscience (primary appointment)
Professor of Genetics
BA University of CA Los Angeles 1967
PHD University of CA Berkeley 1979

Bradley L Schlaggar, PHD, MDA Ernest and Jane G Stein Professor of Neurology (primary appointment)
Professor of Radiology
Professor of Psychiatry
Professor of Pediatrics
Professor of Neuroscience
BS Brown University 1986
PHD Washington Univ in St. Louis 1994
MD Washington Univ in St. Louis 1994

Paul Joseph Shaw, MA, PHD
Associate Professor of Neuroscience (primary appointment)
BA Niagara University 1985
MA San Jose State University 1990
PHD University of Chicago 1996

Lawrence H Snyder, AB, PHD, MD, MS
Professor of Neuroscience (primary appointment)
Professor of Psychological & Brain Sciences
AB Princeton University 1982
PHD University of Rochester 1992
MD University of Rochester 1992
MS University of Rochester 1992

Paul H Taghert, PHD
Professor of Neuroscience (primary appointment)
BA Reed College 1975
PHD University of Washington 1981

Kwee L Thio, PHD, MD
Associate Professor of Neurology (primary appointment)
Associate Professor of Pediatrics
Associate Professor of Neuroscience
PHD Washington Univ in St. Louis 1992
MD Washington Univ in St. Louis 1992
BS Brown University 1984

Robert Lawrence Tychsen
Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Neuroscience
Professor of Ophthalmology and Visual Sciences in Pediatrics
John F Hardesty MD Distinguished Professor of Ophthalmology and Visual Sciences
BS Georgetown University 1975

David C Van Essen, PHD
Alumni Endowed Professor of Neurobiology (primary appointment)
Professor of Biomedical Engineering
PHD Harvard University 1971
Instruction in neurological surgery begins with an introduction to the anatomy and physiology of the nervous system presented in the first-year course in neural sciences directed by the Department of Anatomy and Neurobiology with participation of the neurosurgery faculty. In the second year, the Department of Neurosurgery presents the course in Diseases of the Nervous System in conjunction with the Departments of Neurology, Pathology, Molecular Biology and Pharmacology, Medicine and Pediatrics. The course emphasizes how knowledge derived from basic or clinical investigations leads to improvements in clinical care. In the third year, students may elect to participate in a two- or four-week Neurosurgery clerkship which introduces them to the clinical care of patients with diseases of the nervous system. Neurosurgical faculty members work with the neurologists in providing lectures, demonstrations and teaching exercises in patients with neurological diagnoses as part of the Clinical Medicine course. Students may elect to fulfill their Neurology requirement by rotating on the neurosurgery service. Students may also choose neurosurgery as part of the Surgical Specialty rotations. Neurosurgical diagnosis, critical care, operative treatment
and ethical issues in patient management are emphasized. In the fourth year, students may choose from several advanced electives including clinical externships in neurosurgery and experiences in basic or clinical/translational research.

Neurosurgery divisions

Division of Pediatric Neurosurgery

Matthew D. Smyth, MD; Tae Sung Park, MD; David D. Limbrick Jr., MD, PhD, Jennifer Strahle, MD

Based in St. Louis Children’s Hospital, the Division of Pediatric Neurosurgery of the Department of Neurosurgery provides neurosurgical care for the many disorders that are unique to the developing nervous system, from the premature infant to the young adult. Subspecialty areas include pediatric neuro-oncology, spastic cerebral palsy, craniofacial disorders, obstetrical brachial plexus injuries and epilepsy surgery. Active areas of clinical and basic research include pediatric head trauma, brain tumors, epilepsy and neonatal brain injury and hydrocephalus.

Center for Innovation in Neuroscience and Technology

Eric C. Leuthardt, MD (director)

The multidisciplinary center is based in the Department of Neurosurgery with participation from multiple departments in the medical school and across the University campus. Current active participants include neurosurgery faculty members Ralph G. Dacey Jr., MD, chairman; Albert Kim, MD, David Limbrick, MD, PhD, Wilson Z. Ray, MD, Matthew Smyth, MD, Neill Wright, MD, and Gregory J. Zipfel, MD; Colin Derdeyn, MD, with the Division of Neuroradiology; Steve Peterson, MD, with the Department of Neurology/Neurobiology; Frank C-P Yin, PhD, chairman and Daniel Moran, PhD, Dennis Barbour, MD, PhD, Shelly E. Sakiyama-Elbert, PhD, and Donald L. Elbert, PhD, with the Department of Biomedical Engineering; Philip Bayly, PhD, Skrikanth Singamaneni, PhD, and Guy Genin, PhD, with the Department of Mechanical
Areas of neurosurgical specialization

Cerebrovascular Surgery
Michael R. Chicoine, MD; Ralph G. Dacey Jr., MD; Ian G. Dorward, MD; Joshua Osbun, MD, Keith M. Rich, MD; Gregory J. Zipfel, MD

Cranial Base Surgery
Michael R. Chicoine, MD; Albert H. Kim, MD, PhD; Joshua Osbun, MD, Gregory J. Zipfel, MD

Endovascular Surgery
Joshua Osbun, MD

Epilepsy Surgery
Joshua L. Dowling, MD; Eric C. Leuthardt, MD

Neuro-Oncology
Michael R. Chicoine, MD; Ralph G. Dacey Jr., MD; Gavin P. Dunn, MD, PhD; Albert Kim, MD; Keith M. Rich, MD; Eric C. Leuthardt, MD

Pediatric Neurosurgery
Matthew D. Smyth, MD; Tae Sung Park, MD; David D. Limbrick Jr., MD, PhD, Jennifer Strahle, MD

Peripheral Nerve Surgery
Wilson Z. Ray, MD

Pituitary Surgery
Michael R. Chicoine, MD; Ralph G. Dacey Jr., MD; Gregory J. Zipfel, MD
Spinal Neurosurgery
Ian G. Dorward, MD; Wilson Z. Ray, MD; Paul Santiago, MD; Neill M. Wright, MD

Stereotactic Radiosurgery
Michael R. Chicoine, MD; Ralph G. Dacey Jr., MD; Joshua L. Dowling, MD; Keith M. Rich, MD; Matthew D. Smyth, MD; Eric C. Leuthardt, MD, Gavin P. Dunn, MD, PhD, Gregory J. Zipfel, MD

Surgical Management of Pain
Joshua L. Dowling, MD

For more information
Please visit the Department of Neurosurgery website for more information.

MD Courses — Neurosurgery

First year

Selectives

MO4 5878 INTRODUCTION TO CLINICAL NEUROSURGERY
Instructor: Jennifer Strahle, MD, 454-2816
The objective for this selective course is to expose students to the field of neurosurgery and its subspecialty disciplines. There are nine sessions for the semester in which a faculty expert reviews a particular field and, along with chosen student discussion leaders, reviews key papers in the field to aid in developing critical reading of medical and neurosurgical literature. Topics span the breadth of neurosurgery and
include the management of aneurysms, cutting edge brain tumor management, brain-computer interface technologies, surgical epilepsy, and contemporary complex spine surgery. In addition, students are encouraged to attend several neurosurgical Grand Rounds and clinical case discussion conferences, which are the working seminars in the department. Near the end of the course, students participate in a cadaver lab which provides hands-on experience with neurosurgical procedures involving the brain and spine and an interactive opportunity to work with attending neurosurgeons and residents instructors.

Third year

Clerkship opportunities

Students may elect to obtain their neurology clerkship experience on the neurosurgery service, or they can choose neurosurgery as part of the surgical specialty rotations. Third-year students participate with the residents and attendings on hospital rounds, evaluate patients in the neurosurgery outpatient department and participate in the neurosurgical operating room. The main objectives of the rotation include: 1) the evaluation of comatose or head-injured patients; 2) clinical presentation, diagnostic work-up and treatment of cervical and lumbar disc disease; and 3) evaluation and treatment of patients with hemorrhagic and ischemic stroke.

Fourth year

Elective Neurosurgery Externship

Students interested in pursuing a Neurosurgery residency can elect to spend 4 weeks on the neurosurgery service as a “sub-I/extern”. Students have an opportunity to gain a more in-depth look at the Washington University Neurosurgery training program and obtain clinical skills that will be useful as students transition to residency. Students can expect to spend time on both the adult and pediatric service with exposure to all aspects of Neurosurgery.
Elective

M40 805 / NEUROSURGERY
Instructor(s): Zach Ray, MD, 314-362-3570
Location: McMillan Hospital, 5th Floor, Neurosurgery Conference Room, 8:00 a.m. first day of elective.
Elective Contact: Zack Ray, MD, 314-362-3570, Sophie Church, 314-362-3636
Other Information: Students should contact Dr. Ray prior to the first day of the elective.
Enrollment limit per period: 4
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The goal is to provide an overview of neurological surgery. The fourth year medical student will participate in patient work-ups, pre, intra- and postoperative care, and diagnostic procedures. Students will also scrub in cases with senior level and chief residents assisting with neurosurgical procedures and observing the more critical portions of these procedures. It is expected that they will learn how to perform basic neurosurgical procedures such as lumbar punctures, ICP monitor placement, and ventricular drain placement. Fourth year medical students are encouraged to participate in Grand Rounds, Neurosurgery Resident Curriculum conference, and Journal Club with the neurosurgery residents. At least one day/week is spent in an outpatient neurosurgery office setting. A week spent on the pediatric service at St. Louis Children’s Hospital is also strongly encouraged as a component of this fourth year elective.

Student time distribution: Inpatient 80%; Outpatient 20%, Conferences/Lectures 10%; Subspecialty Care 100%

Major teaching responsibility: N/A
Patients seen/weekly: 125
On call/weekend responsibility: None
Outcomes analysis for adult patients with brain tumors. Current clinical studies focus on outcomes of patients with benign and malignant brain tumors utilizing a prospective brain tumor database. Particular emphasis includes the impact of intraoperative MRI (iMRI) upon outcomes for patients with brain tumors and other diseases. We are establishing a multicenter database pooling data from multiple iMRI centers in North America.

Research interests include outcomes analysis in spinal reconstruction surgery, including the impact of age, obesity, and other clinical variables on costs, complications, and patient satisfaction. Another area of interest is the evaluation of novel techniques in spinal deformity correction and minimally invasive spinal surgery. Additional work focuses on etiologic factors in spinal deformity, both in adolescents and adults.

Studies focus on examination of molecular mechanisms in the endothelial cells and smooth muscle cells in the intracerebral microcirculation and the contribution of glial cells to their impairment after hypoxia/reoxygenation. In vitro techniques for studying isolated perfused microvessels are used to examine questions centered on endothelial smooth muscle and glial cell integration of cerebral blood flow responses.
Albert H. Kim, MD, PhD
314-747-6141
I have laboratory and clinical research interests in the cancer stem cell state and the genetics of glioblastoma using human tumor specimens. I additionally have clinical projects examining patient outcomes for two common types of brain tumors, meningiomas and pituitary tumors.

Eric C. Leuthardt, MD
747-6146
Pursuing research in the areas of neuroprosthetics, brain computer interfaces (BCIs), and advanced imaging modalities. These include opportunities in basic neurophysiology, engineering for BCIs and functional MRI imaging research for applications towards brain tumors.

David D. Limbrick, MD, PhD
314-454-4630
Clinical and translational research into newborn brain injuries, including post-hemorrhagic hydrocephalus. Main research areas include cerebrospinal fluid protein markers of disease, MRI diffusion tensor imaging, and prospective clinical trials. Also, multi-institutional clinical research opportunities exist for syringomyelia associated with Chiari I malformation.

T. S. Park, MD
314-454-2810

Wilson Z. Ray, MD
314-362-3114
Clinical and translational research on peripheral nerve and spinal cord injuries. Lab based opportunities for longer research electives investigating peripheral nerve regeneration and peripheral neuroprosthetics incorporating transient electronics.
Keith M. Rich, MD
314-747-6142
Research on neuronal and glioma cellular apoptosis after treatment with DNA-damaging agents. Techniques include growing human brain tumor cells in culture, bioassay for apoptosis with fluorescent staining, protein immunoblotting, and PCR.

Matthew Smyth, MD
314-454-4454
Clinical outcomes studies for pediatric epilepsy surgery and craniosynostosis surgery, basic and translational research in advanced clinical imaging, and translational research in the development of focal brain cooling devices for the treatment of epilepsy.

Neill M. Wright, MD
314-747-6144
Clinical outcomes studies focusing on the treatment and results of cervical spine surgery. Several active research opportunities include the evaluation of novel surgical techniques for treatment of the atlantoaxial (C1-2) segment, the use of synthetic bone in cervical spine surgery, the relationship between cervical spondylosis and dizziness, and the critical evaluation of certain intra-operative techniques and surgical practices.

Gregory J. Zipfel, MD
314-747-6141
My NIH-funded research program involves both basic and clinical research efforts focused on two main conditions: 1) Cerebral amyloid angiopathy and its contribution to ischemic stroke, vascular dementia, and Alzheimer’s Disease; and 2) Vasospasm-induced delayed cerebral ischemia and long-term cognitive deficits following aneurysmal subarachnoid hemorrhage. My work spans from basic experimental methods including cell culture and ex vivo vascular techniques to in vivo studies utilizing animal models of ischemic stroke and subarachnoid hemorrhage and live animal epifluorescent and confocal imaging to Phase I clinical trials in patients.
Faculty — Neurosurgery

Ralph G Dacey Jr, MD
Henry G and Edith R Schwartz Professor of Neurological Surgery (primary appointment)
Head of the Department of Neurological Surgery
BA Harvard University 1970
MD University of Virginia 1974

Tammie Lee Smith Benzinger, MD, PHD
Associate Professor of Radiology (primary appointment)
Associate Professor of Neurological Surgery
MD University of Chicago 2000
BA Williams College 1993
PHD University of Chicago 1998

Keith Happ Bridwell
Albert Key Distinguished Professor of Orthopaedic Surgery (primary appointment)
Professor of Neurological Surgery
BA Washington Univ in St. Louis 1973

Jacob M Buchowski, MD, MSP
Professor of Orthopaedic Surgery (primary appointment)
Professor of Neurological Surgery
BS Yale University 1996
MD Johns Hopkins University 2000
MS Yale University 1996

Andreas H Burkhalter, MS, PHD
Professor of Neuroscience (primary appointment)
Associate Professor of Biomedical Engineering
Associate Professor of Neurobiology in Neurological Surgery
MS University of Zurich 1973
PHD University of Zurich 1977

Jian Li Campian, PHD, MS, MD
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Neurological Surgery
PHD University of Louisville 2003
MS Peking Union Medical College 2000
MD Tianjin Medical University 1997

Michael R Chicoine, MD
Professor of Neurological Surgery (primary appointment)
August A. Busch, Jr. Distinguished Professor
MD University of California 1990

Dewitte T Cross III, MD
Professor of Radiology (primary appointment)
Professor of Neurological Surgery
BA Vanderbilt University 1975
MD University of Alabama 1980

Michael N Diringer, MA, MD
Professor of Neurology (primary appointment)
Professor of Anesthesiology
Professor of Occupational Therapy
Professor of Neurological Surgery
MA University of Louisville 1978
MD University of Kentucky 1982
Ian G Dorward **Assistant Professor of Neurological Surgery** (primary appointment)
Joshua L Dowling, MD **Professor of Neurological Surgery** (primary appointment)
MD Tulane University 1989
BA Yale University 1985
Gavin P. Dunn **Assistant Professor of Neurological Surgery** (primary appointment)
Assistant Professor of Pathology and Immunology
Jack R. Engsberg, PhD, MS **Professor of Occupational Therapy** (primary appointment)
Professor of Neurological Surgery
Professor of Orthopaedic Surgery
BS Univ of Wisconsin La Crosse 1973
PHD University of Iowa 1985
MS Univ of Wisconsin La Crosse 1978
MS1 Univ of Wisconsin La Crosse 1979
Robert L Grubb Jr, MD **Professor of Neurological Surgery** (primary appointment)
Professor of Radiology
BA University of North Carolina 1961
MD University of North Carolina 1965
David H Gutmann **Donald O. Schnuck Family Professor of Neurology** (primary appointment)
Professor of Genetics
Professor of Neurological Surgery
Professor of Pediatrics
Matthew A Howard **Adjunct Assistant Professor of Neurological Surgery** (primary appointment)
Sarah C. Jost **Adjunct Assistant Professor of Neurological Surgery** (primary appointment)
Michael Patrick Kelly, MD **Assistant Professor of Orthopaedic Surgery** (primary appointment)
Assistant Professor of Neurological Surgery
BS Boston College 1999
MD University of Massachusetts 2005
Salah G. Keyrouz **Associate Professor of Neurology** (primary appointment)
Associate Professor of Neurological Surgery
Albert H Kim, MA, PhD, MD **Assistant Professor of Neurological Surgery** (primary appointment)
Assistant Professor of Neurology
Assistant Professor of Developmental Biology
BA Harvard University 1994
MA Washington Univ in St. Louis 1999
PHD New York U. School of Medicine 2002
MD New York U. School of Medicine 2003
Eric Claude Leuthardt, MD **Professor of Neurological Surgery** (primary appointment)
Professor of Neuroscience
Professor of Mechanical Engineering and Applied Science.
BS Saint Louis University 1995
MD University of Pennsylvania 1999
David D Limbrick Jr **Professor of Neurological Surgery** (primary appointment)
Professor of Pediatrics
BS College of William and Mary 1995
Matthew R. MacEwan, PhD **Assistant Professor of Neurosurgery (Pending Executive Faculty Approval)** (primary appointment)
PHD Washington Univ in St. Louis 2015
BS Case Western Reserve Univ 2004

James Patterson McAllister, PHD Professor of Neurological Surgery (primary appointment)
PHD Purdue University 1976
BA Earlham College 1970

Christopher J Moran, MD Professor of Radiology (primary appointment)
Professor of Neurological Surgery
MD Saint Louis University 1974
BS University of Notre Dame 1970

Joshua William Osbun, MD Assistant Professor of Neurosurgery (Pending Executive Faculty Approval) (primary appointment)
BA Texas A&M University 2002
MD University of Texas Southwest 2007

Tae Sung Park, MD Shi Hui Huang Professor of Neurological Surgery (primary appointment)
Professor of Neuroscience
Professor of Radiology
Professor of Orthopaedic Surgery

Steven E Petersen, PHD James S McDonnell Professor of Cognitive Neuroscience in Neurology (primary appointment)
Professor of Neuroscience
Professor of Radiology
Professor of Psychology
Professor of Biomedical Engineering
Associate Professor of Neurological Surgery (Neuropsychology)
PHD California Institute Technolo 1982
BA University of Montana Missoula 1974

Wilson Z Ray Assistant Professor of Neurological Surgery (primary appointment)
Assistant Professor of Orthopaedic Surgery

Keith M Rich, MD Professor of Neurological Surgery (primary appointment)
Professor of Neuroscience
Professor of Radiation Oncology
BA Taylor University 1974
MD Indiana University Bloomington 1977

Paul Santiago, MD Professor of Neurological Surgery (primary appointment)
Professor of Orthopaedic Surgery
BS Stanford University 1990
MD Yale University 1995

Gerwin Schalk Adjunct Assistant Professor of Neurological Surgery (primary appointment)

Julie Martha Silverstein, MD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Neurological Surgery
MD Drexel University 2007
BA New York University 2004

Itender Singh, PHD Assistant Professor of Neurological Surgery (primary appointment)
PHD UNIVERSITY OF DELHI 2004

Matthew D Smyth, MD Professor of Neurological Surgery (primary appointment)
Professor of Pediatrics
MD University of CA San Francisco 1996
Department of Obstetrics and Gynecology

The Department of Obstetrics and Gynecology has clinical teaching services located at Barnes-Jewish Hospital and Missouri Baptist Medical Center under the following director:
George A. Macones, MD, MSCE, Professor and Head, Department of Obstetrics and Gynecology

In addition, for the purposes of teaching, clinical care and research, the Department of Obstetrics and Gynecology is divided into subspecialty divisions under the following directors:

**Gynecologic Oncology**
Matthew A. Powell, MD

**Maternal-Fetal Medicine**
Allison G. Cahill, MD, MSCI

**Imaging**
Jeffrey M. Dicke, MD

**Reproductive Endocrinology and Infertility**
Randall R. Odem, MD

**General Obstetrics and Gynecology**
Eric A. Strand, MD

**Female Pelvic Medicine and Reconstructive Surgery (formerly Uro-Gynecology)**
Jerry L. Lowder, MD, MS

**Pediatric and Adolescent Gynecology**
Diane F. Merritt, MD

**Minimally Invasive Gynecologic Surgery**
Scott W. Biest, MD

**Research**
Kelle H. Moley, MD (Basic Research), Methodius Tuuli, MD, MPH (Clinical Research)
Instruction in obstetrics and gynecology is provided during all four years of the medical curriculum, beginning with an introductory course in the first year as a component of Clinical Medicine. Teaching in the second year is designed to correlate basic science with the physiologic basis of normal pregnancy and parturition, reproductive biology, infertility and reproductive endocrinology and gynecologic malignancies. All third-year medical students participate in a six-week clinical clerkship in obstetrics and gynecology. This is divided into three two-week components of outpatient OB/GYN, inpatient obstetrics and inpatient gynecology. In the fourth year, students may elect a sub-internship in the listed clinical subspecialties or a research elective.

For more information

Please visit the [Department of Obstetrics and Gynecology website](https://www.department website) for more information.

### MD Courses — Obstetrics and Gynecology

#### First year

As a component of the course in Clinical Medicine offered by the Department of Medicine, the student is introduced to the essentials in the medical history and examination for the gynecological evaluation of the adult woman patient.
Second year

Second-year students are introduced to obstetrics and gynecology with lectures in reproductive biology that apply and expand upon pelvic anatomy and gynecologic and obstetric physiologic principles taught in the first year.

M45 635B OBSTETRICS AND GYNECOLOGY
Instructor: Kenan R. Omurtag, MD, 314-286-1384
The obstetrical component of this course emphasizes the physiologic basis of normal pregnancy, parturition, labor and delivery, and adaptations of other organ systems to pregnancy. Pathophysiology of pregnancy, pregnancy complications and deviations from normal labor will also be introduced. The gynecologic component of the course reviews embryology and genetics of practical use for clinicians. This provides a foundation to overview adolescent gynecology, amenorrhea, abnormal uterine bleeding, reproductive endocrinology, infertility, menopause, surgical anatomy, and diagnosis and treatment of gynecologic neoplasm.

Third year

M45 730 OB/GYN CLERKSHIP
Clerkship Director: Tammy Sonn, MD
Clerkship Coordinator: Trish Werner, 314-362-3126
All third-year medical students participate in a six-week clinical clerkship in Obstetrics and Gynecology. This is divided into three two-week components of outpatient OB/GYN, inpatient obstetrics and inpatient gynecology. Comprehensive study of the reproductive health needs of women in both the office setting and the surgical setting is the focus of the curriculum. Students are actively involved in all settings of health care delivery: outpatient faculty clinics within all specialties, resident ambulatory clinics, operating rooms for all obstetric or gynecologic cases, inpatient floors of L&D and Gynecology, and the emergency department/hospital inpatient consults. Faculty, fellows, residents, and nurse practitioners provide teaching for this rotation. Student-directed didactics include the faculty and chief resident lecture series, procedural skill station session and faculty-assigned preceptor groups that meet throughout their six-
Fourth year

Fourth-year students wishing to take an externship or research elective can choose from a variety of courses.

Electives

M45 804 / OB/GYN OUTPATIENT CARE SUBINTERNSHIP
Instructor(s): Laura A. Parks, MD, parksla@wudosis.wustl.edu, 314-362-1016
Location: Room 308, Maternity Hospital, Barnes-Jewish Hospital, South Campus
Elective Contact: Casey Lindemann, 314-362-4591

Other Information: Students should contact Casey Lindemann one to two weeks before rotation for instructions of start time/location for first day of elective.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This experience is designed to primarily acquaint the student with the diagnosis and care of outpatients. Students will work one-on-one with attending staff, to focus on an overview of evaluation, diagnosis, and treatment of common obstetric and gynecologic concerns. The sub-intern will spend one to three half days weekly participating in outpatient surgery under the supervision of attendings and house staff, and five to six additional half days in clinic and private offices. Overnight OB call will be selected over a weekend to acquaint the student with the house staff and hospital, providing opportunity to participate in deliveries. A 30-45 minute presentation to attendings and house staff will culminate the rotation on a selected OB GYN topic.

Student time distribution: Outpatient 100%; Primary Care 100%
Major teaching responsibility: Attending staff
Patients seen/weekly: 5-20/day
On call/weekend responsibility: See above description

**M45 810 / OB/GYN ENDOCRINOLOGY-INFERTILITY SUB-INTERNSHIP**
Instructor(s): Randall Odem, MD; Kenan Omurtag, MD; Emily Jungheim, MD; Sarah Keller, MD; Kelle Moley, MD; and Valerie Ratts, MD; 314-286-2419
Location: 4444 Forest Park Avenue, Suite 3100
Elective Contact: Sarah Keller, MD, kellers@wudosis.wustl.edu

Other Information: Students report to Dr. Keller first day of elective. Please email Dr. Keller the prior week.
Enrollment limit per period: 1 (will consider two students if faculty presence allows)
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The sub-intern will participate (in the office and hospital) in the study and treatment of women with reproductive endocrine disorders and infertility. The student will attend and present in conferences, attend surgery, observe assisted reproductive technology procedures, have assigned reading and be an integral part of the reproductive endocrine service. Opportunities for clinical research projects in reproductive endocrinology are also available.

Student time distribution: Inpatient 10%; Outpatient 75%; Conferences/ Lectures 15%; Primary Care 10%; Subspecialty Care 90%
Major teaching responsibility: Attendings, fellows, and resident
Patients seen/weekly: 75
On call/weekend responsibility: None

**M45 830 / GYN ONCOLOGY SUB-INTERNSHIP**
Instructor(s): David Mutch, MD, 314-362-3181
Location: Maternity Hospital, Barnes-Jewish Hospital, South Campus
Elective Contact: David Mutch, MD, 314-362-3181, Dana Schenck, 314-362-3218

Other Information: Students report to 17300 Conference Room, 6 a.m. first day of
elective to round with the Fellows.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37 and 41.

The sub-intern will take part in the work-up of tumor patients prior to surgery and/or radiotherapy, assist in pelvic operations, help render perioperative care, and review pathology specimens and slides. The student will participate in GYN Tumor Clinic sessions, make hospital rounds with house staff, accompany chief residents on consultations, and attend OB/GYN conferences. Opportunities for clinical or basic research project in gynecologic malignancy are also available.

Student time distribution: Inpatient 70%; Outpatient 20%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attendings, fellows, and residents
Patients seen/weekly: 40
On call/weekend responsibility: Weekend rounds

M45 833 / SPECIAL TOPICS IN REPRODUCTIVE HEALTH
Instructor(s): David Eisenberg, MD, MPH
Location: Dept of OB/GYN, Maternity Building, 3rd floor
Elective Contact: David Eisenberg, MD, MPH, 314-362-3751

Other Information: Students should contact Dr. Eisenberg (eisenbergd@wudosis.wustl.edu) and Michele Curran (curranm@wudosis.wustl.edu), who will coordinate scheduling at least two weeks prior to the beginning of the rotation.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 17, 21, 29, 33, 37, and 41.

Students will attend a variety of outpatient clinics to interact with patients seeking different reproductive health services. These clinics include family planning and abortion services at Planned Parenthood of the St. Louis Region, the St. Louis County...
STD clinic, Adolescent and Pediatric Gynecology, Child Sexual Abuse, Teen OB, The
SPOT, Ultrasound and Prenatal Diagnosis, and Gynecology clinics. Clinical experiences
will be ambulatory. Conferences include Obstetrics and Gynecology Grand Rounds
every Wednesday at 7 am, Family Planning service meetings, and monthly Journal
Club. Reading will include relevant articles and chapters. Students will be responsible
for a brief (15-20 minute) presentation on a reproductive health topic at the conclusion
of the course. Opportunities for clinical research in contraception are also available.

Student time distribution: Outpatient 100%; Primary Care 30%; Subspecialty Care 70%
Major teaching responsibility: Attendings and Nurse Practitioners when at Planned
Parenthood
Patients seen/weekly: Varies
On call/weekend responsibility: None.

NOTE: It is important that students have access to a car for portions of this rotation as
some of the clinical locations are best reached by car.

M45 843 / MATERNAL-FETAL MEDICINE OUTPATIENT CARE SUB-INTERSHIP
Instructor(s): Roxane Rampersad, MD, 314-747-0739
Location: 5th Floor, Center for Advanced Medicine, Ob/Gyn office
Elective Contact: Roxane Rampersad, MD, 314-747-0739

Other Information: Students report to the 5th Floor, Center for Advanced Medicine,
Ob/Gyn office, 8:00 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and
41.

Students will see a variety of high risk obstetrical patients in the outpatient setting in
the Center for Advanced Medicine and the Center for Outpatient Health. The student
will evaluate various types of reproductive age patients with medical or obstetrical
complications, including preconception consultations, prenatal care consultations and
initial prenatal visits. The student will also see return patients to experience the
continuity of prenatal care. Students will participate in antenatal testing and learn basic ultrasonography skills. The student will be responsible for one presentation to be given to the OB teams at the end of the rotation. Students are provided independent study time to put together the presentation which should be in power point and on a topic of their choice, inspired by a patient-related clinical conditioned that peaked their interest during the block. In addition, the student will have the option to take overnight call, or call in the Pregnancy Assessment Center in order to gain more hands-on experience with in-patient obstetrics. This is voluntary and not a requisite.

Student time distribution: Inpatient 5%; Outpatient 85%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Maternal-Fetal Medicine Attendings and fellows
Patients seen/weekly: 40
On call/weekend responsibility: None

M45 844 / MATERNAL-FETAL MEDICINE INPATIENT (ANTEPARTUM) SUB-INTERNSHIP
Instructor(s): D. Michael Nelson, MD, 314-747-0738
Location: Maternity Hospital, Barnes-Jewish Hospital, South Campus

Other Information: Students report to Antepartum Service (ward 5300), 7:30 a.m. first Monday of elective. If the first day is a holiday, email Dr. Nelson prior to start date for instructions.
Enrollment limit per period: 1 (unless cleared by Course Master)
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Sub-interns will participate in the antepartum and intrapartum management of high-risk hospitalized patients. There is limited interaction with outpatients through the High-Risk Obstetrics Clinics and the Center for Diabetes in Pregnancy. Examples include diabetes, hypertension, renal disease, hematologic abnormalities, preterm labor, and others. Antepartum evaluation and monitoring of the pregnant woman and
her fetus are emphasized. Supervision is by the antepartum chief resident and a maternal-fetal medicine faculty member and fellow. An opportunity for intense labor and delivery experience with the Night Team is also encouraged. Students will spend time observing diagnostic obstetric ultrasound examinations. The student will prepare a brief talk on a topic of his/her interest during the course of the rotation.

Student time distribution: Inpatient 80%; Outpatient 15%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Attendings and residents
Patients seen/weekly: Inpatient: 20; Outpatient: 5
On call/weekend responsibility: Overnight/weekend call optional (student self-scheduled)

M45 856 / OB/GYN ULTRASOUND – GENETICS
Instructor(s): Jeffrey Dicke, MD, 314-454-8135
Location: The Women’s Health Center, 5th floor, Center for Advanced Medicine and The Center for Women’s Wellness, 4th floor, Building D, Missouri Baptist Medical Center
Elective Contact: Jeffrey Dicke, MD, 314-454-8135, Shannon Johme, 314-362-8895

Other Information: Students should contact Dr. Dicke one week prior to first day of elective.
Enrollment limit per period: 1 (will consider two students if faculty presence allows)
Valid start weeks for two-week blocks are: Weeks 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, and 43.

Working with the attending physicians in the Ultrasound Units at the Center for Advanced Medicine and the Center for Women’s Wellness at Missouri Baptist Medical Center, the student will learn the principles and techniques of non-invasive screening for fetal disorders and observe the performance of invasive prenatal diagnostic procedures. The student will also learn the standards and guidelines for performance of the antepartum obstetrical ultrasound examination and female pelvic examination. Normal and abnormal fetal and gynecologic anatomy will be reviewed. Experience will
be gained in pedigree analysis and familial risk factor assessment by working with genetic counselors. One day is spent in the Cytogenetics Laboratory observing the preparation of prenatal specimens for karyotype analysis. Opportunities for participation in clinical research are also available.

Student time distribution: Outpatient 90%; Conferences/Lectures 10%; Primary Care 30%; Subspecialty Care 70%
Major teaching responsibility: The attendings of the ultrasound section
Patients seen/weekly: 40
On call/weekend responsibility: None

M45 861 / GYN FEMALE PELVIC MEDICINE & RECONSTRUCTIVE SURGERY (UROGYNECOLOGY) SUB-INTERNSHIP
Instructor(s): Chiara Ghetti, MD, and Jerry Lowder, MD, 314-747-1402
Location: Maternity Hospital, Barnes-Jewish Hospital, South Campus
Elective Contact: Chiara Ghetti, MD, and Jerry Lowder, MD, 314-747-1402

Other Information: Students report to Drs. Ghetti or Lowder, Center for Advanced Medicine, 13th Floor, Suite C at 8:00 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5 and 9.

The sub-intern will take part in the office evaluation of patients (with pelvic floor disorders including pelvic organ prolapse, urinary incontinence, fecal incontinence, birth injuries), assist in pelvic floor reconstructive surgical procedures, and participate in perioperative care. The Sub-I will participate in office sessions, surgical cases and will be responsible for rounding with the Urogynecology resident on service as well as participating in consultations. The Sub-I will attend FPMRS didactic educational sessions and OB-GYN conferences. The Sub-I will be required to do a 45 minute presentation on an urogynecologic topic of choice by the end of the rotation. Opportunities for clinical research projects in Urogynecology are also available.
Student time distribution: Outpatient 50-60%; Inpatient 20-30%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attendings and Residents
Patients seen/weekly: 30
On call/weekend responsibility: Weekend rounds may be necessary.

M10 823 / OBSTETRICAL ANESTHESIA
Instructor(s): Swarup Varaday, MD, 314-362-6252
Location: Barnes-Jewish Hospital, South Campus
Elective Contact: Swarup Varaday, MD, 314-362-2628
Other Information: Students should report to 5400 Labor and Delivery, 7:00 a.m. first day of elective.

Enrollment limit per period: 1
Valid start weeks for two- or four-week blocks are: Weeks 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, and 43.

The medical students will learn the different analgesia/anesthetic options for the labor patient. They will also learn how the physiological adaptations of pregnancy influence anesthetic management. They will be actively involved in the parturient’s management, i.e., starting an IV, placement of spinal, epidural or CSE (combined spinal epidural) anesthetics. They will also attend the OB anesthesia conferences and interview patients in labor (with an OB anesthesia attending).

Student time distribution: Inpatient 90%; Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attending, Senior Resident
Patients seen/weekly: 20
On call/weekend responsibility: None (optional)
In this six-week elective, students will have the opportunity to immerse themselves in bench research in reproductive science. The five PI's willing to take students are Drs. Kelle Moley, Sarah England, Indira Mysorekar, Katherine Fuh, and Celia Santi.

- Moley's research focuses on mammalian gametes, fertilization, preimplantation development and implantation.
- England's laboratory focuses on uterine contractility and ion channels in the uterine myometrium.
- The Mysorekar lab studies the dynamics of tissue regeneration in the adult mammalian urinary bladder pathogenesis of a common infectious disease in women: namely, recurrent urinary tract infections (UTIs) and investigation of potential infectious etiology for preterm birth in pregnant women.
- Santi's work focuses on ion channels in mouse and human sperm.
- Fuh investigates cell signaling in ovarian cancer and the biology of ovarian cancer metastasis.

The main criteria for this rotation is that the student must have prior experience as an undergraduate or postgraduate in a laboratory, not including class work. This rotation is designed for the student planning a career in academic medicine as a physician scientist and one who is interested in considering reproductive science as a field. Prior to signing up for this course, the student must contact Dr. Moley to discuss the schedule and expectations of the rotation.
Faculty — Obstetrics and Gynecology

George Andrew Macones, MD, MS
Mitchell and Elaine Yanow Professor of Obstetrics and Gynecology (primary appointment)
Head of the Department of Obstetrics and Gynecology
MD Jefferson Medical College 1988
BS University of Pennsylvania 1984
MS University of Pennsylvania 2006

John K Appelbaum, MD
Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD Washington Univ in St. Louis 1984
BA Saint Louis University 1980

Yasmin Asvat, MA, PHD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MA San Diego St University 2006
PHD University of South Florida 2013
BA University of Toronto 2004
BA1 University of Toronto 2004

Sangeeta Kaur Babar, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS Rensselaer Poly Institute 2001
MD Albany Medical College 2003

Margaret Elizabeth Baum, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD John Hopkins Univeresity 2001

Michael William Bebbington
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Robert L Becker, MD
Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD Washington Univ in St. Louis 1969
BA Cornell University 1965

James E Belcher, MD
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BS University of Texas Austin 1972
MD Washington Univ in St. Louis 1976

Joe E Belew, MD
Associate Professor of Clinical Obstetrics and Gynecology (primary appointment)
BA Central Methodist College 1953
MD Saint Louis University 1957

Lisa Marie Bernhard, MD
Instructor in Obstetrics and Gynecology (Pending Dean's Approval) (primary appointment)
MD Louisiana St University 1985
BA Vanderbilt University 1981
Scott W Biest, Associate Professor of Obstetrics and Gynecology (primary appointment)
Jeffrey D Bloss, Adjunct Associate Professor of Obstetrics and Gynecology (primary appointment)
Irving Boime, PHD, MS, Professor of Developmental Biology (primary appointment)
Professor of Reproductive Biology in Obstetrics and Gynecology
PHD Washington Univ in St. Louis 1970
MS Purdue University 1966
BS St Louis College of Pharmacy 1964
Richard Gerald Bolanos, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Kathryn L Botney, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA Washington Univ in St. Louis 1980
Lawrence V Boveri, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD University of Missouri 1988
Jessica Naomi Bowers, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Igor Brondz, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD School Not Listed 1978
Robert J Brown, MD, Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD Washington Univ in St. Louis 1983
BS St Peters College 1977
Bruce L Bryan, MD, BE, Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD School Not Listed
BE Purdue University 1973
Alison Gale Cahill, MD, Associate Professor of Obstetrics and Gynecology (primary appointment)
MD University of Connecticut 2002
Ebony Boyce Carter, MS, MD, Assistant Professor of Obstetrics and Gynecology (primary appointment)
Assistant Professor of Surgery (Public Health Sciences)
MS University of Michigan 2002
BS Stanford University 2000
MD Duke University 2006
Arthur L Casey, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD University of Missouri 1977
Michael B Chen, Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
Ronald J Chod, Adjunct Associate Professor of Obstetrics and Gynecology (primary appointment)
BA University of Texas Austin 1978
Camaryn E Chrisman Robbins, MD, M PH, Assistant Professor of Obstetrics and Gynecology (primary appointment)
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M PH University of Michigan 1998
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Vicente M Colon-Alcaraz, MD, Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
BA University of Puerto Rico 1978
MD School Not Listed 1982
Eric S Colton, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS University of CA Irvine 1987
MD Saint Louis University 1996
Shayna N Conner, MD
Assistant Professor of Obstetrics and Gynecology (primary appointment)
MD University of MO Columbia 2008
BA George Washington University 2003

James P Crane, MD
Associate Vice Chancellor for Clinical Affairs (primary appointment)
Chief Executive Officer-Faculty Practice Plan
Professor of Obstetrics and Gynecology
Professor of Radiology
Associate Professor of Genetics
MD Indiana University Bloomington 1970
BS Indiana University Bloomington 1966

Robert D Crist
Instructor in Clinical Obstetrics and Gynecology (primary appointment)

Veronica Lynn Cross
Instructor in Clinical Obstetrics and Gynecology (primary appointment)

David T Curiel, MD, PhD
Distinguished Professor of Radiation Oncology (primary appointment)
Professor of Medicine
Professor of Obstetrics and Gynecology
Professor of Radiology
Associate Professor of Genetics
MD Emory University 1982
BA West Georgia College 1978
PHD University of Groningen 2000

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BS School Not Listed 1986
UNKNOWN School Not Listed 1992

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M PH Northwestern University 2009

Josiah O. Ekunno
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Professor of Cell Biology and Physiology
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BS Sri Paramakalyani College 1995
PHD Natl Inst Resrch Reprod Health 2007

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MD University of Missouri 1992
BA Washington Univ in St. Louis 1988

Shanon Alex Forseter Instructor in Clinical Obstetrics and Gynecology (primary appointment)

Katherine C Fuh, MD Assistant Professor of Obstetrics and Gynecology (primary appointment)
MD Georgetown University 2005

Andrew E Galakatos, MD Professor of Clinical Obstetrics and Gynecology (primary appointment)
BS St Louis College of Pharmacy 1960
MD University of Missouri 1965

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BS University of Toledo 1962
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Professor of Engineering
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Assistant Professor of Obstetrics and Gynecology

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MS Kerala University 1989

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Instr Emeritus in Clinical Ob & Gyn (primary appointment)

MD Washington Univ in St. Louis 1963

BA Westminster College 1959

Jennifer Alaine Miller-Katsafanas, DPT, BBA Assistant Professor of Physical Therapy (primary appointment)

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BA University of MO St Louis 1996

DPT Washington Univ in St. Louis 2012

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Tehmton S Mistry, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)

MD University of Bombay 1968

Kelle Harbert Moley James Crane Professor of Obstetrics and Gynecology (primary appointment)

Associate Professor of Cell Biology and Physiology

Vice Chairman for Basic Research, Department of Obstetrics and Gynecology

BA Wellesley College 1984

Alvaro Mora, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)

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BS Indiana University Bloomington 1986

Nathaniel H Murdock, MD Associate Professor of Clinical Obstetrics and Gynecology (primary appointment)

MD Meharry Med College 1963

BS Howard University 1958

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BA Rice University 1992

MD Beaufort Technical College 1996

David G Mutch, MD Ira C and Judith Gall Professor of Obstetrics and Gynecology (primary appointment)

BA Carleton College 1976

MD Washington Univ in St. Louis 1980

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MS University of Lund 1995

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Clarice Michelle Nelson, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)

MD University of Kansas Medical 2011

Donald Michael Nelson, MD, PHD Virginia Lang Professor of Obstetrics and Gynecology (primary appointment)
Marlynn Nunez, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA Cornell College 1971
PHD Washington Univ in St. Louis 1977

Oroma Beatrice Afiong Nwanodi, Instructor in Clinical Obstetrics and Gynecology (primary appointment)

Laura James Nywening, MD, Instructor in Obstetrics and Gynecology (primary appointment)
BS University of Florida 2007
MD University of Florida 2011

Randall Odem, MD, Professor of Obstetrics and Gynecology (primary appointment)
MD University of Iowa 1981
Chukwuma Mbonu Okorji, Instructor in Clinical Obstetrics and Gynecology (primary appointment)

Kenan Rifat Omurtag, MD, Assistant Professor of Obstetrics and Gynecology (primary appointment)
MD University of MO Kansas City 2006
BA University of MO Kansas City 2006

Margaret McCarthy Ormonde, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS University of Missouri 1983

Allen S Palmer, DOST, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
DOST School Not Listed 1972
BS Ohio Northern University 1963

Laura Anne Parks, MD, Associate Professor of Obstetrics and Gynecology (primary appointment)
BA University of Kansas 1998
BS University of Kansas 1998
MD University of Kansas 2004

Meera Raman Patel, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD University of MO Kansas City 1996

Anthony Craig Pearlstone, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA Washington Univ in St. Louis 1981
MD Washington Univ in St. Louis 1985

John David Pfeifer, MD, PHD, Professor of Pathology and Immunology (primary appointment)
Professor of Obstetrics and Gynecology
Vice Chairman for Clinical Affairs of Pathology and Immunology
MD University of California 1988
PHD University of California 1987
BA University of California 1981

Timothy Charles Philpott, MD, Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD Washington Univ in St. Louis 1994

Aaron Juan Pile, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD School Not Listed 1983
BA Norfolk State University 1980

Jorge Pineda, MD, Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD School Not Listed 1972

**Matthew A Powell, MD**
Associate Professor of Obstetrics and Gynecology (primary appointment)
MD Michigan State University 1995
BS Washington St University 1990

**Jodie Rai, MD**
Associate Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD University of Illinois 1988
BA Harvard University 1983

**Roxane M. Rampersad, MD**
Associate Professor of Obstetrics and Gynecology (primary appointment)
MD Emory University 1998
BS Emory University 1994

**Valerie Ratts**
Professor of Obstetrics and Gynecology (primary appointment)

**Amy J. Ravin, MD**
Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD University of Chicago 1996

**Jonathan R Reed, MD**
Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
BA Fisk University 1956
MD Meharry Med College 1965

**Angela Mary Reining**
Instructor in Clinical Obstetrics and Gynecology (primary appointment)

**Lee A Rigg, PHD, MD**
Associate Professor of Clinical Obstetrics and Gynecology (primary appointment)
BA Arizona State University 1961
PHD University of Colorado Boulder 1965
MD Washington Univ in St. Louis 1971

**Joan K. Riley, PHD**
Assistant Professor of Obstetrics and Gynecology (primary appointment)

**Assistant Professor of Pediatrics**

**Instructor in Medicine**

**Ann Marie Rockamann**
Instructor in Clinical Obstetrics and Gynecology (primary appointment)

**Celia Maria Santi Grau Perez, MD, PHD**
Associate Professor of Obstetrics and Gynecology (primary appointment)
MD Instituto de Montevideo 1992
BS Instituto de Montevideo 1979
PHD National Autonomous U of Mex 1998
Leslie A Scott, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Anne R Seyer, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA Saint Louis University 2002
MD Saint Louis University 2006
Clayton D. Skaggs, Adjunct Instructor in Obstetrics and Gynecology (primary appointment)
BS Southwest Missouri State University 1984
Jennifer H. Smith, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS University of California 1995
Tammy Shim Sonn, MD, Associate Professor of Obstetrics and Gynecology (primary appointment)
MD Rush University 2004
BS University of Chicago 1999
Theresa M Spitznagle, DPT, MHS, Associate Professor of Physical Therapy (primary appointment)
DPT Washington University in St. Louis 2006
MHS Washington University in St. Louis 1994
BS Marquette University 1986
Chotchai Srisuro, MD, Associate Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD School Not Listed 1967
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BS Southern Illinois University Edwardsville 2005
John A Stopple, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA Grinnell College 1962
MD University of Wisconsin Madison 1969
Molly Jean Stout, MD, Assistant Professor of Obstetrics and Gynecology (primary appointment)
BA Bryn Mawr College 2002
MD Loyola University Chicago 2007
Eric A Strand, MD, Associate Professor of Obstetrics and Gynecology (primary appointment)
MD Johns Hopkins University Medicine 1995
Abbe L Sudvarg, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Molly Dawn Tepe, MD, MS, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS Yale University 1999
MD Albert Einstein College of Medicine 2005
MS Columbia University 2004
Premal H Thaker, MD, MS, Associate Professor of Obstetrics and Gynecology (primary appointment)
MD Allegheny College 1997
BA Villanova University 1995
MS University of Texas Houston 2004
Jean Alfred Thomas Sr., MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD School Not Listed 1972
Jeffrey Bryant Thompson, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS Vanderbilt University 1989
MD University of Missouri 1994
M. Bryant Thompson, Associate Professor of Clinical Obstetrics and Gynecology (primary appointment)
Albro C Tobey, MD
Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
BA Eastern New Mexico University 1957
BS Butler University 1965
MD School Not Listed 1972

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MD School Not Listed 1972

Yvonne Perle Treece, AA
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Methodius Gamuo Tuuli, M PH
Associate Professor of Obstetrics and Gynecology (primary appointment)
M PH University of California 2003
BS University of Ghana 1997

Stacy Lynne Tylka, DPT, MS
Associate Professor of Physical Therapy (primary appointment)
 Associate Professor of Orthopaedic Surgery
Associate Professor of Obstetrics and Gynecology
BS Saint Louis University 2000
DPT Washington Univ in St. Louis 2009
MS Saint Louis University 2002

Zevidah Vickery, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Ben-Gurion Univ of the Negev 2005

Daniel G Wagner
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA1 Holy Cross College 1985

Leonard Lewis Wall, MD, MS, PhD
Selina Okin Kim Conner Professor in Arts & Sciences and Professor of Anthropology (primary appointment)
Professor of Obstetrics and Gynecology
Professor of Obstetrics and Gynecology
Professor of Obstetrics and Gynecology
MD University of Kansas 1983
BA University of Kansas 1972
MS Monash University 2001
PHD Oxford University 1983
BS Oxford University 1974

Caihong Wang, PHD
Instructor in Obstetrics and Gynecology (primary appointment)
BS Laiyang Agricultural College 1993
PHD China Agriculture University 1998

Yong Wang
Assistant Professor of Obstetrics and Gynecology (primary appointment)
Assistant Professor of Radiology

Gary Michael Wasserman, MD
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MD University of Missouri 1980

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BA University of Missouri 1980
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David L Weinstein Associate Professor of Clinical Obstetrics and Gynecology (primary appointment)
Denise Michelle Willers, MD Associate Professor of Obstetrics and Gynecology (primary appointment)
MD Southern Illinois University 2000
BS Drake University 1996
Brooke Allison Winner, MD Assistant Professor of Obstetrics and Gynecology (primary appointment)
MD University of Washington 2008
Anna Wolaniuk, PHD, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS University of Lodz 1974
PHD Medical Academy Lodz 1975
MD Medical Academy Lodz 1979
Heather E. Wuebker Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA University of MO Kansas City 1996
Omar M. Young, MD Assistant Professor of Obstetrics and Gynecology (primary appointment)
MD Columbia University 2008
Haifaa Tawfiq Younis, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Baghdad University 1984
Sandra G.H. Zakroff Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Darryl Thomas Zinck Instructor in Clinical Obstetrics and Gynecology (primary appointment)
No entries found

Department of Ophthalmology and Visual Sciences

Instruction begins in the first year with examination of the eye and a lecture on various aspects of ocular disease. During the second year, students will receive a refresher lecture and lab on direct ophthalmoscopy as well as a lecture on ophthalmic manifestations of systemic disease and primary ocular disease. During the third year, students are given the opportunity during the surgery clerkship to spend four weeks on the ophthalmology services. In addition, during the third year there are lectures given to students during the Internal Medicine rotations. In the fourth year, a four-week intensive clinical rotation is tailored to students interested in pursuing ophthalmology as a career. Also, research electives are available under the guidance
of numerous different ophthalmology faculty members for fourth year students.

Please visit the Department of Ophthalmology website for more information about the department.

MD Courses — Ophthalmology and Visual Sciences

First year

Introduction to clinical ophthalmology begins in the first year with a lecture and practicum (peer exam) on taking an ocular history and performing an ocular exam. Emphasis is on ophthalmoscopy. Lectures and practicum session will be led by Dr. John Lind and Dr. Morton Smith.

Second year

During the second year, students will receive a refresher lecture and lab on direct ophthalmoscopy as well as a lecture on ophthalmic manifestations of systemic disease and primary ocular diseases.

Third year

Third-Year Clerkship Opportunities

In the third year, students are given the opportunity to spend four weeks of their surgery rotation on the ophthalmology service. The students work closely with the ophthalmology residents and review the differential diagnosis of the “red eye,” how to
interpret an ophthalmologic consult note, and how to handle ocular emergencies. During this rotation, there is again emphasis on the use of the ophthalmoscope. Additional clinical skills introduced to student rotators include the use of the slit lamp and indirect ophthalmoscopy. All third-year students must complete the “Case Studies in Ophthalmology for Medical Students” and attend the periodic “feedback/oral exam” session with Dr. John Lind and/or Dr. Morton Smith.

**Third year/fourth year**

Ophthalmology Sub-Internship Rotation (“The Sub-eye”). During the month of June prior to fourth year, students interested in pursuing a career in ophthalmology are encouraged to rotate on this intensive four week rotation. Students will have personal indirect ophthalmoscopy lenses available for use on the rotation. Formal didactics and workshops will be used to teach students how to perform a detailed ophthalmic history and exam including mastery of advanced slit lamp techniques and indirect fundoscopy. There will be an intense schedule of both live and recorded lectures delivered by ophthalmology faculty members with post-lecture quizzes. Students will be expected to perform daily required reading. Retention and understanding of reading materials will be gauged by frequent quizzes. Students are strongly encouraged to present a case at the Department's Grand Rounds. By the end of the rotation, students will be expected to function at the level of a first year ophthalmology resident.

**Fourth year**

**Electives**

**M50 – OPHTHALMOLOGY**

**M50 801 / OPHTHALMOLOGY**

Instructor(s): John T. Lind, MD, MS, lindj@vision.wustl.edu, and Morton E. Smith, MD, 314-747-5559 or 314-362-5722

Location: McMillan Hospital, Room 114, Barnes-Jewish Hospital, South Campus
Elective Contact: Mary Carnoali, 314-362-4418

Other Information: All students interested in this senior elective must meet with Dr. John Lind or Dr. Morton Smith in March of year WUMS III.
Enrollment limit per period: 8
Valid start weeks for WUMS IV students only: June 201

This elective is for senior students who plan to apply for a residency in ophthalmology. In accordance with any sub-internship, medical students will be expected to function at the level of a beginning first-year ophthalmology resident on this rotation. The students will rotate through the resident eye clinic and the subspecialty clinics of the full time faculty of the Washington University Medical School Department of Ophthalmology and Visual Sciences (e.g., neuro-ophthalmology service, cornea/external disease service, etc.).

The first day of the rotation will consist of an orientation day in which students will receive extensive didactics and participate in workshops to learn the basics of a complete ophthalmic history and examination. Students may opt to check-out indirect ophthalmoscopy lenses that may be used for the month to facilitate the acquisition of fundoscopy skills. During the rotation, the student’s responsibilities range from observation (including observing surgery) to working at a resident level and completing full eye examinations.

There will be a rigorous academic curriculum for the rotation including a weekly case presentation to Dr. John Lind or Dr. Morton Smith, bi-monthly wet lab sessions with a resident, weekly attendance at grand rounds, and a mix of medical student-oriented and resident-oriented conferences.

On day one, students will receive a rotating call schedule for the entire month. A medical student is expected to be present at all times to assist the primary call ophthalmology resident during the rotation. By the end of the four-week rotation, the student is expected to be proficient in taking an ocular history and performing a complete eye exam including slit lamp biomicroscopy and indirect ophthalmoscopy.
All students interested in this senior elective must meet with Dr. John Lind or Dr. Morton Smith in March of year WUMS III. The final grade of the student is determined by input from the director of the particular service(s) through which the student rotated, plus the case presentations, plus scores on quizzes over required reading. The grades at Washington University are Honors, High Pass, Pass, Fail.

Student time distribution: Inpatient 5%; Outpatient 80%; Conferences/ Lectures 15%; Subspecialty Care 100%
Major teaching responsibility: Attendings, fellows and residents
Patients seen/weekly: At least 25, usually more
On call/weekend responsibility: yes / yes- call schedule will be finalized on day one of the rotation.

M50 816 / AWAY ROTATION IN OPHTHALMOLOGY
Instructor(s): John T. Lind, MD, MS, lindj@vision.wustl.edu, and Morton E. Smith, MD
Location: McMillan Hospital, Room 114, Barnes-Jewish Hospital, South Campus
Elective Contact: Mary Carnoali, 314-362-4418

Other Information: All students interested in this away elective must apply through VSAS and then be formally invited to enroll.
Enrollment limit per period: 6
Valid start weeks: September 2016

This four-week elective is for senior students from medical schools across the United States who are in good standing at their home institution and who are planning to apply for a residency in ophthalmology. To enroll in this elective students must first apply online for the elective via the visiting student application service (VSAS). These applications will be reviewed and invitations will then be sent to individuals to enroll in the elective. Due to large demand, not all eligible away students will be accepted for the rotation. The dates for this elective are not flexible.

The students will rotate through the resident eye clinic and the subspecialty clinics of the full time faculty of the Washington University Medical School Department of
Ophthalmology and Visual Sciences (e.g., neuro-ophthalmology service, cornea/external disease service, etc.). In exchange for a refundable deposit, students may opt to check-out indirect ophthalmoscopy lenses that may be used for the month to facilitate the acquisition of fundoscopy skills.

During the rotation the student’s responsibilities range from observation (including observing surgery) to working at a resident level and completing full eye examinations. Didactics will include weekly case presentation sessions to Dr. John Lind or Dr. Morton Smith, weekly attendance at grand rounds, and a mix of medical student-oriented and resident-oriented conferences. Also, there will be medical student-oriented workshops to learn the basics of the slit lamp and indirect ophthalmoscopy.

On day one, students will receive a schedule of conferences that they are expected to attend during the month. By the end of the four-week rotation, the student is expected to be proficient in taking an ocular history and performing a complete eye exam including slit lamp biomicroscopy and indirect ophthalmoscopy.

The final grade of the student is determined by the course director with input from the residents, fellows, and faculty members of the particular service(s) through which the student rotated.

Student time distribution: Inpatient 15%; Outpatient 70%; Conferences/ Lectures 15%; Subspecialty Care 100%
Major teaching responsibility: Attendings, fellows, and residents
Patients seen/weekly: At least 25, usually more
On call/weekend responsibility: No call responsibility. Very rare weekend responsibility.
Research — Ophthalmology and Visual Sciences

OPHTHALMOLOGY RESEARCH OPPORTUNITIES (M50 900)

Usha P. Andley, PhD
1114-C McMillan
314-362-7167
Molecular basis of cataract; the function of molecular chaperones in cataract; proteomics, imaging and biochemical studies on cell culture and mouse models for crystallin gene mutations linked with cataract; testing drugs to inhibit cataract.

Rajendra S. Apte, MD, PhD
apte@vision.wustl.edu
Innate immunity and immune effector mechanisms in the retina, oxidative stress and cell death, models of developmental angiogenesis and neovascularization, inflammation and photoreceptor survival, macular degeneration.

Steven Bassnett, PhD
1114 McMillan
314-362-1604
Eye development, stochastic models of lens growth, stem cell biology, age-related cataract, UV-induced somatic mutation, ocular manifestations of Marfan syndrome, cell death suppression on the optic axis, cell biology of transparent tissues.

Anjali Bhorade, MD
314-362-5343
Evaluating the effect of glaucoma on visual function in older adults in the home. Understanding the relationship between vision and driving in older adults with glaucoma.
Shiming Chen, PhD
618 McMillan
314-747-4350
The molecular mechanisms regulating photoreceptor gene expression and the implications in understanding photoreceptor development and disease. We are focusing on three transcription factors, CRX, NRL and NR2E3, linked to photoreceptor degenerative diseases. Molecular genetics and biochemical approaches are used to identify the regulatory pathways associated with each factor. Mouse models are used to understand why mutations in these factors cause disease and develop therapeutic strategies, including AAV-gene therapy.

Steven M. Couch, MD
<email>couch@vision.wustl.edu</email>
Orbital inflammatory diseases, surgical techniques and novel treatments of periocular/orbital disease.

Susan M. Culican, MD, PhD
1104 McMillan
314-362-9278
Clinical: development of a low cost, simple visual function task for screening for macular disorders in the primary care setting. Education: examination of the utility of assessment tools for evaluating resident clinical progression during residency training. Development of new metrics to gauge resident progress.

Philip L. Custer, MD
<email>custer@vision.wustl.edu</email>

Thomas A. Ferguson, PhD
1207 McMillan
314-362-3745
Molecular basis of immune tolerance and how apoptotic cells tolerize the immune
response. The role of immune privilege in the pathogenesis of eye diseases such as age-related macular degeneration (AMD). The role of basal autophagy in the cells of the eye by using the cre-loxP system to delete essential autophagy genes from specific cell types in the eye.

Mae Gordon, PhD
1125 Old Shriners
314-362-3716
Ocular hypertension, glaucoma, keratoconus, adenoviral conjunctivitis, randomized clinical trial methodology, patient-reported outcome measures and measurement reliability.

George J. Harocopoulos, MD
harocopoulos@vision.wustl.edu
Age-related cataract, ophthalmic pathology.

Didier Hodzic, PhD
hodzicd@vision.wustl.edu
620 McMillan
314-362-7037
Cell biology of retinal development and homeostasis in mice, cone and rods cytoarchitecture.

Andrew Huang, MD, MPH
106 McMillan Building
314-362-0403
Ocular surface stem cell biology, molecular therapy for corneal dystrophies and corneal neovascularization, oxidative stress of corneal endothelium, clinical research on dry eye and ocular surface disease.

Humeyra Karacal, MD
karacal@vision.wustl.edu
Treatment of uveitis, prevention of cataracts with anti-oxidants, anti-oxidants in age
related macular degeneration, retinal imaging and analysis using data mining techniques, designing OR equipment to facilitate ophthalmic surgery

Michael A. Kass, MD
kass@vision.wustl.edu
Principal Investigator of the Ocular Hypertension Treatment Study (OHTS). Diagnosis, treatment and public health aspects of glaucoma.

Vladimir Kefalov, PhD
625 McMillan
314-362-4376
Photoreceptor Neurobiology and Retinal Degeneration. We are a sensory neurobiology lab interested in the function of mammalian rod and cone photoreceptors. In addition, we are interested in the mechanisms of neurodegeneration in the retina and are working on developing pharmacological and gene-therapy tools for preventing photoreceptor cell death.

Daniel Kerschensteiner, MD
kerschensteinerd@vision.wustl.edu
To understand the principles that guide the assembly of neural circuits and to decipher the way they process information. We would like to understand the principles that guide the assembly of neural circuits in the retina and to decipher the way they process information and hope to identify features of the retinal circuit architecture that perform particular computations and characterize how they arise during development. We then probe underlying mechanisms of circuit assembly and function through genetically targeted manipulations of specific cells in the retina.

John T. Lind, MD, MS
lindj@vision.wustl.edu
Glaucoma education, resident education, pharmacologic and surgical treatment of glaucoma, ophthalmic microbiology.

Gregg T. Lueder, MD
Retinoblastoma, eye misalignment (strabismus), retinopathy of prematurity, abnormal tearing, nasolacrinal disorders, cataracts, glaucoma.

Peter Lukasiewicz, PhD
1003C McMillan
314-362-4284
Neurotransmitters, synapses, retinal function in health and disease, retinal information processing.

Todd P. Margolis, MD, PhD
margolist@vision.wustl.edu

1. Cellular and molecular mechanisms that regulate herpes simplex infection neurons.

2. Inexpensive telemedicine for reducing blindness in underserved populations.

John R. Pruett, Jr., MD, PhD
1153K East Building
314-747-6769
Visual Systems and Cognitive Neuroscience Studies of Autism. Two active areas of research in my lab include: 1) behavioral and imaging studies of visual attention to and processing of eyes and faces in autistic and non-autistic subjects, and 2) developmental studies of large-scale brain networks in autistic and non-autistic subjects using functional connectivity magnetic resonance imaging (fcMRI). Example research rotation projects might include: pilot visual psychophysical studies of intermediate visual processes supporting face perception, or – for trainees with computational and/or imaging skills and interests – graph theory-based analyses of visual system sub-network structure across various groups in fcMRI data we have acquired from on-going projects.

Kumar Rao, MD
rao@vision.wustl.edu
Surgical and medical therapies for disorders of retina and choroid.

Nathan Ravi, MD, PhD, MS, FAAO
ravi@vision.wustl.edu
Directed toward understanding the pathophysiology of presbyopia and developing medical or surgical treatments for this condition.

Alan Shiels, PhD
1128 McMillan
314-362-1637
shiels@vision.wustl.edu
Molecular genetic mechanisms underlying cataract, glaucoma and associated eye disorders: (1) genome-wide linkage analysis and targeted (exome, amplicon) sequencing for discovery of causative or susceptibility genes, and (2) genotype-phenotype and functional expression studies of naturally occurring and gene-targeted mouse models to characterize pathogenic mechanisms.

Carla J. Siegfried, MD
siegfried@vision.wustl.edu
My research is focused on ocular oxygen metabolism and the development of open angle glaucoma. We are studying how the oxygen gradient in the eye is altered in disease states as well as non-invasive methods of measuring corneal oxygen consumption.

Florentina Soto, PhD
sotolucasf@vision.wustl.edu
Studies in my laboratory aim to identify the molecular basis of dendrites and axons lamination and synapse formation during development and in the adult retina. In addition, we investigate how these molecules could be involved in the development of retinal pathologies including retinal degeneration.

Larry Tychsen, MD
2S89 Eye Clinic, St. Louis Children’s Hospital
314-454-6026

Principal investigator on NIH-funded studies of visual brain maldevelopment and repair in infant primates, as well as clinical studies of visuomotor abnormalities in cerebral palsy and pediatric refractive surgery.

Gregory P. Van Stavern, MD
vanstaverng@vision.wustl.edu

Neuroimaging of the visual pathways, Idiopathic Intracranial Hypertension, evidence-based medicine and clinical decision making; using the visual system as a model to study neurologic disorders. A further description of research labs can be found at http://vrcore.wustl.edu/residentstudentresearchopportunities/RSROHome

Faculty — Ophthalmology and Visual Sciences

Todd P Margolis, PHD, MD
Alan A and Edith L Wolff Distinguished Professor (primary appointment)
Head of the Department of Ophthalmology and Visual Sciences
PHD University of CA San Francisco 1983
BS Stanford University 1977
MD University of CA San Francisco 1984

Henry W Allhoff, OD
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BA University of Missouri 1976
OD Illinois College of Optometry 1981

Navinkumar J Amin, MS
Associate Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MS University of Bombay 1966
Shilpa S Amin, Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA University of MO Kansas City 1994

Usha P Andley, MS, Professor of Ophthalmology and Visual Sciences (primary appointment)
Assistant Professor of Biochemistry and Molecular Biophysics
BS Delhi University 1970
MS Delhi University 1972

Rajendra Apte, PhD, MD, Paul A. Cibis Distinguished Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Developmental Biology
Professor of Medicine
PHD University of Texas Southwest 1997
MD University of Bombay 1993

Sonya Bamba, MD, Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
MD Saint Louis University 2007

Steven Bassnett, PHD, Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Cell Biology and Physiology
BS University of Wales 1982
PHD University of East Anglia 1987

Paul Douglas Becherer, OD, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BA Southern Illinois University 1971
OD School Not Listed 1975

Stanley C Becker, PHD, MD, MA, Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Washington Univ in St. Louis 1948
PHD Washington Univ in St. Louis 1951
MD University of Chicago 1955
MA Washington Univ in St. Louis 1950

William L Becker, MD, MA, Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Earlham College 1982
MD Washington Univ in St. Louis 1987
MA Washington Univ in St. Louis 1987

Gregg Jonathan Berdy, MD, Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Duke University 1979
MD Saint Louis University 1983

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BS Indiana State University 1983
OD University of Missouri 1987

Anjali Maruti Bhorade, MD, Associate Professor of Ophthalmology and Visual Sciences (primary appointment)

Associate Professor of Occupational Therapy
MD University of Chicago 1999

Frank Joseph Bier, OD, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
Ronald C Bilchik, MD  
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BS University of Missouri 1979

Mark Gerald Birkmann  
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BS University of Toledo 1963  
MD Washington Univ in St. Louis 1967

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BA Duke University 1987  
MA Washington Univ in St. Louis 1991  
MD Washington Univ in St. Louis 1992

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MD University of MO Kansas City 1985

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Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)  
BA Yale University 1966  
MD Johns Hopkns University Medic 1970

George M Bohigian, MD  
Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)  
MD Saint Louis University 1965

Isaac Boniuk  
Professor Emeritus of Clinical Ophthalmology and Visual Sciences (primary appointment)  
Prof Emeritus of Clin Ophthalmol & Vis SCi (primary appointment)  
BS Dalhousie University 1958

Bernita Born-Wolf, OD, BN  
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)  
OD University of MO St Louis 1987  
BN Saint Louis University 1978

Paul J Botelho, MD  
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MD Boston University 1992  
BA Holy Cross College 1988

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OD University of MO St Louis 2001  
BS University of MO Columbia 1994

Rebekah Arletta Braslow, MD  
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BS Stanford University 1981  
MD Yale University 1987

Sean Michael Breit, MD  
Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)  
MD Ohio State University 2002  
Larry G Brokering  
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
Marc Richard Brown, OD
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BA University of Missouri 1974
OD School Not Listed 1980

Dean B Burgess, MD
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Prof Emeritus of Clin Ophthalmol & Vis Sci (primary appointment)

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Jenny Chen
Instructor in Ophthalmology and Visual Sciences (primary appointment)

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Professor of Developmental Biology
BS Beijing University 1981
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BA Harvard University 1976
MD Johns Hopkins University 1980

Nicholas J Colosi, MD
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MD Saint Louis University 1968
BA La Salle University 1964

Joseph C. Corbo, MD, PHD, AB
Associate Professor of Pathology and Immunology (primary appointment)

Associate Professor of Genetics

Associate Professor of Ophthalmology and Visual Sciences
MD University of California 1999
PHD University of California 1997
BS Stanford University 1990
AB Stanford University 1990

Pamela Ann Coslick-Fada, OD
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MD University of MO Kansas City 2006

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Susan Margaret Culican, PHD, MD
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)
Philip L Custer, MD  
Professor of Ophthalmology and Visual Sciences (primary appointment)  
BS Vanderbilt University 1974  
MD Vanderbilt University 1978  

David L Davidson  
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)  

James Allen Declue, OD  
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)  
OD Illinois College of Optometry 1949  

John James Deguire, MD  
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BA Washington Univ in St. Louis 1983  
MD University of Illinois 1988  

Paul E Diehl, OD  
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Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)  
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Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)  
OD University of Missouri 1989  
BS University of Michigan 1984  

Adam Ross Fedyk  
Instructor in Clinical of Ophthalmology & Visual Sciences (primary appointment)  

Robert M Feibel  
Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)  

Thomas A Ferguson  
Professor of Ophthalmology and Visual Sciences (primary appointment)  
Associate Professor of Pathology and Immunology  

Kurt W Finklang, OD  
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)  
BS University of Missouri 1977  
OD State University of New York 1981  

Frank Donald Fontana, OD  
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BS Mass Inst of Technology (MIT) 1972  
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Lawrence A Gans, MD Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Columbia University 1972
MD Case Western Reserve Univ 1977
Stephen M Garnett, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Indiana University Bloomington 1980
BS Indiana University Bloomington 1978
N. Rex Ghormley Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
James M Gordon, MD Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MD University of Minnesota 1966
BA University of Minnesota 1962
Mae Etsuko Gordon, MS, PHD Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Biostatistics
MS Univ of Wisconsin Madison 1970
PHD Univ of Wisconsin Madison 1979
BA Portland St University 1967
Mark Gilbert Grand, MD Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
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Kevin William Greuloch, MD Instructor in Ophthalmology and Visual Sciences (primary appointment)
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UNKNOWN University of Missouri 1971
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Jack Hartstein, MD  Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
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MD University of Cincinnati 1955

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OD School Not Listed 1967
BS School Not Listed 1967

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MD Johns Hopkins University 1989
BA Wellesley College 1985

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BA University of Illinois 2004

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MD National Taiwan University 1981

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OD So Cal College of Optometry 1981
BS School Not Listed 1980

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MD Washington Univ in St. Louis 1975

Jeffrey H Jacob, OD  Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BA University of Missouri 1975
OD So Cal College of Optometry 1980
BS So Cal College of Optometry 1978

Sharon Leslie Jick  Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)

Daniel Paul Joseph  Associate Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BS Cornell University 1981

Krishna Priya Kalyam, MD  Instructor in Ophthalmology and Visual Sciences (primary appointment)
MD Robert Wood Johnson Medical Sc 2012
BS Rutgers University 2008

Stephen A Kamenetzky, MD  Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Washington Univ in St. Louis 1967
Humeyra Karacal, MD  Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
MD Hacettepe University 1994
Michael A Kass, MD, MS  Bernard Becker Professor of Ophthalmology and Visual Sciences (primary appointment)
Senior Associate Dean for Human Research Protection
MD Northwestern University 1966
MS Northwestern University Med 1966
BS Northwestern University 1963
Jack Kayes, MD  Professor Emeritus of Clinical Ophthalmology and Visual Sciences (primary appointment)
MD Washington Univ in St. Louis 1957
BA Yale University 1953
Vladimir Jivkov Kefalov, PHD  Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Neuroscience
PHD Boston University 1999
Deborah Lynn Kerber  Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BS Southeast Missouri St Univers 1986
Daniel Kerschensteiner, PHD  Associate Professor of Ophthalmology and Visual Sciences (primary appointment)
Associate Professor of Neuroscience
Associate Professor of Biomedical Engineering (Courtesy)
PHD Georg August University 2004
Sangeeta Khanna  Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
William F Kiefer Jr, OD  Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Illinois College of Optometry 1975
BA Princeton University 1967
BS Illinois College of Optometry 1973
Mark Alan Kleindorfer, OD  Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Indiana University Bloomington 1979
BS Indiana University Bloomington 1977
Vivian Marie Kloke, OD  Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD University of Missouri 1990
Harry L Knopf  Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Harvard University 1963
Ronald Joseph Knox, OD  Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD School Not Listed 1956
Michael S Korenfeld, MD  Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MD Washington Univ in St. Louis 1986
BS University of Arizona 1981

**Thomas Errol Kraemer, OD**
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BS Indiana University Bloomington 1970
OD Indiana University Bloomington 1972
BA Millikin University 1968

Michael J Lachtrup
Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
BS Indiana University Bloomington 1970
OD Indiana University Bloomington 1972
BA Millikin University 1968

**Robert Louis Lamberg, MD**
Associate Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MD Washington Univ in St. Louis 1976
BS University of MO St Louis 1972

**Paul Arthur Lapoint, OD**
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD School Not Listed 1963

**Steven F Lee, MD**
Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
MD University of Maryland 1987
BS University of Maryland 1983

**Scott W Lewis**
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BS1 So Cal College of Optometry 1975

**James Walter Lieber**
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BS Wayne State University 1976

**John T Lind, MS**
Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
BS Indiana University Indianopoli 1999
MS Purdue University 2000

**Qin Liu, PHD**
Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Ophthalmology and Visual Sciences
PHD Chinese Academy of Sciences 2004
BS Wuhan University 1998

**Anthony J Lubniewski, MD**
Professor of Ophthalmology and Visual Sciences (primary appointment)
BS University of Florida 1980
MD University of Florida 1985

**Gregg T Lueder, MD**
Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Pediatrics
MD University of Iowa 1985
BS Iowa State University 1981

**Peter David Lukasiewicz, PHD**
Janet and Bernard Becker Professor of Ophthalmology (primary appointment)
Professor of Neuroscience
PHD University of Michigan 1984
BS Brown University 1977

**Lisa Marie Mackey**
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BA University of Kansas 1989

**Ranjan P Malhotra, MD**
Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
MD University of Missouri 1995
Mary Kay Migneco, OD Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
BS University of Missouri 1986
OD University of MO St Louis 1991
BS1 University of Missouri 1986
Barry David Milder, MD Associate Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MD Washington Univ in St. Louis 1973
Duane L Mitzel, MD Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BS University of California 2000
MD Washington Univ in St. Louis 1977
Eugene James Mobley Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
Robert L Mobley, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Illinois College of Optometry 1958
Joshua L. Morgan, PHD Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
Assistant Professor of Neuroscience
BA Florida Southern College 2001
PHD Washington Univ in St. Louis 2007
Robert F Munsch Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
BA University of Colorado Boulder 1974
Raymond I Myers, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Indiana University Bloomington 1970
BS University of Notre Dame 1966
Randall Earl Nacke Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
Matthew Newman, MD Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Vanderbilt University 1956
MD Columbia University 1959
Paul F Nichols III Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
Judith Mosinger Ogilvie, PHD, MA Adjunct Research Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
PHD Harvard University 1983
MA Harvard University 1978
BS Brown University 1976
PHD1 Harvard University 1983
Jeffrey Robert Padousis, MD Instructor in Clinical Ophthalmology and Visual Science (primary appointment)
MD Saint Louis University 2000
Anjali K Pathak, MD Associate Professor of Ophthalmology and Visual Sciences (primary appointment)
MD West Virginia University 1997
BA West Virginia University 1993
BS West Virginia University 1993
MD West Virginia University 1997

**Jay S Pepose, PHD, MA, MD** Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Brandeis University 1975
PHD University of California 1980
MA Brandeis University 1975
MD University of CA Los Angeles 1982

**John Craig Perlmutter, MD** Associate Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MD Cornell University 1971
BA Queens College 1967

**Monica S Perlmutter, OTD, MA, BSOT** Associate Professor of Occupational Therapy (primary appointment)
Associate Professor of Ophthalmology and Visual Sciences
OTD Washington Univ in St. Louis 2012
MA Washington Univ in St. Louis 1989
BSOT University of MO Columbia 1981

**Mujtaba A Qazi** Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)

**Rithwick Rajagopal** Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)

**Mark S Rallo, OD** Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD University of Missouri 1990
BS Saint Louis University 1986

**Prabakar Kumar Rao, MD** Professor of Ophthalmology and Visual Sciences (primary appointment)
MD University of Southern Calif 1995
BA University of CA San Diego 1991

**V. Nathan Ravi, PHD, MS** Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Energy, Environmental and Chemical Engineering
PHD Virginia Tech 1980
MS University of Bombay 1975
BS University of Bombay 1972

**Michael Dennis Rohde** Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BS Valparaiso University 1983

**Louis J Rosenbaum, MD** Associate Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MD Washington Univ in St. Louis 1963

**Mark A Rothstein, MD** Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Williams College 1986
MD University of Utah 1991

**Michael B Rumelt, MD** Assistant Professor Emeritus of Clinical Ophthalmology and Visual Sciences (primary appointment)

**Asst Prof Emer of Clinical Ophthal & Vis Sci** (primary appointment)
BS Lamar University 1962
MD Washington Univ in St. Louis 1966
Scott Geoffrey Sagett, Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)

Jonathan C Schell, MD, Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
BS Saint Louis University 2001
MD Saint Louis University 2005

Frederick W Schwagger, OD, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BS Illinois College of Optometry 1957
BS1 Washington Univ in St. Louis 2000
OD Illinois College of Optometry 1957

Christopher G Seep, OD, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BA University of Missouri 1971
OD University of MO St Louis 1984

David Brian Seibel, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)

Gaurav Kirit Shah, MD, Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MD University of Illinois 1993

James Banks Shepherd III, MD, Associate Professor of Ophthalmology and Visual Sciences (primary appointment)
BA Amherst College 1992
MD Columbia University 1997

Priya Saigal Shetty, MD, Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
MD University of Michigan 2007

Arsham Sheybani, MD, Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
MD Washington Univ in St. Louis 2008

Steven M Shields, MD, Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BS Washington Univ in St. Louis 1981
MD Washington Univ in St. Louis 1986

Alan Shiels, PHD, Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Genetics
PHD University of London 1983
BS School Not Listed 1979

Howard Newton Short, MD, Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
MD Saint Louis University 1978
BA Washington Univ in St. Louis 1974

Carla J Siegfried, MD, Jacquelyn E and Allan E Kolker M.D. Distinguished Professor of Ophthalmology (primary appointment)
BA University of MO Kansas City 1989
MD University of MO Kansas City 1989

Charles D Signorelli, OD, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
Nicholas James Silvestros, Instructor in Ophthalmology and Visual Sciences (primary appointment)

Bradley Thomas Smith, MD, Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)

Morton Edward Smith, MD, Professor Emeritus of Ophthalmology and Visual Sciences (primary appointment)

Prof Emeritus of Ophthalmol & Vis Sci (primary appointment)

Lecturer in Ophthalmology and Visual Sciences

Lecturer in Pathology and Immunology

Associate Dean Emeritus for Post-Graduate Education

BS University of Maryland 1956

MD University of Maryland 1960

Claud Randall Snowden, OD, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)

OD Illinois College of Optometry 1974

BS Illinois College of Optometry 1972

Craig H Sorce, OD, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)

OD University of Missouri 1992

BA Southern Illinois University 1988

Florentina Soto Lucas, PhD, Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)

PHD University of Alicante 1992

Mark H Spurrier, MD, Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)

MD Washington Univ in St. Louis 1980

BA Kansas State University 1976

James F Strieter, MBA, OD, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)

MBA Southern Ill Univ Edwardsville 1988

BS School Not Listed 1953

OD School Not Listed 1954

Brian Patrick Sumner, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)

Kenneth V Swanson, Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)

Paul M Tesser, Associate Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)

Matthew A Thomas, MD, Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)

MD Harvard University 1991

BS Harvard University 1977

Linda Mei-Lin Tsai, MD, Associate Professor of Ophthalmology and Visual Sciences (primary appointment)

MD Northwestern University 1995
Robert Lawrence Tychsen  Professor of Ophthalmology and Visual Sciences  (primary appointment)
Professor of Neuroscience
Professor of Ophthalmology and Visual Sciences in Pediatrics
John F Hardesty MD  Distinguished Professor of Ophthalmology and Visual Sciences
BS Georgetown University 1975

Gregory Paul Van Stavern, MD  Associate Professor of Ophthalmology and Visual Sciences
( primary appointment)
Associate Professor of Neurology
MD Pennsylvania State University 1993
BS La Salle University 1989

Gary Lee Vogel, OD  Adjunct Instructor in Ophthalmology and Visual Sciences  (primary appointment)
OD Ohio State University 1977
BA University of Iowa 1970

David Edward Vollman, MD  Assistant Professor of Ophthalmology and Visual Sciences  (primary appointment)
MD Ohio State University 2006

James J Wachter, OD  Adjunct Instructor in Ophthalmology and Visual Sciences  (primary appointment)
OD Illinois College of Optometry 1991
BS Illinois College of Optometry 1990

William Lee Walter, MD  Assistant Professor of Clinical Ophthalmology and Visual Sciences  (primary appointment)
MD Ohio State University 1954
BA De Paul University 1950

Donald E Walter Jr, OD  Adjunct Instructor in Ophthalmology and Visual Sciences  (primary appointment)
BS University of Houston 1971
OD University of Houston 1972

Stephen R Waltman, MD, MBA  Professor of Clinical Ophthalmology and Visual Sciences  (primary appointment)
BS Mass Inst of Technology (MIT) 1961
MD Yale University 1964
MBA Washington Univ in St. Louis

Stephen Alan Wexler  Professor of Clinical Ophthalmology and Visual Sciences  (primary appointment)
BS University of Michigan 1977

Richard Harris Wieder, MD  Assistant Professor of Ophthalmology and Visual Sciences  (primary appointment)
MD University of Illinois 1986
BS University of Illinois 1982

Michael L Wolf, OD  Adjunct Instructor in Ophthalmology and Visual Sciences  (primary appointment)
OD University of Missouri 1987
BS University of Missouri 1979

Ming-Fong Agnes Wong, MD, PhD  Adjunct Professor of Ophthalmology and Visual Sciences  (primary appointment)
BA Boston University 1990
Department of Orthopaedic Surgery

Orthopaedic surgery is a discipline of surgery that is concerned with the musculoskeletal system. A medical student rotation exposes one to various aspects of orthopaedic surgery. This rotation should provide a variety of experiences ranging from operative, office and clinical practice and emergency room care of patients.

Please visit the Department of Orthopaedic Surgery website for more information.

MD Courses — Orthopaedic Surgery

Third year

THE MUSCULOSKELETAL CLERKSHIP: A PART OF THE COMPREHENSIVE SURGICAL CLERKSHIP

The objective of this rotation is to convey to the student appropriate knowledge, skills and attitudes for the recognition, diagnosis, investigation and treatment of conditions affecting the musculoskeletal system.

Most students at Washington University School of Medicine are not entering specialties that devote themselves to the treatment of diseases of the musculoskeletal system. It is noteworthy, though, that greater than one-third of complaints directed
toward primary caregivers and general internists are related to the musculoskeletal system: the actual volume of these complaints presented to primary care physicians, general internists and pediatricians is second only to complaints related to the cardiovascular system (and for pediatricians, presentations related to infectious diseases).

Musculoskeletal signs and symptoms are encountered commonly in emergency medicine, trauma surgery, internal medicine, oncology, neurology, pediatrics and endocrinology as well as many other surgical and medical specialties. Since students who enter postgraduate training in these subspecialties as well as in general primary care will be required to evaluate, diagnose and treat these conditions, it is important for the undergraduate curriculum to have these topics addressed in an organized and consistent way. It is for this reason that we developed a comprehensive integrated exposure to musculoskeletal surgery and medicine during the third-year comprehensive surgical clerkship. This is a key component of the integrated third-year curriculum.

To accomplish these goals, there will be a balance between clinical, operative, emergency room and didactic (lecture and small group) experiences. Didactic sessions will be in several formats: lectures, physical examination demonstrations and small group discussions. Only instructor or assistant-, associate- or professor-level members of the full-time Washington University School of Medicine staff will deliver formal lectures to the students. Lecturers will be from the Department of Orthopedic Surgery’s full-time faculty.

The following lecture topics will be scheduled monthly:
- Spinal Disorders
- Musculoskeletal Emergencies
- Common Fractures
- Adult Disorders of the Hip and Knee
- Adult Disorders of the Shoulder and Elbow
- Sports Injuries and Conditions in Adults and Children
- Adult Conditions of the Foot and Ankle
The clinical experience is one month in duration, and takes place during the comprehensive surgical clerkship for all Washington University medical students during either the first, second or third months of the 12-week clerkship. The one-month block is divided into two two-week sessions wherein the students would spend time with staff from the following specialties: orthopaedic surgery, rheumatology, physical medicine and rehabilitation, sports medicine, neurosurgery, and bone and mineral physiology.

The experience can be combined inpatient and outpatient, clinic and operating room, emergent and non-emergent care as well as both surgical and nonsurgical, based upon the student's own choosing. The following rotations are offered:

Hand (2 weeks)
Joint Reconstruction (2 weeks)
Shoulder and Elbow (2 weeks)
Oncology (2 weeks)
Physical Medicine and Rehabilitation (2 weeks)
Spine (2 weeks)
Rheumatology/Bone (2 weeks)
Pediatric Orthopaedic Surgery (2 weeks)
VA Orthopaedic Service (2 weeks)
Sports Medicine (2 weeks)
Sports Surgery (2 weeks)
Trauma (2 weeks)
Foot and Ankle/ (2 weeks)

The following Washington University School of Medicine full-time attending staff mentors are available to have students rotate with them during the rotation:

- Martin Boyer (Hand)
- Charles Goldfarb (Hand)
- Ryan Calfee (Hand)
- Daniel Osei (Hand)
- Christopher Dy (Hand)
- Lindley Wall (Hand)
- Matthew Matava (Sports Surgery)
- Mark Halstead (Sports Medicine)
- Robert Brophy (Sports Surgery)
- Matt Smith (Sports Surgery)
- Heidi Prather and Devyani Hunt (Physical Medicine and Rehabilitation)
- John Metzler and Adam Labore (Physical Medicine and Rehabilitation)
- Eric Gordon (Pediatric Orthopaedic Surgery)
- Jeff Nepple (Pediatric Orthopaedic Surgery)
- Mark Miller (Pediatric Orthopaedic Surgery)
- Gary Miller (VA Orthopaedic Surgery Service)
- Ryan Nunley (Joint Reconstruction)
- Denis Nam (Joint Reconstruction)
- Richard Brasington and Kathy Diemer (Rheumatology, Bone and Mineral)
- Jacob Buchowski (Spine)
- Luke Zebala (Spine)
- Mike Kelly (Spine)
- Munish Gupta (Spine)
- Paul Santiago (Neurosurgery Spine)
- Zach Ray (Neurosurgery Spine)
- Douglas McDonald (Orthopaedic Oncology)
- Cara Cipriano (Orthopedic Oncology)
- Regis O'Keefe (Orthopedic Oncology)
- Jay Keener (Shoulder and Elbow)
- Jeremy McCormick (Foot and Ankle)
- Sandra Klein (Foot and Ankle)
- William Ricci (Trauma)
- Chris McAndrew (Trauma)
There should only be ONE student per attending staff in order to promote one-on-one teaching; however, exceptions can be made in the event of vacations, illness, conference travel, etc. on the part of the attending staff.

The learning of physical examination skills by the students is a critical part of the musculoskeletal block. The Coursemaster and other attendings will meet weekly with the students to demonstrate physical examination of the neck and spine, shoulder and elbow, hip and knee, and the hand and foot. The normal examination will be covered, and relevant common conditions and provocative tests will be covered as well.

Fourth year

Electives

M95 –ORTHOPAEDIC SURGERY

M95 838 / PEDIATRIC ORTHOPAEDIC SPINE & SPORTS SURGERY
Instructor(s): Scott J. Luhmann, MD, 314-454-2045
Location: Washington University Orthopedics– Center for Advanced Medicine and Chesterfield; St. Louis Children's Hospital; Shriners Hospital for Children.
Elective Contact: Tracy Line, linet@wudosis.wustl.edu, 314-454-5219, or Kathy Jones, jones.k@wustl.edu, 314-747-2813 for questions.

Other Information: Students should contact either Tracy Line or Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 25, 29, 33, 37, and 41.

Clinical elective available for four weeks during which time the student will work with attending surgeon primarily at St. Louis Children's Hospital observing and assisting in outpatient and inpatient care. To be included are activities in the OR, ER, and outpatient clinics. In addition to general pediatric orthopaedics, Dr. Luhmann has
special interests in the treatment of pediatric spinal injuries and disorders as well as pediatric sports medicine. Attendance at and participation in the weekly pediatric orthopaedic conference activities required.

Student time distribution: Inpatient 48%; Outpatient 47%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Faculty attendings and resident mentors
Patients seen/weekly: Varies
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

M95 839 / ORTHOPAEDIC SPORTS MEDICINE
Instructor(s): Matthew Smith, MD, 314-514-3584
Location: Washington University/ Barnes-Jewish Hospital; VA Hospital; Washington University Orthopedics – Chesterfield
Elective Contact: Denise Andre, andred@wudosis.wustl.edu, 314-514-3584 or Kathy Jones, jones.k@wustl.edu, 314-747-2813.
Other Information: Students should contact Denise Andre or Kathy Jones prior to the first day of the elective.

Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This clinical elective is available for four weeks during which the student participates in orthopaedic conferences, outpatient clinics, surgical cases, and patient rounds on the Sports Medicine service.

Student time distribution: Inpatient 5%; Outpatient 90%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Faculty attending and fellow/resident mentors
Patients seen/weekly: Varies
On call/weekend responsibility: Varies — generally one weekend call and two weekday
calls during the rotation.

**M95 840A / ORTHOPAEDIC SURGERY – FOOT/ANKLE**

Instructor(s): Jeremy J. McCormick, MD, 314-514-3569
Location: Washington University Orthopedics – Chesterfield and Center for Advanced Medicine.
Elective Contact: Karen Jaboor, jaboork@wudosis.wustl.edu, 314-514-3569, or Kathy Jones, jones.k@wustl.edu, 747-2813.

Other Information: Students should contact Karen Jaboor or Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This four week clinical elective is available to medical students looking to further their knowledge/experience in orthopaedics, specifically foot and ankle surgery. Students will participate in surgical cases, outpatient clinics, inpatient care and weekly didactic sessions/conferences. At the completion of the elective students should have gained a basic knowledge of foot and ankle problems as well as their operative and non-operative care.

Student time distribution: Inpatient 20%; Outpatient 75%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Faculty attendings and fellow/resident mentors
Patients seen/weekly: 80
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

**M95 840B / ORTHOPAEDIC SURGERY – FOOT/ANKLE**

Instructor(s): Sandra Klein, MD, 314-514-2535
Location: Washington University Orthopedics – Chesterfield and Center for Advanced Medicine.
Elective Contact: Vicki Goldman, goldmanv@wudosis.wustl.edu, 314-514-2535 or Kathy Jones, jones.k@wustl.edu, 314-747-2813.

Other Information: Students should contact Vicki Goldman or Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 25, 29, 33, 37, and 41.

This four week clinical elective is available to medical students looking to further their knowledge/experience in orthopaedics, specifically foot and ankle surgery. Students will participate in surgical cases, outpatient clinics, inpatient care and weekly didactic sessions/conferences. At the completion of the elective students should have gained a basic knowledge of foot and ankle problems as well as their operative and non-operative care.

Student time distribution: Inpatient 20%; Outpatient 75%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Faculty attendings and fellow/resident mentors
Patients seen/weekly: 80
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

M95 842C / ORTHOPAEDIC SHOULDER/ELBOW SURGERY
Instructor(s): Jay D. Keener, MD, 314-747-2639
Location: Washington University/ Barnes-Jewish Hospital; Washington University Orthopedics – Chesterfield and Center for Advanced Medicine.
Elective Contact: Linda Burnworth, burnworthl@wudosis.wustl.edu, 314-747-2639 or Kathy Jones, jones.k@wustl.edu, 314-747-2813.

Other Information: Students should contact Linda Burnworth or Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 25, 29, 33, 37, and 41.
Clinical elective available, during which time the student will work with attending surgeons primarily at Barnes-Jewish Hospital. Activities will include participation in the care of hospitalized inpatients, participation in inpatient and outpatient procedures, attendance at designated attending office hours, attendance at designated orthopaedic conferences, and dissection of upper-extremity anatomical specimens.

Student time distribution: Inpatient 48%; Outpatient 47%; Conferences/ Lectures 5%; Subspecialty Care 100%

Major teaching responsibility: Faculty attendings and resident mentors

Patients seen/weekly: Varies

On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

M95 845A / ORTHOPAEDIC HAND AND UPPER EXTREMITY SURGERY

Instructor(s): Ryan P. Calfee, MD, 314-747-4705

Location: Washington University/ Barnes-Jewish Hospital; Shriners Hospital for Children; and St. Louis Children’s Hospital; Washington University Orthopedics – Chesterfield and Center for Advanced Medicine.

Elective Contact: Emily Camden, camdene@wudosis.wustl.edu, 314-362-9369, or Kathy Jones, jones.k@wustl.edu, 314-747-2813.

Other Information: Students should contact Emily Camden or Kathy Jones prior to the first day of the elective.

Enrollment limit per period: 1

Valid start weeks for four-week blocks are: Weeks 25, 29, 33, 37, and 41.

Clinical elective available, during which time the student will work with attending surgeons primarily at Barnes-Jewish Hospital, St Louis Children’s Hospital, and Shriner’s Hospital. The service includes care of adult and pediatric patients with traumatic, sports (arthroscopy), nerve, and degenerative disease. Activities will include participation in outpatient procedures, attendance at faculty clinic office hours, and attendance at orthopaedic conferences.
Student time distribution: Inpatient 5%; Outpatient 85%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Faculty attendings, fellow and resident mentors
Patients seen/weekly: 70+
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

**M95 845B / ORTHOPAEDIC HAND AND UPPER EXTREMITY SURGERY**
Instructor(s): Charles Goldfarb, MD, 314-747-4705
Location: Washington University/ Barnes-Jewish Hospital; Shriners Hospital for Children; St. Louis Children's Hospital; Washington University Orthopedics – Chesterfield and Center for Advanced Medicine, St. Louis Children's Specialty Care Center
Elective Contact: Karen Addison, addisonk@wudosis.wustl.edu, 314-747-4705 or Kathy Jones, jones.k@wustl.edu, 314-747-2813.

Other Information: Students should contact Karen Addison or Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 25, 29, 33, 37, and 41.

Clinical elective available, during which time the student will work with attending surgeons primarily at Barnes-Jewish Hospital, St Louis Children's Hospital, and Shriner’s Hospital. The service includes care of adult and pediatric patients with congenital, traumatic, sports (arthroscopy), nerve, and degenerative disease. Activities will include participation in outpatient procedures, attendance at faculty clinic office hours, attendance at orthopaedic conferences, and dissection of upper-extremity anatomical specimens.

Student time distribution: Inpatient 5%; Outpatient 85%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Faculty attendings, fellow and resident mentors
Patients seen/weekly: 100+
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

**M95 845C / ORTHOPAEDIC HAND AND UPPER EXTREMITY SURGERY**

Instructor(s): Richard H. Gelberman, MD, 314-747-2531
Location: Washington University/ Barnes-Jewish Hospital; Washington University Orthopedics – Chesterfield and Center for Advanced Medicine.
Elective Contact: Kally Coleman, colemank@wudosis.wustl.edu, 314-747-2531 or Kathy Jones, jones.k@wustl.edu, 314-747-2813.

Other Information: Students should contact Kally Coleman or Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Clinical elective available, during which time the student will work with attending surgeon primarily at Barnes-Jewish Hospital. Activities will include participation in the care of hospitalized inpatients, participation in inpatient and outpatient procedures, attendance at designated attending office hours, attendance at designated orthopaedic conferences, and dissection of upper-extremity anatomical specimens.

Student time distribution: Inpatient 48%; Outpatient 47%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Richard Gelberman, MD
Patients seen/weekly: Varies
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

**M95 845D / ORTHOPAEDIC HAND AND UPPER EXTREMITY SURGERY**

Instructor(s): Daniel A. Osei, MD, 314-747-2813
Location: Washington University/ Barnes-Jewish Hospital; Shriners Hospital for
Elective Contact: Kathy Jones, 314-747-2813, jones.k@wustl.edu

Other Information: Contact Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Clinical elective available, during which time the student will work with attending surgeons primarily at Barnes-Jewish Hospital and St. Louis Children's Hospital. The service includes care of adult and pediatric patients with traumatic, sports (arthroscopy), nerve, and degenerative disease. Activities will include participation in outpatient procedures, attendance at faculty clinic office hours, and attendance at orthopaedic conferences.

Student time distribution: Inpatient 5%; Outpatient 85%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Faculty attending and resident mentors
Patients seen/weekly: Varies
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

M95 845E / ORTHOPAEDIC HAND AND UPPER EXTREMITY SURGERY
Instructor(s): Lindley B. Wall, MD, 314-362-9369
Location: Washington University/ Barnes-Jewish Hospital; Shriners Hospital for Children; and St. Louis Children’s Hospital, Center for Advanced Medicine.
Elective Contact: Emily Camden, camdene@wudosis.wustl.edu, 314-362-9369, or Kathy Jones, jones.k@wustl.edu, 314-747-2813.

Other Information: Students should contact Emily Camden or Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Clinical elective available, during which time the student will work with attending surgeons primarily at Barnes-Jewish Hospital, St Louis Children's Hospital, and Shriner's Hospital. The service includes care of adult and pediatric patients with congenital, traumatic, sports (arthroscopy), nerve, and degenerative disease. Activities will include participation in outpatient procedures, attendance at faculty clinic office hours, attendance at orthopaedic conferences, and dissection of upper-extremity anatomical specimens.

Student time distribution: Inpatient 5%; Outpatient 85%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Faculty attendings, fellow and resident mentors
Patients seen/weekly: 60+
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

M95 846 / ORTHOPAEDIC TRAUMA
Instructor(s): William Ricci, MD and Christopher McAndrew, MD; 314-747-2811
Location: Washington University/ Barnes-Jewish Hospital; Washington University Orthopedics – Center for Advanced Medicine.
Elective Contact: Karen O'Dell, odellk@wudosis.wustl.edu, 314-747-2811 or Kathy Jones, jones.k@wustl.edu, 314-747-2813.

Other Information: Students should contact Karen O'Dell or Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Clinical elective available for a four-week period, during which time the student will work in orthopaedic trauma at Barnes-Jewish Hospital. The student will work with a
team of attendings, residents, PA's, and NP's to provide care for orthopaedic trauma patients. Activities include participation in the care of hospitalized inpatients, inpatient surgical procedures, outpatient office visits and daily conferences.

Student time distribution: Inpatient 60%; Outpatient 35%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Faculty attendings and resident mentors
Patients seen/weekly: Varies
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

M95 848A / ORTHOPAEDIC PEDIATRIC SURGERY
Instructor(s): Eric Gordon, MD, 314-454-2045
Location: Washington University/St. Louis Children's Hospital; Shriners Hospital for Children; Washington University Orthopedics – Chesterfield and Center for Advanced Medicine, St. Louis Children’s Specialty Care Center
Elective Contact: Barb Haegele, haegele.b@wudosis.wustl.edu, 314-454-2045 or Kathy Jones, jones.k@wustl.edu, 314-747-2813.

Other Information: Students should contact Barb Haegele or Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 25, 29, 33, 37, and 41.

Clinical elective available for four weeks during which time the student will work with attending surgeon primarily at St. Louis Children's Hospital observing and assisting in outpatient and inpatient care. To be included are activities in the OR, ER, and outpatient clinics. Attendance at and participation in the weekly pediatric orthopaedic conference activities required.

Student time distribution: Inpatient 48%; Outpatient 47%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Faculty attendings and resident mentors
Patients seen/weekly: Varies
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

M95 849A / ORTHOPAEDIC SPINE SURGERY IN ADULT PATIENTS

Instructor(s): Michael Kelly, MD, 314-747-2535
Location: Washington University/ Barnes-Jewish Hospital; Washington University Orthopedics – Chesterfield and Center for Advanced Medicine.
Elective Contact: Tricia Nester, nestert@wudosis.wustl.edu, 314-362-7140, or Kathy Jones, jones.k@wustl.edu, 747-2813.

Other Information: Students should contact Tricia Nester or Kathy Jones, 314-747-2813, jones.k@wustl.edu, prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This clinical elective is available for four weeks during which time the student will work with the attending surgeon primarily at Barnes-Jewish Hospital observing and assisting when appropriate in outpatient and inpatient care. To be included are activities in the OR, ER, and outpatient clinics. Attendance at and participation in the weekly orthopaedic conference activities is required. The spine fellow assigned to this service will serve as a primary contributor to the student’s education experience on this rotation.

Student time distribution: Inpatient 48%; Outpatient 47%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Faculty attending, spine fellow assigned to this service and resident mentors
Patients seen/weekly: Varies
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.
M95 849B / ORTHOPAEDIC SPINE SURGERY IN ADULT PATIENTS
Instructor(s): Jacob Buchowski, MD, MS, 314-747-4950
Location: Washington University/ Barnes-Jewish Hospital; Washington University Orthopedics – Chester and Center for Advanced Medicine.
Elective Contact: Amy Akers, akersa@wudosis.wustl.edu, 314-747-4950 or Kathy Jones, jones.k@wustl.edu, 314-747-2813.

Other Information: Students should contact Amy Akers or Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 25, 29, 33, 37, and 41.

This clinical elective is available for four weeks during which time the student will work with the attending surgeon primarily at Barnes-Jewish Hospital observing and assisting when appropriate in outpatient and inpatient care. To be included are activities in the OR, ER, and outpatient clinics. Attendance at and participation in the weekly orthopaedic conference activities is required. The spine fellow assigned to this service will serve as a primary contributor to the student’s education experience on this rotation.

Student time distribution: Inpatient 48%; Outpatient 47%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Faculty attending, spine fellow assigned to this service and resident mentors
Patients seen/weekly: Varies
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

M95 855A / RECONSTRUCTIVE AND JOINT PRESERVATION SURGERY
Instructor(s): Robert L. Barrack, MD, 314-747-2562
Location: Washington University/ Barnes-Jewish Hospital; Washington University Orthopedics – Chester and Center for Advanced Medicine.
Elective Contact: Christine Cucchi, cucchic@wudosis.wustl.edu, 314-747-2562 or Kathy
Jones, jones.k@wustl.edu, 314-747-2813.

Other Information: Students should contact Christine Cucchi or Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Clinical elective available, during which time the student will work with the attending physician on the Adult Reconstruction and Joint Preservation/Replacement service. This rotation is primarily centered at Barnes-Jewish Hospital and includes care of hospitalized inpatients, participant in inpatient and outpatient procedures, attendance at designated office hours, and attendance at and participation in orthopaedic educational conferences and anatomy sessions.

Student time distribution: Inpatient 48%; Outpatient 47%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Faculty attendings, fellow and resident mentors
Patients seen/weekly: Varies
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

M95 855B / RECONSTRUCTIVE AND JOINT PRESERVATION SURGERY
Instructor(s): John C. Clohisy, MD, 314-747-2566
Location: Washington University/ Barnes-Jewish Hospital; Shriners Hospital for Children; Washington University Orthopedics – Chesterfield and Center for Advanced Medicine.
Elective Contact: Debbie Long, longd@wudosis.wustl.edu, 314-747-2566 or Kathy Jones, jones.k@wustl.edu, 314-747-2813.

Other Information: Students should contact Debbie Long or Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 25, 29, 33, 37, and 41.

Clinical elective available, during which time the student will work with the attending physician on the Adult Reconstruction and Joint Preservation/Replacement service. This rotation is primarily centered at Barnes-Jewish Hospital and includes care of hospitalized inpatients, participant in inpatient and outpatient procedures, attendance at designated office hours, and attendance at and participation in orthopaedic educational conferences and anatomy sessions.

Student time distribution: Inpatient 48%; Outpatient 47%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Faculty attendings, fellow and resident mentors
Patients seen/weekly: Varies
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

**M95 855C / RECONSTRUCTIVE AND JOINT PRESERVATION SURGERY**

Instructor(s): Ryan M. Nunley, MD, 314-747-2523
Location: Washington University/ Barnes-Jewish Hospital; VA Hospital; Washington University Orthopedics – Chesterfield
Elective Contact: Melissa Stanley, stanleym@wudosis.wustl.edu, 314-747-2523 or Kathy Jones, jones.k@wustl.edu, 314-747-2813.

Other Information: Students should contact Melissa Stanley or Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 25, 29, 33, 37, and 41.

Clinical elective available, during which time the student will work with the attending physician on the Adult Reconstruction and Joint Preservation/Replacement service. This rotation is primarily centered at Barnes-Jewish Hospital and includes care of young patients with hip impingement pathology and older patients with end stage joint arthritis, hospitalized inpatients, participant in inpatient and outpatient
procedures, attendance at designated office hours, and attendance at and participation in orthopaedic educational conferences and anatomy sessions.

Student time distribution: Surgical 60%; Clinics 30%; Conferences/ Lectures 10%; Subspecialty Care 100%

Major teaching responsibility: Faculty attendings, fellow and resident mentors

Patients seen/weekly: 40-60 patients in clinic, 8-12 surgeries

On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

M95 855D / RECONSTRUCTIVE AND JOINT PRESERVATION SURGERY

Instructor(s): Denis Nam, MD, MSc

Location: Washington University/Barnes-Jewish Hospital; Washington University Orthopedics – Chesterfield

Elective Contact: Kelly Barriger, barrigerk@wudosis.wustl.edu, or Kathy Jones, jones.k@wustl.edu

Other Information: Student should contact either Kelly Barriger or Kathy Jones prior to the first day of the elective.

Enrollment limit per period: 1

Valid start weeks for four-week blocks are: Weeks 25, 29, 33, 37, and 41.

This clinical elective is available for four weeks during which the student participates in orthopaedic conferences, outpatient clinics, surgical cases, and patient rounds on the Reconstructive and Joint Preservation Surgery service.

Student time distribution: Inpatient 45%; Outpatient 45%; Conferences/Lectures 10%; Subspecialty Care 100%

Major teaching responsibility: Faculty attendings, fellows, and resident mentors

Patients seen/weekly: 120

On call/weekend responsibility: Varies – generally one weekend call and two weekday calls during each rotation.
M95 859 / ORTHOPAEDIC ONCOLOGY
Instructor(s): Douglas J. McDonald, MD, 314-747-2563
Location: Washington University/ Barnes-Jewish Hospital; Center for Advanced Medicine.
Elective Contact: Carrie Heineman, heinemanc@wudosis.wustl.edu, 314-747-2563 or Kathy Jones, jones.k@wustl.edu, 314-747-2813.

Other Information: Students should contact Carrie Heineman or Kathy Jones prior to the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 25, 29, 33, 37, and 41.

This clinical elective, centered primarily at Barnes-Jewish Hospital, is available for four weeks during which the student participates in orthopaedic conferences, outpatient clinics, surgical cases, and patient rounds on the Musculoskeletal Oncology service.

Student time distribution: Inpatient 48%; Outpatient 47%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Douglas J. McDonald, MD
Patients seen/weekly: Varies
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

M95 8991 / ORTHOPAEDIC SURGERY EXTERNSHIP (Visiting Students Only)
Instructor(s): Rick Wright, MD; Martin I. Boyer, MD; Jacob Buchowski, MD; Charles A. Goldfarb, MD; Ryan P. Calfee, MD; Eric Gordon, MD; Jay Keener, MD; Douglas McDonald, MD; Ryan Nunley, MD; Sandra Klein, MD; John C. Clohisy, MD; Scott Luhmann, MD; and Denis Nam, MD
Location: Washington University/ Barnes-Jewish Hospital; Washington University Orthopedics – Chesterfield and Center for Advanced Medicine.
Elective Contact: Heather Robinson, robinsonh@wudosis.wustl.edu, 314-747-2996.

Other Information: Students meet in the Education Office, 8:30 a.m. first day of the
elective.
Enrollment limit per period: Varies
Flexible scheduling is available for this externship.

Students rotate on Orthopaedic Services in four-week blocks. During their rotations students are assigned to two different services for two weeks each. Some sub-specialties that students may rotate on include sports medicine, hand and upper extremity, foot and ankle, musculoskeletal oncology, adult reconstructive surgery, pediatric orthopaedics, shoulder and elbow, and spine.

Student time distribution: Inpatient 48%; Outpatient 47%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Faculty attendings and resident mentors
Patients seen/weekly: Varies
On call/weekend responsibility: Varies — generally one weekend call and two weekday calls during the rotation.

Research — Orthopaedic Surgery

ORTHOPAEDIC SURGERY RESEARCH OPPORTUNITIES (M95 900)

Various orthopaedic surgery research opportunities are available with the following faculty attendings. If interested, please contact the Education Office at 314-747-2543, orthsurg@wudosis.wustl.edu or contact the faculty member directly.

Yousef Abu-Amer, PhD
Robert L. Barrack, MD
Robert Brophy, MD
Jacob M. Buchowski, MD, MS
Ryan Calfee, MD
Aaron Chamberlain, MD
John Clohisy, MD
Matthew Dobbs, MD
Richard H. Gelberman, MD
Charles A. Goldfarb, MD
Eric Gordon, MD
Munish Gupta, MD
Michael Kelly, MD
Sandra Klein, MD
Scott J. Luhmann, MD
Matthew J. Matava, MD
Chris McAndrew, MD
Mark Miller, MD
Jeff Neppe, MD
Regis O’Keefe, MD
Daniel Osei, MD
Linda Sandell, PhD
Perry Schoenecker, MD
Matt Silva, PhD
Matthew Smith, MD
Lindley B. Wall, MD
Rick Wright, MD

Faculty — Orthopaedic Surgery

Regis James O'Keefe, MD, PHD Fred C Reynolds Professor of Orthopaedic Surgery (primary
Head of the Department of Orthopaedic Surgery
MD Harvard University 1985
BA Yale University 1981
PHD University of Rochester 2000
Yousef Abu-Amer, MS Professor of Orthopaedic Surgery (primary appointment)
Professor of Cell Biology and Physiology
BS Hebrew University 1985
MS Hebrew University 1987
Muyibat A Adelani Assistant Professor of Orthopaedic Surgery (primary appointment)
Alexander William Aleem, MD Assistant Professor of Orthopaedic Surgery (Pending Executive Faculty Approval) (primary appointment)
MD Washington Univ in St. Louis 2010
BS Johns Hopkins University 2006
Robert L Barrack, MD Charles F and Joanne Knight Distinguished Professor of Orthopaedic Surgery (primary appointment)
MD Vanderbilt University 1980
Donald R Bassman, MD Instructor in Clinical Orthopaedic Surgery (primary appointment)
BA Washington Univ in St. Louis 1971
MD Washington Univ in St. Louis 1975
Terra Rupert Blatnik, MD Assistant Professor of Orthopaedic Surgery (primary appointment)
MD Case Western Reserve Univ 2007
BS Allegheny College 2003
Ljiljana Bogunovic, MD Assistant Professor of Orthopaedic Surgery (primary appointment)
MD Cornell University 2009
Martin I Boyer, MSc Carol B and Jerome T Loeb Professor of Orthopaedic Surgery (primary appointment)
MS University of Toronto 1993
Keith Happ Bridwell Albert Key Distinguished Professor of Orthopaedic Surgery (primary appointment)
Professor of Neurological Surgery
BA Washington Univ in St. Louis 1973
Robert Henry Brophy IV, MS, MD Associate Professor of Orthopaedic Surgery (primary appointment)
BS Stanford University 1994
MS Stanford University 1995
MD Washington Univ in St. Louis 2001
BA Stanford University 1994
Jacob M Buchowski, MD, MS Professor of Orthopaedic Surgery (primary appointment)
Professor of Neurological Surgery
BS Yale University 1996
MD Johns Hopkins University 2000
MS Yale University 1996
Cheryl Ann Caldwell, DPT, MHS Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
BS University of Colorado Boulder 1976
DPT Washington Univ in St. Louis 2002
MHS Washington Univ in St. Louis 1988
Ryan Patrick Calfee, MD
Associate Professor of Orthopaedic Surgery (primary appointment)
BS University of Virginia 1997
MD Washington Univ in St. Louis 2001

Aaron Mark Chamberlain, B MUS
Assistant Professor of Orthopaedic Surgery (primary appointment)
B MUS University of Utah 2002

Cara Alessandra Cipriano, MD
Assistant Professor of Orthopaedic Surgery (primary appointment)
MD University of Pennsylvania 2007
BS Williams College 2003

Roberto Civitelli, MD
Sydney M and Stella H Schoenberg Professor of Medicine (primary appointment)
Professor of Orthopaedic Surgery
Professor of Cell Biology and Physiology
BS University of Siena 1980
MD University of Siena 1980

John C Clohisy, MD
Daniel C. and Betty B. Viehmann Distinguished Professor of Orthopaedic Surgery (primary appointment)
MD Northwestern University 1989

Berdale S. Colorado, MS, DOST
Assistant Professor of Orthopaedic Surgery (primary appointment)
Assistant Professor of Neurology
MS Des Moines Universtiy 2009
DOST Des Moines Universtiy 2009
BS University of Iowa 2004

Suzanne Marie Cornbleet, MA, DPT
Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
MA Washington Univ in St. Louis 1987
BS University of Colorado Boulder 1975
DPT Washington Univ in St. Louis 2003

Sylvia Lin Czuppon
Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery

Ryan Michael DeGeeter, DPT
Instructor in Orthopeadic Surgery (primary appointment)
Instructor in Physical Therapy
BS Ball State University 2007
DPT Washington Univ in St. Louis 2010

Matthew Barrett Dobbs, MD
Dr Asa C and Mrs Dorothy W Jones Professorship in Orthopaedic Surgery (primary appointment)
MD University of Iowa 1995

Robert Kelso Duddy
Instructor in Clinical Orthopaedic Surgery (primary appointment)
Christopher J. Dy, M PH
Assistant Professor of Orthopaedic Surgery (primary appointment)
M PH University of Miami 2008
BS University of Miami 2004

Jack R. Engsberg, PHD, MS
Professor of Occupational Therapy (primary appointment)
Professor of Neurological Surgery
Professor of Orthopaedic Surgery
BS Univ of Wisconsin La Crosse 1973
PHD University of Iowa 1985
MS Univ of Wisconsin La Crosse 1978
MS1 Univ of Wisconsin La Crosse 1979
Kelly Eileen Estes, MD, MPH, MS Assistant Professor of Orthopaedic Surgery (Pending Executive Faculty Approval) (primary appointment)
MD Wright State University 2012
BS Kalamazoo College 2005
MPH Wright State University 2012
MS Columbia University 2016
Lawrence Glennon Evans Jr Instructor in Orthopaedic Surgery (primary appointment)

Robert Fačio, PhD Professor of Orthopaedic Surgery (primary appointment)
Professor of Cell Biology and Physiology
PHD University of Bari 2000

Richard H Gelberman, MD Professor of Orthopaedic Surgery (primary appointment)
BA University of North Carolina 1965
MD University of Tennessee 1969

Charles A Goldfarb, MD Professor of Orthopaedic Surgery (primary appointment)
BA Williams College 1992
MD University of Alabama 1996

J. Eric Gordon, MD Professor of Orthopaedic Surgery (primary appointment)
MD University of CA Davis 1988

Farshid Guilak, MS, MPH Professor of Orthopaedic Surgery (primary appointment)
Professor of Development Biology
Professor of Biomedical Engineering
MS Rensselaer Poly Institute 1987
MPH Columbia University 1990
BS Rensselaer Poly Institute 1985

Munish C Gupta, MD Mildred B. Simon Distinguished Professor of Orthopaedic Surgery (primary appointment)
BS Northwestern University 1982
MD Northwestern University Med 1986

Christina A. Gurnett, PHD, MD Associate Professor of Neurology (primary appointment)
Associate Professor of Orthopaedic Surgery
Assistant Professor of Pediatrics
PHD University of Iowa 1998
BS University of Notre Dame 1991
MD University of Iowa 1998

Mark E. Halstead, MD Associate Professor of Orthopaedic Surgery (primary appointment)
Associate Professor of Pediatrics
BS Univ of Wisconsin Madison 1994
MD Univ of Wisconsin Madison 1998

Michael Dennison Harris Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Orthopaedic Surgery
BS University of Utah 2007

Mary Kent Hastings, MS, DPT Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
MS Washington Univ in St. Louis 1993
BS University of Illinois 1990
DPT Washington Univ in St. Louis 2002

Marcie Harris Hayes, MS, DPT Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
Damon Joseph Louis Hays, MD
Instructor in Clinical Orthopaedic Surgery (primary appointment)

Nilsson Holguin, MS, PHD
Instructor in Orthopaedic Surgery (primary appointment)

Gregory William Holtzman, MS, DPT
Associate Professor of Physical Therapy (primary appointment)

Devyani M. Hunt, MD
Associate Professor of Orthopaedic Surgery (primary appointment)

Renee A. Ivens, DPT, MHS
Associate Professor of Physical Therapy (primary appointment)

Jeffrey E Johnson, MD
Professor of Orthopaedic Surgery (primary appointment)

Jay Donovan Keener, MD
Associate Professor of Orthopaedic Surgery (primary appointment)

Brian Adams Kelly, MD
Assistant Professor of Orthopaedic Surgery (Pending Executive Faculty Approval) (primary appointment)

Michael Patrick Kelly, MD
Assistant Professor of Orthopaedic Surgery (primary appointment)

Sandra E. Klein, BE, MD
Associate Professor of Orthopaedic Surgery (primary appointment)
Robert S. Kramer, MD - Instructor in Clinical Orthopaedic Surgery (primary appointment)

Adam J. LaBore, MD - Associate Professor of Orthopaedic Surgery (primary appointment), Associate Professor of Neurology

Robert Craig Lander, MD - Instructor in Clinical Orthopaedic Surgery (primary appointment)

Vanessa Mae Lanier - Instructor in Physical Therapy (primary appointment)

Fanxin Long, PhD - Professor of Orthopaedic Surgery (primary appointment), Professor of Developmental Biology, Professor of Medicine

Scott J. Luhmann, MD - Professor of Orthopaedic Surgery (primary appointment)

Jeffrey Wackher Martin, MD - Associate Professor in Orthopaedic Surgery (Pending Executive Faculty Approval) (primary appointment)

Matthew J. Matava, MD - Professor of Orthopaedic Surgery (primary appointment), Professor of Physical Therapy

Audrey McAlinden, PhD - Associate Professor of Orthopaedic Surgery (primary appointment), Associate Professor of Cell Biology and Physiology

Steven Joseph McAnany, MD - Assistant Professor of Orthopaedic Surgery (Pending Executive Faculty Approval) (primary appointment)

Christopher M. McAndrew, MD - Assistant Professor of Orthopaedic Surgery (primary appointment)

Sarah Howe McBride, PhD, MS - Adjunct Instructor in Orthopaedic Surgery (primary appointment)

Jeremy James McCormick, MD - Assistant Professor of Orthopaedic Surgery (primary appointment)

Douglas J. McDonald, MD - Professor of Orthopaedic Surgery (primary appointment)

Debra Ann McDonnell, MS, DPT, AS - Associate Professor of Emergency Medicine in Medicine
(primary appointment)
Associate Professor of Orthopaedic Surgery
Associate Professor of Physical Therapy
BS Washington Univ in St. Louis 1990
MS Washington Univ in St. Louis 1990
DPT Washington Univ in St. Louis 2005
AS Oakton Community College 2000
Mary Kate McDonnell, DPT, MHS
Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
Associate Director of Residencies and Fellowships in Physical Therapy
BS Saint Louis University 1981
DPT Washington Univ in St. Louis 2003
MHS Washington Univ in St. Louis 1985
Patricia Navarro McGee
Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Orthopaedic Surgery
John P Metzler
Associate Professor of Orthopaedic Surgery (primary appointment)
Associate Professor of Neurology
BS Texas A&M University 1991
Gretchen Ann Meyer, PHD, MS
Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Neurology
Assistant Professor of Orthopaedic Surgery
PHD University of CA San Diego 2011
BS Washington Univ in St. Louis 2004
MS Washington Univ in St. Louis 2004
Anna Noel Miller, MD
Associate Professor of Orthopaedic Surgery (Pending Executive Faculty Approval) (primary appointment)
BA Rice University 2001
MD Baylor University 2005
Gary Arthur Miller, MD
Associate Professor of Orthopaedic Surgery (primary appointment)
MD Jefferson Medical College 1977
BA University of Chicago 1973
Mark L. Miller, BE
Assistant Professor of Orthopaedic Surgery (primary appointment)
BE Stanford University 2004
Jeffrey Jerome Nepple
Assistant Professor of Orthopaedic Surgery (primary appointment)
BA Truman State University 2003
Ryan M. Nunley, MD
Associate Professor of Orthopaedic Surgery (primary appointment)
MD University of North Carolina 2002
BA Vanderbilt University 1998
Daniel Akwasi Osei
Assistant Professor of Orthopaedic Surgery (primary appointment)
Debabrata Patra, PHD, MS
Assistant Professor of Orthopaedic Surgery (primary appointment)
BS University of Bombay 1985
PHD University of Pittsburgh 1993
MS University of Bombay 2005
Terrence L Piper, MD
Assistant Professor of Clinical Orthopaedic Surgery (primary appointment)
BA Saint Louis University 1971
MD Saint Louis University 1975
Heidi Prather, DOST
Professor of Orthopaedic Surgery (primary appointment)
Professor of Neurology
Muhammad Farooq Rai, PHD
Assistant Professor of Orthopaedic Surgery (primary appointment)
PHD Freie University 2008
Wilson Z Ray
Assistant Professor of Neurological Surgery (primary appointment)
Assistant Professor of Orthopaedic Surgery
William M Ricci, MD
Professor of Orthopaedic Surgery (primary appointment)
MD Duke University 1992
BS Duke University 1986
Elizabeth Yanik Rowlands, PHD, MD
Assistant Professor of Orthopaedic Surgery (Pending Executive Faculty Approval) (primary appointment)
PHD University of North Carolina 2013
BS University of Maryland 2007
MD Johns Hopkins University 2009
Linda J Sandell, PHD, MS
Mildred B Simon Research Professor of Orthopaedic Surgery (primary appointment)
Professor of Cell Biology and Physiology
PHD Northwestern University 1980
MS University of Denver 1971
Paul Santiago, MD
Professor of Neurological Surgery (primary appointment)
Professor of Orthopaedic Surgery
BS Stanford University 1990
MD Yale University 1995
Perry Lee Schoenecker, MD
Professor of Orthopaedic Surgery (primary appointment)
BS Univ of Wisconsin Madison 1964
MD Univ of Wisconsin Madison 1968
Hua Shen, MS, PHD
Instructor in Orthopaedic Surgery (primary appointment)
MS Chinese Academy of Med Science 1996
PHD University of Konstanz 2002
Jie Shen, MS, PHD
Assistant Professor of Orthopaedic Surgery (primary appointment)
MS University of Rochester 2011
PHD University of Rochester 2012
BS Nanjing University 2005
John Joseph Sheridan, MD
Instructor in Clinical Orthopaedic Surgery (primary appointment)
MD Washington Univ in St. Louis 1969
Matthew J Silva, ME, PHD
Julia and Walter R Peterson Professor of Orthopaedic Research (primary appointment)
Assistant Professor of Biomedical Engineering
ME Cornell University 1984
PHD Mass Inst of Technology (MIT) 1996
BS Cornell University 1982
Matthew Vernon Smith, MD
Assistant Professor of Orthopaedic Surgery (primary appointment)
MD Virginia Comm University 2002
Nancy Bloom Smith, DPT
Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
DPT Washington Univ in St. Louis 2002
BS Washington Univ in St. Louis 1984
BA University of Virginia 1976
Jennifer Mae Strahle, MD
Asst Prof of Neurological Surgery
Asst Prof of Orthopaedic Surgery
Asst Prof of Pediatrics
MD University of Minnesota 2008
BS Bates College 2002

James W Strickland, MD
Visiting Professor of Orthopaedic Surgery (primary appointment)
BS Indiana University Bloomington 1958
MD Indiana University 1962

Chi-Tsai Tang
Assistant Professor of Orthopaedic Surgery (primary appointment)
Assistant Professor of Neurology

Simon Tang, PHD, MS
Assistant Professor of Orthopaedic Surgery (primary appointment)

Stacy Lynne Tylka, DPT, MS
Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
Associate Professor of Obstetrics and Gynecology
BS Saint Louis University 2000
DPT Washington Univ in St. Louis 2009
MS Saint Louis University 2002

Linda R Van Dillen, MS, PHD
Professor of Physical Therapy (primary appointment)
Professor of Orthopaedic Surgery
Associate Director of Musculoskeletal Research in Physical Therapy
MS Washington Univ in St. Louis 1985
BS University of Missouri 1979
PHD Washington Univ in St. Louis 1994

Harry John Visser
Instructor in Clinical Orthopaedic Surgery (primary appointment)

Lindley Bevelle Wall, MD
Assistant Professor of Orthopaedic Surgery (primary appointment)
MD Washington Univ in St. Louis 2006
BS Duke University 2002

Pamela M. Wendl, DPT
Assistant Professor of Physical Therapy (primary appointment)

Neill Marshall Wright, MD
Herbert Lourie Professor of Neurological Surgery (primary appointment)
Professor of Orthopaedic Surgery
MD University of California 1993

Rick Wayne Wright, MD
Jerome J Gilden MD Distinguished Professor of Orthopaedic Surgery
(secondary appointment)
BS University of Missouri 1984
MD University of Missouri 1988

Ken Yamaguchi, MD, MS
Professor of Orthopaedic Surgery (primary appointment)
MD George Washington University 1989
BA University of California 1983
MS University of California 1985

Lukas P Zebala, MD
Assistant Professor of Orthopaedic Surgery (primary appointment)
Assistant Professor of Neurological Surgery
Department of Otolaryngology

Otolaryngology is presented to students in the first-, second-, third- and fourth-year classes. Physical diagnosis skills are taught in the first year. Clinically oriented lectures and a physical diagnosis workshop are presented to second-year students. In the third year of the medical curriculum, four-week elective rotations on one of the services in East Pavilion, the St. Louis VA Medical Center — John Cochran Division or St. Louis Children’s Hospital are offered. During this period, there is teaching at the bedside, in the operating room and in the clinic, supplemented by daily afternoon lectures, Grand Rounds on Wednesdays and an introduction to audiology.

Fourth-year students interested in ENT as a specialty may take a two- to four-week elective designed to give them exposure to patient care, both in the outpatient clinic and the operating room and postoperative setting. An additional four-week elective that provides comprehensive ambulatory experience is offered to students headed for primary care.

CID at Washington University School of Medicine

The consortium of graduate-education, research and clinical programs known today as CID at Washington University School of Medicine was born out of the pioneering efforts of St. Louis physician Max Goldstein, MD. In 1914, he founded the Central Institute for the Deaf (CID), where doctors and teachers worked together to help deaf people. When CID’s school building opened two years later, its auditory/oral methods for instructing deaf children were groundbreaking.
Washington University and CID first joined forces in 1931, when CID's established teacher training program became the first deaf education undergraduate program to affiliate with a university. Graduate programs in deaf education, audiology, and speech and hearing sciences soon followed.

CID's research efforts began in the 1930s to study the anatomy and science of hearing. During World War II, CID's research on hearing loss in military personnel laid the foundation for the field of audiology. CID also pioneered hearing testing and hearing aids and opened the country's first hearing aid clinic in 1941. In September 2003, a new affiliation transferred CID's graduate degree programs, research programs and adult audiology clinic, along with its building, to Washington University School of Medicine. The CID school continues to operate on the School of Medicine campus as CID — Central Institute for the Deaf.

Today, these programs continue to work together to fulfill a shared mission to serve people with hearing loss.

For more information

Please visit the Department of Otolaryngology website for more information.

MD Courses — Otolaryngology

First year

OTOLARYNGOLOGY CLINICAL SKILLS
Instructor: Joseph P. Bradley, MD, 996-3869
This course consists of nine introductory lectures on common diseases of the head and neck, including voice disorders, head and neck cancer, hearing loss, management
of vertigo, pediatric otolaryngology, salivary gland disorders, sinusitis, otolaryngologic emergencies and facial trauma. Additionally, there is a case-based roundtable focusing on otolaryngology disorders affecting the geriatric population and the involvement of allied health care disciplines in the evaluation and management of these patients. Each lecture is highlighted by case presentations and treatment options in addition to pathophysiology. This course follows the physical examination practicum given earlier in the academic year.

Second year

M55 660B CLINICAL TOPICS IN OTOLARYNGOLOGY
Instructor: Joseph Bradley, MD, 362-6599
This course consists of eight introductory lectures on common diseases of the head and neck, including head and neck carcinoma, hearing loss, vertigo, neck masses, pediatric otolaryngology, salivary gland disorders, sinusitis, otolaryngologic emergencies and facial fractures. Each lecture is highlighted by case presentations and treatment options in addition to pathophysiology. This course follows the physical examination practicum given earlier in the academic year.

Fourth year

Electives

M55 801 / OTOLARYNGOLOGY
Instructor(s): Andrew Drescher, MD, 314-747-3742
Location: 805 F
Elective Contact: Carmen Horn,
314-747-3742, horn_c@ent.wustl.edu

Other Information: Students considering a career in otolaryngology should speak to Dr. Drescher prior to scheduling this elective. Prior to first day of elective student should contact Dr. Drescher to discuss options of elective and to ascertain starting time and location.
Enrollment limit per period: Limit 3/period for Weeks: 1, 5; Limit 2/period for Weeks: 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Four-week rotation includes evaluation of ENT problems presented to specialist for diagnosis and treatment. The student participates in the clinic, hospital, and operating room. This also includes time on the Pediatric ENT Service, Audiology, Voice Laboratory, and Vestibular Evaluation Laboratory. Option of rotation on the ENT Service at VAMC is available.

Student time distribution: Inpatient 40%; Outpatient 40%; Conferences/Lectures 20%; Primary Care 20%; Subspecialty Care 80%

Major teaching responsibility: Attendings and residents

Patients seen/weekly: 50

On call/weekend responsibility: Every fourth day

**M55 802 / GENERAL OTOLARYNGOLOGY**

Instructor(s): Andrew Drescher, MD, 314-747-3742

Location: 805 F

Elective Contact: Carmen Horn, 314-747-3742, horn_c@ent.wustl.edu

Other Information: Students considering a career in otolaryngology should speak to Dr. Drescher prior to scheduling this elective. Prior to first day of elective student should contact Dr. Drescher to discuss options of elective and to ascertain starting time and location.

Enrollment limit per period: 1

Valid start weeks for two-week blocks are: Weeks 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, and 43.

This two-week elective is an extremely flexible program consisting of several options:

- **General Ear, Nose and Throat Service**: Student functions as a junior resident at either Barnes-Jewish Hospital or John Cochran VA Medical Center. At Barnes-
Jewish Hospital participation in clinic, hospital inpatient, and operating room settings would expose student to a broad spectrum of patients. At the VA Hospital the emphasis would be on head and neck tumors.

- **Head and Neck Service—Barnes-Jewish Hospital**: Student functions as junior resident on ENT hospital floor with great deal of exposure to head and neck surgery.

- **Pediatric Otolaryngology—St. Louis Children’s Hospital**: Student participates as a junior resident, involved in pre- and postoperative surgical care as well as outpatient medical care.

- **Preceptorships**: Student is assigned to a private practitioner’s office functioning in his/her office as well as hospital service.

Other options can be entertained and formulated according to the student’s particular needs. Students participating in this elective will be required to spend an afternoon or morning in the Audiology/Vestibular Laboratory learning fundamentals of audiological and vestibular evaluation. Attendance at Monday afternoon conferences as well as Grand Rounds on Wednesday mornings is expected.

Student time distribution: Inpatient 20%; Outpatient 70%; Conferences/Lectures 10%; Primary Care 40%; Subspecialty Care 60%

Major teaching responsibility: Attendings and residents

Patients seen/weekly: 60

On call/weekend responsibility: None

**M55 803 / PEDIATRIC OTOLARYNGOLOGY**

Instructor(s): David W. Molter, MD, 314-454-2136

Location: 3S35 St. Louis Children’s Hospital

Elective Contact: Patty Tampow, 314-454-2136

Other Information: Students should report to 3S35, St. Louis Children’s Hospital, 8:00 a.m. first day of elective.

Enrollment limit per period: 2
This course is offered as either a two- or four-week rotation. Valid start weeks for two-week or four-week blocks are: Weeks 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41 and 43.

The student will actively participate in the clinical office, inpatient consultations, and surgery with the attending staff at St. Louis Children's Hospital. Care would be taken to provide experience in the common problems one would see in primary care pediatrics or family practice. Participation in sub-specialty/multidisciplinary clinics such as the Cleft and Craniofacial clinic is encouraged. Opportunity will be provided to learn the fundamentals of audiological evaluation. Students participating in this elective will attend academic conferences in both the pediatric and adult divisions.

Student time distribution: Inpatient 50%; Outpatient 40%; Conferences/ Lectures 10%; Primary Care 30%; Subspecialty care 70%
Major teaching responsibility: Attending physician and residents
Patients seen/weekly: 100
On call/weekend responsibility: At student’s discretion

M55 820 / PRACTICUM IN ADULT CLINICAL AUDIOLOGY
Instructor(s): Michael Valente, PhD, 314-362-7489
Location: 11th Floor, Center for Advanced Medicine (CAM)
Elective Contact: Michael Valente, PhD, 314-362-7489

Other Information: Students should contact Dr. Valente to schedule this elective.
Enrollment limit per period: 8
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Guidance provided in the administration and interpretation of audiometric tests. Emphasis on defining the severity of auditory dysfunction in addition to identifying sites of pathological processes. Theoretical bases of acoustics, anatomy and physiology, and electronics reviewed as they relate to auditory assessment. Modification of conventional test paradigms and hearing aid procedures covered
according to each student’s interests and needs.

Student time distribution: Inpatient 10%; Outpatient 80%; Conferences/ Lectures 10%; Primary Care 50%; Subspecialty Care 50%
Major teaching responsibility: Audiology staff
Patients seen/weekly: 120
On call/weekend responsibility: None

M55 831 / NEUROTOLOGY
Instructor(s): Joel Goebel, MD, FACS, 314-747-0553
Location: 9th Floor McMillan
Elective Contact: Maria Harrington, 314-747-0553

Other Information: Students should contact Dr. Goebel if interested in this elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Active student participation in the physical exam, advanced testing, and management of patients with balance dysfunction. Attend patient clinic two days a week and test patients on ENG, rotary chair, and computerized platform three days a week. Research participation welcome with prior arrangements.

Student time distribution: Outpatient 80%; Conferences/Lectures 20%; Primary Care 10%; Subspecialty Care 90%
Major teaching responsibility: Attending
Patients seen/weekly: 40
On call/weekend responsibility: None

M55 833 / AMBULATORY OTOLARYNGOLOGY FOR THE PRIMARY CARE PHYSICIAN
Instructor(s): Andrew Drescher, MD, 314-747-3742
Location: Barnes-Jewish Hospital and St. Louis Children’s Hospital clinics
Elective Contact: Carmen Horn, 314-747-3742, hornc@ent.wustl.edu
Other Information: Students should contact Carmen, 314-747-3742, prior to the start of this elective.

Enrollment limit per period: 1

Valid start weeks for four-week blocks are: Weeks 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This course offers a four-week exposure to ambulatory care of patients with diseases of the head and neck. Eight half-day sessions per week will be offered in attending clinics for general otolaryngology, head and neck cancer, otology, and pediatric otolaryngology. Two half-day sessions are reserved for audiology, vestibular lab, and voice lab experience. Surgical exposure is available for selected cases as identified by the student and attending physician, but the main goal of this rotation is outpatient diagnosis and management.

Student time distribution: Outpatient 100%; Primary Care 50%; Subspecialty Care 50%

Major teaching responsibility: Attendings and residents

Patients seen/weekly: >100

On call/weekend responsibility: None

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Research — Otolaryngology

OTOLARYNGOLOGY RESEARCH OPPORTUNITIES (M55 900)

The type of research will depend upon the current phase of the research program in each laboratory. Students should contact the director of each laboratory to negotiate.

Pablo M Blazquez, PhD
4566 Scott Avenue, East McDonnell Science Building
314-362-1013
Role of the vestibulo-cerebellum and its target nuclei in eye movement control and spatial orientation. We used a range of methodologies: single and multiunit recordings, electrical brain stimulation, computational methods, pharmacology and behavioral studies. Our main lines of research are: 1-Signal transformations carried out by the vestibulo-cerebellum during visual and vestibular stimulation. 2-Physiology of the vestibular nuclei 3-Role of the cerebellum-brainstem loop in motor learning in the vestibulo-ocular reflex.

Students will be instructed in one or several techniques and are expected to contribute significantly to the development of specific lab projects.

Joel A. Goebel, MD, FACS
8th Floor McMillan
314-747-0553
Clinical research testing of posture and ocular motor control. Projects include measurement of gaze stabilization during head movement, otolith input into dynamic subjective visual vertical measurements, computerized historical data screening for dizziness, and head-mounted vibrotactile balance prosthesis (BalCap). We welcome students to join these projects at any stage.

Judith E. C. Lieu, MD, MSPH
3S35 Children’s Hospital and 8th Floor McMillan
314-747-8205
Clinical Outcomes Research in Pediatric Otolaryngology. The Clinical Outcomes Research office performs clinical epidemiology and health services research. (Please reference the research elective offered by Dr. Jay Piccirillo in otolaryngology for more details.) These techniques and methodologies are used to investigate clinical problems seen in pediatric otolaryngology. Projects currently underway include the evaluation of quality of life of children with hearing loss, progression of hearing loss in children, and evaluation of unilateral hearing loss, use of functional connectivity MRI to investigate effects of hearing loss in children, and quality of life of parents whose young children with recurrent otitus media. Other projects of the student’s choosing that would utilize these research techniques may also be pursued.
Gene/environment interactions in cochlear injury. We study the interaction of genes and environment that increase cochlear injury due to noise and ototoxic exposure, with an emphasis on how these may yield apparent presbycusis. Because cochlear function and injury is the same in mice and humans, and governed by the same genes, we use mostly mouse models. Methods employed include standard ABR assessment and intra-cochlear recording, quantitative light microscopy, immunohistochemistry, and western blots. We also collaborate to map, and perform expression profiling of genes that underlie traits we have discovered. We and our collaborators have identified specific genes and inbred strains of mice that mimic the three major forms of human presbycusis (sensory, neural, and strial). Sensory presbycusis appears promoted by alleles and mutations that impair protective factors such as antioxidant enzymes, or that impair ion homeostasis. Neural presbycusis can be modeled by mutations that alter the function of cholinergic receptors. While we are not sure what types of genes and mutations can lead to strial presbycusis, we have discovered four mouse strains that show the key feature of this disease (age-related endocochlear potential reduction), and also show distinct types of strial pathology.

We have shown that some of the same gene alleles and mutations that promote presbycusis also promote cochlear noise injury. Such findings point to an interpretation of sensory presbycusis as principally cumulative injury. We have also published evidence for one or more QTLs that impact the qualitative character of noise injury. Important implications of our findings are (1) that there exists no single ‘mammalian’ archetype of cochlear noise injury, and (2) that injury to the organ of Corti and lateral wall are mechanistically and genetically independent.

Our research is eminently adaptable in difficulty and scale to students’ schedules and other requirements. Students may expect to learn the full range of methods we employ, including physiology, immunohistochemistry, histopathology, and cellular/molecular techniques.
The Clinical Outcomes Research Office of the Division of Research performs basic and applied clinical epidemiology and health services research. Clinical epidemiology is the study of the diagnosis, prognosis, and evaluation of treatment. Health service research is the study of the delivery of health care. The scientific methodology of clinical epidemiology is based on the architecture of clinical research, biostatistics, and data processing. Current projects include studying the impact of comorbidities on treatment and outcome for patients with cancer and the impact of a web-based cancer patient-specific prognostic information (Prognostigram) on treatment choices, outcomes, and satisfaction with care. We also conduct research into treatment and outcomes for patients with tinnitus. Using clinical epidemiology methodology, we can also study a variety of other diseases.

Faculty — Otolaryngology

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BS University of Illinois 1979

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MA Saint Louis University 1961
PHD Columbia University 1975

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DDS Temple University 1972

Karl Shanker, DDS
Instructor in Clinical Otolaryngology (DDS) (primary appointment)
DDS University of Missouri 1978
BA Washington Univ in St. Louis 1975

Peter Gaillard Smith, ME, PHD
Assistant Professor of Clinical Otolaryngology (primary appointment)
BS Clemson University 1967
ME Purdue University 1970
PHD Purdue University 1972

Jules M Snitzer, DDS
Instructor in Clinical Otolaryngology (DDS) (primary appointment)
DDS Washington Univ in St. Louis 1955

Isolde E Thalmann, PHD
Professor Emeritus of Otolaryngology (primary appointment)

Prof Emeritus of Otolaryngology (primary appointment)
Resrch Prof Emeritus of Otolaryngology (primary appointment)
BS Washington Univ in St. Louis 1968
PHD California Western 1982

Ruediger Thalmann
Professor Emeritus of Otolaryngology (primary appointment)
Prof Emeritus of Otolaryngology (primary appointment)
Lecturer in Otolaryngology
Stanley E Thawley, MD Associate Professor of Otolaryngology (primary appointment)
MD University of Texas Galveston 1967
BA University of Texas Austin 1963
Rosalie May Uchanski, MS, PHD Assistant Professor of Otolaryngology (primary appointment)
Assistant Professor of Audiology and Communication Sciences
BS University of Illinois Chicago 1978
MS Mass Inst of Technology (MIT) 1981
PHD Mass Inst of Technology (MIT) 1988
Lora Maureen Valente Associate Professor of Otolaryngology (primary appointment)
Associate Professor of Audiology and Communication Sciences
Director of Audiology Studies in Audiology and Communication Sciences
BS University of Illinois 1974
Michael Valente, MS, PHD Professor of Otolaryngology (Audiology) (primary appointment)
Professor of Audiology and Communication Sciences
MS Adelphi Univ 1972
PHD University of Illinois 1975
BA Adelphi Univ 1970
Thomas J Veraldi, MS Instructor in Clinical Otolaryngology (primary appointment)
MS Washington Univ in St. Louis 1988
BS Moravian College 1976
Wayne A Viers Associate Professor of Clinical Otolaryngology (primary appointment)
BS Phillips University 1952
Mark Edward Warchol, PHD Professor of Otolaryngology (primary appointment)
Professor of Audiology and Communication Sciences
Professor of Neuroscience
PHD Northwestern University 1989
Calvin H Weiss, DDENT Instructor in Clinical Otolaryngology (DDS) (primary appointment)
DDENT Saint Louis University 1946
BA University of Missouri 1943
Tatyana Aleksandrovna Yakusheva, PHD, MS Assistant Professor of Otolaryngology (primary appointment)
PHD Russian U of Friendship of Ppl 2002
MS Saratov State University 1997
No entries found

Department of Pathology and Immunology
The **Department of Pathology and Immunology** is involved in the clinical diagnosis and monitoring of disease, in the teaching of Pathology and Immunology, and in research on the molecular basis of disease and immunology.

The Department is responsible through its divisions for studying the pathogenesis and the biochemical and anatomical basis of diseases. Pathologists do research on disease processes using molecular, genetic and structural analysis. Pathologists have the responsibility for the cytological and anatomical diagnosis of diseases and for developing novel structural and molecular approaches for the analysis of them, particularly cancers and infectious diseases. The divisions of **Anatomic and Molecular Pathology**, **Anatomic and Molecular Pathology** (headed by Steven L. Teitelbaum, MD), **Laboratory and Genomic Medicine** (headed by Charles Eby, MD and Thaddeus Stappenbeck, MD, PhD) and **Neuropathology** (headed by Robert E. Schmidt, MD, PhD) have faculty involved in teaching, clinical service and research. Prominent areas of research include experimental diabetes, hematology, bone pathophysiology, cancer and gastrointestinal and vascular pathology.

The department teaches an extensive course in the second year of the curriculum and presents a number of conferences that third- and fourth-year students can attend. The department also offers a number of clerkships. The coursemaster of the second-year Pathology course is Erika C. Crouch, PhD, MD. Students can take clerkships in Autopsy Pathology, Surgical Pathology or Laboratory Medicine, or participate in the research activities of the faculty.

The **Division of Immunobiology** integrates immunobiology activities in the School. It is responsible for the teaching of immunology in the first year of the curriculum (Brian T. Edelson, MD, PhD is the coursemaster) and for conducting basic research in immunobiology and in the immunological basis of disease.

Many faculty in the department are involved in graduate teaching and participate in the various programs offered by the **Division of Biology and Biomedical Sciences**. The department has strong participation in the Immunology Graduate Program.
MD Courses — Pathology and Immunology

First year

M30 523 IMMUNOLOGY
Coursemaster: Brian T. Edelson, MD, PhD, 362-4427
This course consists of lectures, laboratory exercises and small group clinical discussions. It covers all aspects of the immune response, general properties of the immune system, effector molecules, cells and their function, cellular interactions and immunological diseases. The Immunology course requires a strong background in biochemistry, genetics and cell biology. Some of the basic concepts from these fields should be reviewed during the course. There are two laboratory sessions. These will cover the areas of blood typing/blood banking and allergy. In these laboratories, students will type blood and be tested for allergies. POPS (Patient Oriented Problem-Solving System in Immunology) will also be used during each laboratory sessions and contain a clinical problem that is analyzed and solved by small groups of three to four students. There are five hours of small group clinical discussion sessions. In these sessions, students meet with physicians to discuss the role of immunology and a particular human disease. The Immune System (latest edition) by Peter Parham is used. For the small group clinical sessions, the latest edition of the textbook Case Studies in Immunology: A Clinical Companion by Rosen and Geha is used. There will be an online self-assessment (multiple-choice and true/false), a take-home exam (essay
questions) and a formal final exam (multiple choice and short answer) on the topics described in the lectures and in the laboratory sessions. This course is restricted to medical students only.

Second year

**M60 665 PATHOLOGY**

Coursemaster: Erika C. Crouch, PhD, MD, 454-8462

This course provides a comprehensive survey of the biology and morphology of human disease through a combination of lectures and laboratory/case study sessions. The year begins with a review of basic disease mechanisms at the cellular and molecular level. Subsequently, the pathogenesis and characteristics of important diseases involving each organ system of the body are presented. Considerable emphasis is placed on learning the “language” of human disease. During the year, students become familiar with the methods of contemporary pathologic analysis. They also learn how the results of pathologic studies are used in the clinical setting to establish diagnoses, to assess prognosis and response to therapy, and to evaluate the quality of patient care.

Third year

**Conferences — Tumor Conference**

One hour each week for 12 weeks during the Surgery and Obstetrics and Gynecology clerkships. Problem cases are presented for illustration and discussion of all aspects of neoplastic disease.

Instructors: Staff

Fourth year

**Electives**

**M60 805 / AUTOPSY PATHOLOGY**
Instructor(s): Louis P. Dehner, MD, 314-362-0150
Location: West Building
Elective Contact: Louis P. Dehner, MD, 314-362-0150; Julie Gutierrez, 314-362-0143; Linda Hankins 314-362-8750

Other Information: Students should contact Dr. Dehner prior to scheduling this elective.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 13, 17, 21, 25, 29, 33, 37, and 41.

This full-time elective is designed to introduce students to autopsy pathology. Students will assist in performing autopsies, and together with the first-year pathology residents, will participate in all of the activities of the Autopsy Service including brain cutting, specialty microscopic conferences, and weekly autopsy case conferences. Students will be under the direction of senior pathology faculty.

Student time distribution: Autopsy Activities 75%; Conferences/Lectures 25%
Major teaching responsibility: Attendings and residents
Patients seen/weekly: N/A
On call/weekend responsibility: None

M60 807 / DERMATOPATHOLOGY
Instructor(s): Andras Schaffer, MD, PhD, and Ilana Rosman, MD
Location: Dermatopathology Center
Elective Contact: Andras Schaffer, 314-362-5757

Other Information: Students will meet at the Dermatopathology Center Signout Room, CORTEX building, 4320 Forest Park Avenue, Room 212M at 8:00 a.m. on the first day of the elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 9, 13, 17, 21, 25, 29, 33, 37, and 41

The student will be involved in all activities of the dermatopathology service. These
include review, discussion and signout of gross and microscopic skin specimens. Signout occurs each day with a team that includes an attending, fellow, and residents from both dermatology and pathology. The medical student will work closely with the residents and fellow to preview cases prior to signout.

Dermatology Grand Rounds and dermatopathology lectures are held on Thursday mornings and are mandatory. In addition, dermatopathology slide review conferences are held on Friday mornings and are mandatory. Other learning opportunities include daily Consensus Conference, informal unknown slide sessions, weekly Dermatology Consult Clinicopathologic Conference and monthly Cutaneous Lymphoma Conference and Journal Club.

The primary goal of this elective is to acquire basic competence in the diagnosis of skin diseases at the microscopic level. A secondary goal is to acquire understanding of the structure and function of the laboratory at the technical, administrative and medical professional level as it pertains to skin specimens.

Student time distribution: Inpatient 5%; Outpatient 80%; Conferences/Lectures 15%; Subspecialty Care 100%
Major teaching responsibility: Drs. Andras Schaffer and Ilana Rosman
Patients seen/weekly: Average number of specimens per week is 300; percentages above reflect specimens not patients.
On call/weekend responsibility: None

M60 812 / GENERAL CYTOPATHOLOGY
Instructor(s): Brian Collins, MD, 314-747-1397
Location: BJC Institute of Health, 3rd Floor, Room 3430
Elective Contact: Kim Green, 314-747-8159, greenk@path.wustl.edu

Other Information: Please call or e-mail Kim Green at greenk@path.wustl.edu one week before the rotation to receive clerkship information and password access forms. Students report to the Cytopathology fellow in the Resident’s Room, 3rd Floor IOH Building, Room 3202, 9:00 a.m. first day of elective.
Enrollment limit per period: 2
Valid start weeks for two- or four-week blocks are: Weeks 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, and 43.

This elective is designed to familiarize students with the discipline of cytopathology and to encourage the development of basic skills. Cytopathology impacts many different areas of patient care and medical practice. The cytopathology laboratory at Barnes-Jewish Hospital receives a broad range of medical cytology material involving fine needle aspiration biopsies (FNA), body fluids and Pap tests. As a result, the elective is beneficial for students considering a career in pathology and for students planning careers in internal medicine, surgery, OB-GYN, ENT, and radiology. The focus of the experience can be customized based on the interest of the student. Desk space and a microscope are provided.

Students on the elective will (1) learn how patient specimens are received and processed (2) acquire skills in the microscopic diagnosis of disease through active participation and (3) learn the role of the cytopathologist in the care and management of patients. Students will have the opportunity to function as junior house staff managing their own cases with supervision from residents, fellows, and attending cytopathologist. There are text books and extensive study sets to permit students to focus on specific areas of interest.

The daily schedule for student begins previewing the cytology cases at 8:00 a.m. The student will attend the cytology conference on Wednesday and Thursday. In general, the student will be able to complete sign-out activities by 4:30p.m.

Student time distribution: Clinical Duties 85%; Conferences/Lectures 15%; Subspecialty Care 100%
Major teaching responsibility: Attending staff, residents and fellows
Patients seen/weekly: N/A
On call/weekend responsibility: None

M60 813 / MOLECULAR PATHOLOGY
Instructor(s): Jacqueline Payton, MD, PhD  
Location: BJC Institute of Health, 5th Floor  
Elective Contact: Jacqueline Payton, MD, PhD, 314-362-5935, jpayton@wustl.edu

Other Information: Students should contact Dr. Payton at least two weeks prior to beginning this elective to learn the details of their schedule.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This elective is designed to introduce students to the field of molecular pathology, including established molecular diagnostics and Next Generation Sequencing clinical assays. Students will learn through observation in the laboratory, didactic sessions, resident and fellow presentations, sign out with attending pathologists, and clinical informatics workshops. Students will work with residents/fellows on the rotation and participate as part of the team.

Student time distribution: Preview/Signout 25%; Conferences/Lectures 25%; Lab Observation and Informatics Training 50%
Major teaching responsibility: Attendings and residents/fellows
Patients seen/weekly: 200 assays
On call/weekend responsibility: None

M60 815 / OB/GYN PATHOLOGY SUB-INTERNSHIP  
Instructor(s): Hannah Krigman, MD  
Location: Barnes-Jewish Hospital, South Campus  
Elective Contact: Hannah Krigman, MD, Julie Gutierrez, 314-362-0143

Other Information: Students report to Julie Gutierrez’s office, 3405 BJCIH, Barnes-Jewish Hospital, South Campus, 9:00 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.
The elective stresses the principles of anatomic pathology when applied to operative material in obstetrics and gynecology. The subintern will examine gross and microscopic specimens in the Ob-Gyn Pathology Lab and review pertinent literature with a senior pathologist. Ample time will be available for attending regular conferences in ob-gyn and pathology.

Student time distribution: Inpatient 90%; Conferences/Lectures 10%; Subspecialty Care 100%

Major teaching responsibility: Attendings and residents
Patients seen/weekly: N/A
On call/weekend responsibility: None

M60 820 / SURGICAL PATHOLOGY – BARNES-JEWISH HOSPITAL
Instructor(s): Samir El-Mofty, DMD PhD, and staff, 314-362-2681
Location: Division of Surgical Pathology, 3rd Floor, BJC Institute of Health, Barnes-Jewish Hospital, South Campus
Elective Contact: Samir El-Mofty, DMD, PhD, 314-362-2681, elmofty@wustl.edu or Julie Gutierrez, 314-362-0143, jgutierrez@path.wustl.edu.

Other Information: See the pathology website for detailed orientation and introductory information (http://pathimm.wustl.edu/). If you need to discuss individual goals and interests, please call or e-mail Dr. Samir El-Mofty at least one week prior to the elective.

Enrollment limit per period: In order to permit maximum interaction with the surgical pathology staff and house staff, the elective is limited to four students per four-week block. For the initial round of scheduling the available slots are allotted to accommodate two 4th year students and two 3rd year students. Any open slots after the original scheduling period are then made available to either 3rd and 4th year students on a first-come, first-serve basis. Contact your scheduling office for details.

This elective is designed to familiarize students with the discipline of surgical pathology and to encourage the development of basic skills in gross pathology and histopathological interpretation. The Laboratory of Surgical Pathology at Barnes-Jewish
Hospital receives a broad range of medical biopsy material in addition to specimens derived from the busy surgical subspecialty practices. As a result, this elective is beneficial not only for students considering a career in pathology, but also for students planning careers in internal medicine, surgery, obstetrics-gynecology, pediatrics, radiology, radiation oncology and dermatology. Students on this elective will (1) Learn how patient specimens are received and processed, (2) Acquire skills in the gross examination and microscopic diagnosis of disease through active participation and (3) Learn the role of the pathologist in the preoperative, intraoperative, and postoperative care and management of patients. Students will function as junior house staff managing their own cases with supervision from residents, fellows and attending pathologists. Students may also wish to participate in ongoing research projects within the Department as time, and interest, allows. At the end of the rotation the students are required to do a formal case presentation for the residents, fellows and attending staff.

The daily schedule for students begins at 8:00 a.m. with morning conference. In general, the student will be able to complete all gross examination and sign-out activities by 4:30 p.m. Students are welcome to stay beyond 4:30 p.m. to participate in any of the academic or other working activities of the Division.

Student time distribution: Clinical duties 85%; Conference/Lectures 15%
Major teaching responsibility: Attending staff, residents and fellows
Patients seen/weekly: N/A
On call/weekend responsibility: None

M60 825 / INTRODUCTION TO NEUROPATHOLOGY
Instructor(s): Robert E. Schmidt, MD, PhD, 314-362-7426
Location: West Building
Elective Contact: Robert E. Schmidt, MD, PhD, 314-362-7426

Other Information: Students report to BJC Institute of Health, Room 3407, 9:00 a.m. first day of elective.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 13, 17, 21, 29, 33, 37, and 41.

The course is structured to give the student a full-time immersion in the specialty of neuropathology including both neurosurgical and neuroautopsy derived material. There are daily didactic sessions that cover the spectrum of neurological diseases, review gross and microscopic neuro-anatomy, discuss approaches to the diagnosis of nervous system disease, and point out the interrelationships of research to clinical problems. Multiple clinical conferences and diagnostic working sessions complement reading, use of a large microscopic Divisional study set and project work. Time: 35 to 40 hours per week.

Student time distribution: Conferences/Lectures 100%; Subspecialty Care 100%
Major teaching responsibility: Attendings and fellows
Patients seen/weekly: N/A
On call/weekend responsibility: None

M60 855 / DIAGNOSTIC HEMATOPOATHOLOGY
Instructor(s): Anjum Hassan, MD, 314-362-1329
Location: BJC Institute of Health, Room 3436
Elective Contact: Kevin Hutchinson,
Heme Path Division Secretary, 314-362-1329,
khutchinson@path.wustl.edu

Other Information: Students will meet on the 2nd Floor, Kingshighway Building Room 2303, 10:00 a.m. first day of elective.
Enrollment limit per period: 2
Valid start weeks for two- or four-week blocks are: Weeks 9, 11, 13, 15, 17, 19, 29, 31, 33, and 35.

Student electives in diagnostics of diseases of hematopoietic cells aims to foster understanding of acute and chronic leukemias, reactive conditions mimicking malignancies, and lymphomas affecting adults and pediatric populations. This diverse field involves multiple ancillary diagnostic tests such as immunohistochemistry, flow...
cytometry and genetic testing. This elective will offer medical students an in-depth insight into what goes behind the final pathologic diagnoses in hematologic malignancies before a treatment plan can be executed. This insight is crucial to understand the importance of correct diagnosis (the answer to the usual “what’s taking pathology so long” comment) and accurate, timely communication of preliminary and final diagnosis to the clinicians. Under general faculty and fellow supervision, the students will be primarily responsible for handling of their own cases such as bone marrow biopsies, simple lymph node biopsies, ordering the required tests, dictating the final reports and communicating with the clinicians. They will also participate in several conferences per week including Hematopathology consensus conference, weekly cytogenetic/molecular correlation conferences, journal club and interdepartmental bone marrow transplant and lymphoma conferences.

Student time distribution: Bench Signouts 60%; Conference/Lectures 40%
Major teaching responsibility: Anjum Hassan, MD
Patients seen/weekly: 60-70 bone marrow biopsies; 50 consults and in-house cases
On call/weekend responsibility: None

M60 860 / CLINICAL LABORATORY MEDICINE – BARNES-JEWISH HOSPITAL
Instructor(s): Mitchell Scott, PhD, 314-362-1503
Location: Barnes-Jewish Hospital, South Campus
Elective Contact: Mitchell Scott, PhD, 314-362-1503

Other Information: Students meet in chief resident’s office, BJC Institute of Health, 3rd floor, 8:30 a.m. first day of elective.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: 13, 17, 21, 29, 33, 37, and 41.

This elective is designed to teach the student how clinical laboratory assays are used in the diagnosis of disease and to understand the quality assurance tools the laboratory utilizes to assure the reliability of tests. The four-week elective includes rotations through laboratories in clinical chemistry, clinical microbiology, transfusion medicine and hematopathology. During the elective the student will have a daily schedule,
which includes didactic sessions with senior staff and house staff. Particularly useful clinical skills to be acquired include: morphology of peripheral blood smears and bone marrow biopsies; interpretation of coagulation tests, biomarkers of cardiac damage and serum protein electrophoresis patterns; appropriate use of blood component therapy and therapeutic apheresis; and identification of infectious organisms. Students will attend quality assurance meetings with senior staff, participate in microbiology rounds and present case discussions during this elective.

Student time distribution: Inpatient 25%; Conferences/Lectures 75%
Major teaching responsibility: Attendings and residents
Patients seen/weekly: 5
On call/weekend responsibility: None

Research — Pathology and Immunology

Paul M. Allen, PhD
8th Floor, BJC Institute of Health
314-362-8758
Research in immunology. The recognition of antigen by T cells. We are investigating how the T cell receptor functions developmentally, biochemically and structurally. We utilize in vivo models to study the role of T cells in alloreactivity/graft rejection and inflammatory bowel disease.

Jacques U. Baenziger, MD, PhD
2nd Floor, Kingshighway Building, Room 2423
314-362-8730
Glycobiology, informational role of carbohydrates in protein targeting and reproductive endocrinology.
Jeffrey I. Gordon, MD  
5th Floor 4444 Forest Park  
314-362-7243  
Genomic and metabolic foundations of symbiotic host-microbial interactions in the human gut; impact on obesity and malnutrition.

Michael McDaniel, PhD  
3709 West Building  
314-362-7435  
The focus of this laboratory is to study the function and growth of pancreatic islets in Types 1 and 2 diabetes. Mammalian target of rapamycin (mTOR) is a protein kinase that integrates signals from growth factors and nutrients to regulate DNA and protein synthesis. G protein-coupled receptor agonists, such as GLP-1, have been shown to enhance proinsulin biosynthesis and secretion, and stimulate cellular growth and proliferation. Our objective is to further explore the mechanisms of action of GLP-1 to enhance DNA and protein synthesis via mTOR in rodent and human islets. These studies are of fundamental interest in optimizing mTOR to induce cellular growth and proliferation to: (1) enhance pre- and post- islet transplantation in Type 1 diabetes and (2) prolong b-cell compensation in response to insulin resistance in Type 2 diabetes. b-cell failure in obesity-associated Type 2 diabetes is believed to correlate with the intracellular accumulation of lipids that contribute to defects in insulin secretion and maintenance of b-cell mass. Our studies have identified lipoprotein lipase in b-cells, a key enzyme for catalyzing the hydrolysis of lipoprotein-associated TAG, to produce free fatty acids (FFA) for local cellular uptake. We are also characterizing the effects of enhanced FFA uptake through fatty acid transporters and determining the regulation of lipid droplet synthesis and breakdown by lipid droplet associated proteins. Recent studies suggest that FFA up-regulate mitochondrial uncoupling proteins proposed to dissipate the proton gradient across the mitochondrial inner membrane. The objective of this study is to delineate the link between FFA and b-cell mitochondrial dysfunction in Type 2 diabetes.

Kenneth M. Murphy, MD, PhD
Function of dendritic cells in T cell responses and anti-tumor vaccines.

Robert D. Schreiber, PhD
8th Floor, BJC Institute of Health
314-362-8747
Tumor Immunology and Cancer Immunoeediting. Research on natural and therapeutically induced responses to tumors and definition of the molecular roles of interferon-gamma and interferon-alpha/beta in these processes.

Carl H. Smith, MD
St. Louis Children's Hospital
314-454-6029
Placental transport and surface membrane structure and function.

Thaddeus S. Stappenbeck, MD, PhD
Room 1020 Clinical Sciences Research Building – North Tower
314-362-4214
My lab studies the cause of inflammatory bowel disease, a condition that leads to spontaneous inflammation of the intestine. We study the mechanisms of host gene mutations as well as abnormalities in host-microbial interactions that drive this disease.

Steven Teitelbaum, MD
Barnes-Jewish Hospital
314-454-8463
Cellular and molecular mechanisms of bone remodeling with particular emphasis on osteoclast biology as relates to pathogenesis and prevention of diseases, such as osteoporosis. We focus on integrin and cytokine biology utilizing a variety of genetically-manipulated mice.

John Turk, MD, PhD
Phospholipase A2 (PLA2) enzymes in regulating insulin secretion from pancreatic islet cells, e.g. a novel iPLA2 that does not require Ca2+ cloned from rat and human islets that is involved in -cell secretion and proliferation. Studies of iPLA2, its post translational modifications, and its interactions with other proteins involve mice that are iPLA2-deficient globally or in selected tissues, transgenic mice that overexpress iPL2 in -cells, and insulinoma cells with genetically manipulated iPLA2 expression. Mass spectrometric characterization of proteins and complex lipids is an important tool in these studies.

Emil R. Unanue, MD
8414 at BJCIH
314-362-8748
Research in immunobiology/immunopathology. Examination of cellular interactions resulting in immune induction and cellular immunity. These cellular interactions are examined in normal immune responses and in autoimmune diseases. The focus is to identify the proteins responsible for activation of lymphocytes in Type 1 diabetes.

Herbert Virgin, MD, PhD
Clinical Sciences Research Building, Room 8849
314-362-9223
We work on issues at the interface of virology and immunology by analyzing aspects of viral immunity, viral pathogenesis, and viral genetics that contribute to virulence and disease.

Mark A. Watson, MD, PhD
Room 1029, Clinical Sciences Research Building – North Tower
314-454-7919
Our laboratory is interested in defining patterns of somatic gene mutation, gene expression, and quantitative tumor clonality that can be used to predict distant site metastases and therapeutic vulnerability in patients with lung and breast cancer. Experimental approaches use histopathological review, and next generation DNA...
exome and RNA sequencing (NGS) of primary cancer patient tissues, coupled with bioinformatics and statistical modeling to identify candidate biomarker patterns that may be useful for the clinical management of cancer patients.

Faculty — Pathology and Immunology

Herbert W Virgin IV, PHD Mallinckrodt Professor of Pathology and Immunology (primary appointment)
Professor of Medicine
Head of the Department of Pathology and Immunology
Professor of Molecular Microbiology
PHD Harvard University 1985

Philip Patrick Ahern, PHD Instructor in Pathology and Immunology (primary appointment)
PHD Oxford University 2010

Jennifer Marie Alexander-Brett, MD, PHD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
MD Washington Univ in St. Louis 2007
PHD Washington Univ in St. Louis 2007
BS University of Nebraska 1999

Paul M Allen, PHD, MS Robert L. Kroc Professor of Pathology and Immunology (primary appointment)
PHD University of Michigan 1981
BS University of Michigan 1974
MS University of Michigan 1977

Gaya K Amarasinghe, PHD Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Biochemistry and Molecular Biophysics
Associate Professor of Molecular Microbiology
PHD University of Maryland 2001

Ferdinand Enginco Amarillo, PHD Assistant Professor of Pathology and Immunology (primary appointment)
PHD Florida State University 2010

Neil William Anderson, MD Assistant Professor of Pathology and Immunology (primary appointment)
MD University of Wisconsin-Madiso 2009
BS1 University of Wisconsin-Madiso 2005

Maksym Artomov, MS, PHD Assistant Professor of Pathology and Immunology (primary appointment)
Michael James Barratt, PHD
Instructor in Pathology and Immunology (primary appointment)

Melissa Anne Barrow, PHD
Instructor in Pathology and Immunology (primary appointment)

Cory Thomas Bernadt, PHD, MD
Assistant Professor of Pathology and Immunology (primary appointment)

Deepta Bhattacharya, PHD
Assistant Professor of Pathology and Immunology (primary appointment)

Morey A Blinder, MD
Professor of Medicine (primary appointment)

Morey A Blinder, MD
Professor of Pathology and Immunology

Adrianus C Boon, PHD, MS
Assistant Professor of Medicine (primary appointment)

Sarah Michelle Brown
Assistant Professor of Pediatrics (primary appointment)

George John Broze Jr, MD
Professor of Medicine (primary appointment)

Carey-Ann Dawn Burnham, PHD
Associate Professor of Pathology and Immunology (primary appointment)

Minji Byun, PHD
Assistant Professor of Medicine (primary appointment)

Nigel John Cairns, PHD
Professor of Neurology (primary appointment)

Dengfeng Cao, MD
Associate Professor of Pathology and Immunology (primary appointment)

Danielle Marie Ho Carpenter, MD
Assistant Professor of Pathology and Immunology (primary appointment)
Javier A Carrero-Brewer, PHD, MA Assistant Professor of Pathology and Immunology (primary appointment)

PHD Washington Univ in St. Louis 2005
MA University of Puerto Rico 2000
BS Emory University 1996

Marina Cella, MD Associate Professor of Pathology and Immunology (primary appointment)

MD University of Genova 1989

Chih-Hao Chang, MS, PHD, MS Instructor in Pathology and Immunology (primary appointment)

MS National Taiwan University 2015
BS National Taiwan University 2015
PHD Oxford University 2015
MS Oxford University 2015

Rebecca D Chernock Assistant Professor of Pathology and Immunology (primary appointment)

Assistant Professor of Otolaryngology
BS Brown University 1999

Kyunghoo Choi Associate Professor of Pathology and Immunology (primary appointment)

Brian Tyler Collins, MD Associate Professor of Pathology and Immunology (primary appointment)

MD University of MO Columbia 1988

Marco Colonna Robert Rock Belliveau MD Professor of Pathology (primary appointment)

Professor of Medicine

Donald Franklin Conrad Assistant Professor of Genetics (primary appointment)

Assistant Professor of Pathology and Immunology

Megan A Cooper, PHD, MD Assistant Professor of Pediatrics (primary appointment)

Assistant Professor of Pathology and Immunology

BA College of Wooster 1995
PHD Ohio State University 2002
MD Ohio State University 2004

Joseph C. Corbo, MD, PHD, AB Associate Professor of Pathology and Immunology (primary appointment)

Associate Professor of Genetics

Associate Professor of Ophthalmology and Visual Sciences

MD University of California 1999
PHD University of California 1997
BS Stanford University 1990
AB Stanford University 1990

Catherine E Cottrell, PHD Assistant Professor of Pathology and Immunology (primary appointment)

Assistant Professor of Genetics

BS Ohio State University 2001
PHD Ohio State University 2007

Erika C Crouch, MD, PHD Professor of Pathology and Immunology (primary appointment)

MD University of Washington 1979
PHD University of Washington 1978

Sonika M Dahiya, MD Assistant Professor of Pathology and Immunology (primary appointment)

MD Kasturba Medical College 2000

Gautam Dantas Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Biomedical Engineering
Associate Professor of Molecular Microbiology
BS Macalester College 2000
Louis P Dehner, MD Professor of Pathology and Immunology (primary appointment)
Professor of Pathology in Pediatrics
MD Washington Univ in St. Louis 1966
BA Washington Univ in St. Louis 1962
David G. DeNardo, PHD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
BS Willamette University 1999
PHD Baylor University 2005
George J Despotis Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Anesthesiology
BA Greenville College 1981
Michael Diamond, MD Professor of Medicine (primary appointment)
Professor of Molecular Microbiology
Professor of Pathology and Immunology
Herbert S Gasser Professor
BA Columbia College 1985
MD Harvard University 1994
Dennis J. Dietzen, PHD Professor of Pediatrics (primary appointment)
Professor of Pathology and Immunology
PHD Indiana University Bloomington 1992
Mary C Dinauer, MD, PHD Professor of Pediatrics (primary appointment)
Professor of Pathology and Immunology
BA Lawrence University 1975
MD University of Chicago 1981
PHD University of Chicago 1979
John F Dipersio, MD, PHD Virginia E and Sam J Golman Professor of Medicine (primary appointment)
Professor of Pediatrics
Professor of Pathology and Immunology
MD University of Rochester 1980
PHD University of Rochester 1980
BA Williams College 1973
Eric James Duncavage Assistant Professor of Pathology and Immunology (primary appointment)
BS Vanderbilt University 1998
Gavin P. Dunn Assistant Professor of Neurological Surgery (primary appointment)
Assistant Professor of Pathology and Immunology
William Michael Dunne Jr, PHD Adjunct Professor of Pathology and Immunology (primary appointment)
BS Univ of Wisconsin Madison 1975
PHD Univ of Wisconsin Madison 1981
Timothy J Eberlein, MD, MA Bixby Professor of Surgery (General Surgery) (primary appointment)
Head of the Department of Surgery
Director of The Alvin J. Siteman Cancer Center
Professor of Pathology and Immunology
Spencer T. and Ann W. Olin Distinguished Professor
MD University of Pittsburgh 1977  
MA Harvard University 1996  
BS University of Pittsburgh 1973  

**Charles S Eby**  
Professor of Pathology and Immunology (primary appointment)  
Professor of Medicine  
BS Duke University 1977  

**Brian T. Edelson, MD, PHD**  
Assistant Professor of Pathology and Immunology (primary appointment)  
UNKNOWN Brown University 1995  
MD Washington Univ in St. Louis 2004  
PHD Washington Univ in St. Louis 1995  

**Takeshi Egawa, PHD, MD**  
Assistant Professor of Pathology and Immunology (primary appointment)  
PHD Osaka University 2002  
MD Osaka University 1994  

**Samir Khattab El-Mofty, MS, PHD**  
Professor of Oral Pathology (primary appointment)  
Professor of Pathology and Immunology  
Professor of Otolaryngology  
UNKNOWN School Not Listed 1955  
DDENT1 Washington Univ in St. Louis 1987  
MS University of Pennsylvania 1966  
PHD Temple University 1976  

**Thomas A Ferguson**  
Professor of Ophthalmology and Visual Sciences (primary appointment)  
Associate Professor of Pathology and Immunology  
BA Kent St University 1974  

**John Lawrence Frater, MD**  
Associate Professor of Pathology and Immunology (primary appointment)  
MD Medical College of Ohio 1996  
BS University of Notre Dame 1992  

**Daved H Fremont, PHD**  
Professor of Pathology and Immunology (primary appointment)  
Professor of Biochemistry and Molecular Biophysics  
BS Univ of Wisconsin Madison 1986  
PHD University of CA San Diego 1993  

**Anthony Raymond French, PHD**  
Associate Professor of Pediatrics (primary appointment)  
Associate Professor of Pathology and Immunology  
Associate Professor of Biomedical Engineering  
PHD University of Illinois 1995  

**Joseph P. Gaut, PHD, MD**  
Assistant Professor of Pathology and Immunology (primary appointment)  
Assistant Professor of Medicine  
BA Washington Univ in St. Louis 1996  
PHD Washington Univ in St. Louis 2004  
MD Washington Univ in St. Louis 2004  

**Andrew E. Gelman, PHD**  
Professor of Surgery (Cardiothoracic Surgery) (primary appointment)  
Professor of Pathology and Immunology  
PHD University of Pennsylvania 2006  
BS University of CA Los Angeles 1996  

**Susan Gilfillan, PHD**  
Assistant Professor of Pathology and Immunology (primary appointment)
Jeffrey I Gordon, MD  Professor of Pathology and Immunology (primary appointment)
Dr Robert J Glaser Distinguished University Professor
Director of the Center for Genome Sciences
Professor of Medicine
Professor of Developmental Biology
BA Oberlin College 1969
MD University of Chicago 1973
Bella Goyal  Instructor in Pathology and Immunology (Pending Dean's Approval) (primary appointment)
Jonathan M Green, MD  Professor of Medicine (primary appointment)
Associate Dean for Human Studies
Professor of Pathology and Immunology
BS University of Michigan 1982
MD Wayne State University 1986
Nicholas Wayne Griffin, PhD  Instructor in Pathology and Immunology (primary appointment)
PHD Washington Univ in St. Louis 2010
Ann Marie Gronowski, PhD  Professor of Pathology and Immunology (primary appointment)
Professor of Obstetrics and Gynecology
BS University of Illinois 1985
PHD Univ of Wisconsin Madison 1992
Brenda Jean Grossman, MS, MD  Professor of Pathology and Immunology (primary appointment)
Professor of Medicine
MS Saint Louis University 2003
MD Medical College Georgia 1980
BS Ohio University 1976
Ian Sean Hagemann, PhD, MD  Assistant Professor of Pathology and Immunology (primary appointment)
Assistant Professor of Obstetrics and Gynecology
PHD Washington Univ in St. Louis 2008
MD Washington Univ in St. Louis 2008
BA Princeton University 2000
Dennis E Hallahan, MD  Professor of Radiation Oncology (primary appointment)
Professor of Cell Biology and Physiology
Professor of Pathology and Immunology
Elizabeth H and James S McDonnell III Distinguished Professor of Medicine
Head of the Department of Radiation Oncology
Professor of Molecular Microbiology
MD Rush University 1984
BS University of Illinois 1980
Scott A Handley, PhD  Assistant Professor of Pathology and Immunology (primary appointment)
PHD Washington Univ in St. Louis 2006
BS Southwest Misouri St Universi 1998
Thomas Joseph Hannan, DVM  Instructor in Pathology and Immunology (primary appointment)
BA Georgetown University 1989
BA1 Georgetown University 1989
DVM Tufts University 1995
George J Harocopos, MD
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)
Assistant Professor of Pathology and Immunology
MD University of Virginia 2000
BA Harvard University 1995

Anjum Hassan, MD
Associate Professor of Pathology and Immunology (primary appointment)
MD Aga Khan University 1989
MD1 School Not Listed 1989

Mai He
Associate Professor of Pathology and Immunology (Pending Executive Faculty Approval) (primary appointment)

Richard D Head
Associate Professor of Genetics (primary appointment)
Associate Professor of Pathology and Immunology
Jonathan W Heusel, MD, PhD
Associate Professor of Pathology and Immunology (primary appointment)
MD Washington Univ in St. Louis 1995
PHD Washington Univ in St. Louis 1995

Chyi-Song Hsieh
Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology

Alan A and Edith L Wolff Distinguished Professor

Ronald R Jackups Jr.
Assistant Professor of Pathology and Immunology (primary appointment)
Assistant Professor of Pediatrics
BS Washington Univ in St. Louis 2000

Sanjay Jain
Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology
BA University of California 1990

Charles Kilo, MD
Professor of Medicine (primary appointment)
Professor of Pathology and Immunology
MD Washington Univ in St. Louis 1959

Alfred Kim
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology

Brian Kim, MD
Assistant Professor of Medicine (Dermatology) (primary appointment)
Assistant Professor of Anesthesiology
Assistant Professor of Pathology and Immunology
MD University of Washington 2007
BS Haverford College 2001

John M Kissane
Retiree - Professor of Pathology and Immunology (primary appointment)

Eynav Yafit Klechevsky, PHD
Assistant Professor of Pathology and Immunology (primary appointment)
PHD Baylor University 2007

Robyn Sue Klein, PHD
Professor of Medicine (primary appointment)
Professor of Pathology and Immunology
Professor of Neuroscience
PHD Albert Einstein College of Med 1993

Daniel Kreisel, MD, PHD
Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Professor of Pathology and Immunology
MD Mount Sinai School of Medicine 1995
PHD University of Pennsylvania 2002

Friederike H. Kreisel, MD
Associate Professor of Pathology and Immunology (primary appointment)
Hannah Rachel Krigman, MD  
Associate Professor of Pathology and Immunology (primary appointment)  
BA Amherst College 1983  
MD University of North Carolina 1988

Michael Kyriakos, MD  
Professor of Pathology and Immunology (primary appointment)  
MD Albert Einstein College of Med 1962

Jack H Ladenson, PHD  
Oree M Carroll and Lillian B Ladenson Professor of Clinical Chemistry in Pathology and Immunology (primary appointment)

Professor of Clinical Chemistry in Medicine  
PHD University of Maryland 1971  
BS Pennsylvania State University 1964

Yi-Shan Lee, MD, PHD  
Asst Professor of Pathology and Immunology (primary appointment)  
MD National Taiwan University 2000  
PHD Duke University 2008

Deborah J. Lenschow, MD, PHD  
Associate Professor of Medicine (primary appointment)

Yi-Shan Lee, MD, PHD  
Associate Professor of Pathology and Immunology  
MD University of Chicago 1998  
PHD1 University of Chicago 1995  
PHD University of Chicago 1995  
MD1 University of Chicago 1998

Daisy W Leung, PHD  
Assistant Professor of Pathology and Immunology (primary appointment)  
Assistant Professor of Biochemistry and Molecular Biophysics  
PHD University of Texas Southwest 2005  
BS Amherst College 1997

Daniel C Link, MD  
Alan A and Edith L Wolff Distinguished Professor of Medicine (primary appointment)  
Professor of Pathology and Immunology  
MD Univ of Wisconsin Milwaukee 1985

Chang Liu, PHD, MD  
Assistant Professor of Pathology and Immunology (primary appointment)  
PHD Oregon Health Science Univers 2010  
MD Peking Union Medical College 2004

Ta-Chiang Liu, MD, PHD  
Assistant Professor of Pathology and Immunology (primary appointment)  
MD National Yang-Ming University 1997  
PHD Imperial College 2003

Olga Y. Lubman, PHD  
Instructor in Pathology and Immunology (primary appointment)  
BA Goucher College 1998  
PHD Washington Univ in St. Louis 2002  
BS Goucher College 1998

Donna Alexandra MacDuff, PHD  
Instructor in Pathology and Immunology (primary appointment)  
PHD University of Minnesota 2008

Horacio M Maluf  
Associate Professor of Pathology and Immunology (primary appointment)  
Leslie Denise McIntosh, PHD, MA  
Assistant Professor of Pathology and Immunology (primary appointment)  
PHD Saint Louis University 2008  
BA Texas A&M University 1993  
MA Saint Louis University 2006
Jeffrey D Milbrandt, PHD, MD
James S McDonnell Professor of Genetics (primary appointment)
Professor of Medicine
Professor of Neurology
Professor of Pathology and Immunology
Head of the Department of Genetics
PHD University of Virginia 1983
MD Washington Univ in St. Louis 1978
BS Univ of Nebraska at Kearney 1974

Mark James Miller, PHD
Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology
BS University of California 1991
PHD University of California 1996

Jason C Mills, MD, AB, PHD
Professor of Medicine (primary appointment)
Professor of Developmental Biology
Professor of Pathology and Immunology
MD University of Pennsylvania 1997
BA Washington Univ in St. Louis 1989
AB Washington Univ in St. Louis 1989
PHD University of Pennsylvania 1997
MD1 University of Pennsylvania 1997

Yoshiko Mito, MS, PHD
Assistant Professor of Pathology and Immunology (primary appointment)
MS University of Tokyo 2002
BS University of Tokyo 2000
PHD University of Washington 2007

Hector D Molina-Vicenty, MD
Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology
BS University of Puerto Rico 1982
MD University of Puerto Rico 1985

Sharon Celeste Morley, MD, PHD
Assistant Professor of Pediatrics (primary appointment)
Assistant Professor of Pathology and Immunology
MD Harvard University 2002
PHD Harvard University 2002

John Carl Morris, MD
Harvey A and Dorismae Hacker Friedman Distinguished Professor of Neurology (primary appointment)
Professor of Physical Therapy
Professor of Pathology and Immunology
Professor of Occupational Therapy
MD University of Rochester 1974
BA Ohio Wesleyan University 1970

Nima Mosammaparast, MD, PHD
Assistant Professor of Pathology and Immunology (primary appointment)
MD University of Virginia 2006
PHD University of Virginia 2005
BS University of Rochester 1998

Kenneth M Murphy, MD, PHD
Professor of Pathology and Immunology (primary appointment)
Howard Hughes Medical Institute Investigator in Pathology and Immunology
Eugene Opie First Centennial Professor of Pathology and Immunology
MD Johns Hopkins University 1984
Theresa L Murphy, PHD  
Associate Professor of Pathology and Immunology (primary appointment)  
BS University of Arizona 1978  
PHD Johns Hopkins University 1984

Indira U Mysorekar, MS, PHD  
Associate Professor of Obstetrics and Gynecology (primary appointment)  
MS University of Lund 1995  
BS University of Lund 1994  
PHD Washington Univ in St. Louis 2002

Rakesh Nagarajan, PHD, MD  
Adjunct Associate Professor of Pathology and Immunology (primary appointment)  
PHD Washington Univ in St. Louis 2002  
BA1 University of Virginia 1994  
MD Washington Univ in St. Louis 2002  
BA University of Virginia 1994

Ilke Nalbantoglu, MD  
Assistant Professor of Pathology and Immunology (primary appointment)  
MD Ege University 2000

Christopher A Nelson, PHD  
Instructor in Pathology and Immunology (primary appointment)  
PHD Washington Univ in St. Louis 1995  
BS Univ of Wisconsin Madison 1985

Deborah Veis Novack, PHD, MD  
Associate Professor of Medicine (primary appointment)  
Associate Professor of Pathology and Immunology  
BA Princeton University 1987  
PHD Washington Univ in St. Louis 1995  
MD Washington Univ in St. Louis 1995

Stephen T. Oh, PHD, MD  
Assistant Professor of Medicine (primary appointment)  
Assistant Professor of Pathology and Immunology  
PHD Northwestern University 2002  
MD Northwestern University 2004  
BS Harvard University 1996

Eugene Merle Oltz, PHD  
Professor of Pathology and Immunology (primary appointment)  
PHD Columbia University 1987  
BS Cornell University 1982

Bijal A. Parikh, PHD, MD  
Instructor in Pathology and Immunology (primary appointment)  
PHD Rutgers University 2004  
MD U Medical-Dental Of New Jersey 2006

Jacqueline Elise Payton, PHD, MD  
Assistant Professor of Pathology and Immunology (primary appointment)  
PHD University of Illinois 2002  
MD University of Illinois 2004  
BS Bradley University 1996

Richard J. Perrin, MD, PHD  
Assistant Professor of Pathology and Immunology (primary appointment)  
MD University of Illinois Chicago 2004  
BS Yale University 1992  
PHD University of Illinois 2001

Alan Pestronk, MD  
Professor of Neurology (primary appointment)  
PHD University of Illinois 2001  
BS Yale University 1992
Professor of Pathology and Immunology
MD Johns Hopkns University Medic 1970
BA Princeton University 1966
John David Pfeifer, MD, PHDProfessor of Pathology and Immunology (primary appointment)
Professor of Obstetrics and Gynecology
Vice Chairman for Clinical Affairs of Pathology and Immunology
MD University of California 1988
PHD University of California 1987
BA University of California 1981
Christine T PhamAssociate Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
BS University of Florida 1981
Gwendalyn Jan Randolph, PHDUnanue Distinguished Professor of Immunology (primary appointment)
Professor of Medicine
BS Temple University 1991
PHD State University of New York 1995
Babak Razani, PHD, MDAssistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
PHD Albert Einstein College of Med 2003
MD Albert Einstein College of Med 2003
Alejandro ReyesAdjunct Assistant Professor of Pathology and Immunology (primary appointment)
Jon H RitterProfessor of Pathology and Immunology (primary appointment)
Ilana Shaina Rosman, MDAssistant Professor of Medicine (Dermatology) (primary appointment)
Assistant Professor of Pathology and Immunology
MD Washington Univ in St. Louis 2008
Marianna B Ruzinova, MD, PHDAssistant Professor of Pathology and Immunology (primary appointment)
MD Cornell University 2005
PHD Cornell University 2004
Souzan Sanati, MDAssistant Professor of Pathology and Immunology (primary appointment)
MD Iran Univ of Medical Sciences 1993
Andras Schaffer, MD, PHDAssistant Professor of Pathology and Immunology (primary appointment)
Assistant Professor of Medicine (Dermatology)
MD University of Pecs Medical Sch 1993
PHD Cornell University 2001
Joel D. Schilling, PHD, MDAssistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
PHD Washington Univ in St. Louis 2001
MD Washington Univ in St. Louis 2003
Robert Edward Schmidt, PHD, MDProfessor of Pathology and Immunology (primary appointment)
PHD Washington Univ in St. Louis 1976
BA Washington Univ in St. Louis 1969
MD Washington Univ in St. Louis 1976
Robert D Schreiber, PHDAlumni Endowed Professor of Pathology and Immunology (primary appointment)
Professor of Molecular Microbiology
Mitchell G Scott, MS Professor of Pathology and Immunology (primary appointment)
Clinical Research Assistant Professor of Medicine
MS University of Missouri 1977
Jennifer K Sehn, MD Assistant Professor of Pathology and Immunology (primary appointment)
MD Washington Univ in St. Louis 2011
BS Georgia Tech 2007
Karen Seibert, MA Professor of Anesthesiology (primary appointment)
Professor of Pathology and Immunology
Professor of Genetics
BS Northwestern University 1981
MA University of Toledo 1983
Andrey S Shaw, MD Adjunct Professor of Pathology and Immunology (primary appointment)
BA Columbia University 1979
MD Columbia University 1984
Kathleen C Sheehan, PHD Assistant Professor of Pathology and Immunology (primary appointment)
BS University of Notre Dame 1980
PHD Saint Louis University 1986
Morton Edward Smith, MD Professor Emeritus of Ophthalmology and Visual Sciences (primary appointment)
Prof Emeritus of Ophthalmol & Vis Sci (primary appointment)
Lecturer in Ophthalmology and Visual Sciences
Lecturer in Pathology and Immunology
Associate Dean Emeritus for Post-Graduate Education
BS University of Maryland 1956
MD University of Maryland 1960
Thaddeus S. Stappenbeck, PHD, MD Conan Professor of Laboratory and Genomic Medicine (primary appointment)
Professor of Developmental Biology
BA Northwestern University 1987
PHD Northwestern University 1994
MD Northwestern University 1995
Sanjay Joshua Swamidass, PHD, MA, MD Assistant Professor of Pathology and Immunology (primary appointment)
Assistant Professor in Computer Science and Engineering
PHD University of California 2007
MA University of California 2006
MD University of California 2009
BS University of California 2000
Wojciech A. Swat, MS, PHD Associate Professor of Pathology and Immunology (primary appointment)
MS University of Warsaw 1989
PHD University of Basel 1992
Steven L Teitelbaum, MD Messing Professor of Pathology and Immunology (primary appointment)
Professor of Medicine
MD Washington Univ in St. Louis 1964
John W Turk, PHD, MD  Professor of Medicine (primary appointment)
Alan A and Edith L Wolff Professor of Endocrinology
Professor of Pathology and Immunology
BA Washington Univ in St. Louis 1970
PHD Washington Univ in St. Louis 1976
MD Washington Univ in St. Louis 1976
Emil Raphael Unanue, MD  Paul and Ellen Lacy Professor of Pathology and Immunology (primary appointment)
BS Institute of Secondary Educati 1952
MD Havana University 1960
Fumihiro Urano, MD  Samuel E Schechter Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology
MD Keio University 1994
Kelli Lynn VanDussen, PHD  Instructor in Pathology and Immunology (Pending Dean's Approval) (primary appointment)
PHD University of Michigan 2010
BS Grand Valley St University 2004
William Vermi  Adjunct Assistant Professor of Pathology and Immunology (primary appointment)
Monika Vig, PHD  Assistant Professor of Pathology and Immunology (primary appointment)
BS Delhi University 1995
PHD Jawaharlal Nehru University 2003
Kiran Raj Vij, MD  Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
MD Indira Gandhi Medical College 1993
David Wang, PHD  Associate Professor of Molecular Microbiology (primary appointment)
Associate Professor of Pathology and Immunology
BS Stanford University 1992
PHD Mass Inst of Technology (MIT) 1998
Xiaoli Wang, PHD  Assistant Professor of Pathology and Immunology (primary appointment)
PHD University of Arkansas 2001
Mark A Watson, PHD, MD  Associate Professor of Pathology and Immunology (primary appointment)
PHD Washington Univ in St. Louis 1992
MD Washington Univ in St. Louis 1992
BA University of Pennsylvania 1985
Katherine N Weilbaecher, MD  Professor of Medicine (primary appointment)
Professor of Pathology and Immunology
Professor of Cell Biology and Physiology
BA Harvard University 1987
MD Stanford University 1992
Frances V White, MD, MS  Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Pediatrics
MD University of North Carolina 1989
MS University of North Carolina 1978
BA Princeton University 1975
Terry A Woodford-Thomas, PHD, MS  Adjunct Research Assistant Professor of Pathology and Immunology (primary appointment)
Edward Mallinckrodt Department of Pediatrics

The primary aim of the teaching program of the Department of Pediatrics is to stimulate interest in developmental biology, especially human growth and development, and to provide the student with a foundation sufficiently comprehensive so that he or she will have an appreciation of clinical pediatric problems regardless of his or her future career choice in medicine.

The major clinical and research facilities are in St. Louis Children’s Hospital, and the newborn services are at Barnes-Jewish Hospital. St. Louis Children’s Hospital is a
facility with 264 beds that accepts patients through 21 years of age with all types of medical and surgical problems. Hospital admissions average 11,200 annually. Pediatric medical ambulatory activity, including subspecialty and emergency visits, averages about 152,000 visits a year. Nearly 4,000 infants are born annually at the Washington University Medical Center.

For more information

Please visit the Department of Pediatrics website for more information.

MD Courses — Pediatrics

First year

Selectives

M04 526 NEW DISEASES, NEW PATHOGENS
For full description, see Department of Molecular Microbiology.

Second year

M65 640A PHYSICIANS, PATIENTS & SOCIETY: PEDIATRICS
Instructors: Amanda Emke, MD and Erika Hayes, MD

This year-long curriculum introduces students to the unique nature of pediatrics as a
subspecialty focused on the role of pediatricians in assessing and managing growth and development, the impact of environment on growth and development, and the way a pediatrician’s role changes in concert with the patient’s growth and development. Through a series of lectures and Team-Based Learning sessions, students are given the knowledge, skills and attitudes to understand and recognize pediatric pathology through an intricate understanding of preventative health and health supervision, normal growth and development, focused pathologies in each organ-specific area, and the unique physician-patient relationship in such a dynamic specialty. The unique aspects of the physical examination of patients across various ages and developmental levels are presented in an optional Physical Examination Night.

Third year

M65 760 PEDIATRICS CLERKSHIP
Instructors: Michelle Estabrook, MD and Colleen Wallace, MD (both: 454-6299)

This six-week curriculum emphasizes pediatric pathophysiology and normal growth and development from birth through adolescence. The clerkship consists of three two-week rotations that encompass inpatient medicine, newborn nursery and an ambulatory experience. Sites include St. Louis Children’s Hospital, Progress West, and Missouri Baptist Medical Center as well as community pediatricians’ offices. Students will learn to perform and document age appropriate pediatric histories and physical examinations, develop evidenced based differential diagnoses, and construct logical plans for diagnosis and treatment. Daily rounds with house staff and attending physicians, as well as weekly case management conferences and grand rounds, further this emphasis.

Fourth year

Electives

M65 801 / GENERAL PEDIATRIC SUB-INTERNSHIP – ST. LOUIS CHILDREN’S HOSPITAL
Instructor(s): Michele Estabrook, MD  
Location: St. Louis Children’s Hospital  
Elective Contact: Liz Scott, 4S30, St. Louis Children’s Hospital, 314-454-6299

Other Information: The student can choose either 8 East or 8 West. If both students prefer the same floor, a lottery will be used for assignments.  
Enrollment limit per period: 2  
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This is the general pediatric sub-internship. The student will be assigned patients on one of two inpatient pediatric floor teams. They will follow patients from initial evaluation and for continuing care until discharge. Students work directly under the supervision of the senior resident and manage their own patients without co-coverage by an intern. Teaching rounds are conducted by the faculty. The elective will provide experience in the management of many pediatric medical conditions (variable depending on floor) and will include the care of patients with various diseases including pulmonary, infectious diseases, gastrointestinal, renal, neurological, endocrine, and rheumatologic issues. Additionally, patients with failure to thrive, asthmatic exacerbations, poisonings, PICU transfers and undiagnosed conditions may be seen.

Student time distribution: Inpatient 100%; Subspecialty Care/General Pediatrics 100%  
Major teaching responsibility: Attendings and residents  
Patients seen/weekly: Approximately 12  
On call/weekend responsibility: 2-3 weekend days, 5 consecutive night shifts  

**M65 808 / PEDIATRIC ASTHMA AND ALLERGY**

Instructor(s): Leonard B. Bacharier, MD; Caroline Horner, MD; Robert C. Strunk, MD; Avraham Beigelman, MD; Alysa Ellis, MD; and Maleewan Kitcharoensakkul, MD; 314-454-2694  
Location: St. Louis Children’s Hospital and St. Louis Children’s Specialty Care Center  
Elective Contact: Kim Tinsley, 314-454-2158
Other Information: Students should call 314-454-2158 prior to the start of this elective for location and time.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

In predominantly an outpatient setting, students will evaluate patients with a wide variety of allergic and immunologic disorders including asthma, allergic rhinitis, anaphylaxis, food allergy, atopic dermatitis, urticaria, angioedema and primary immunodeficiency. Rotation goals include: (1) the extension of history-taking skills to include environmental exposures, (2) the recognition of physical findings suggestive of allergic disease, (3) understanding the indications and interpretation of diagnostic testing including skin testing and assessment of pulmonary function, and (4) application of appropriate therapeutic strategies to these disorders. Weekly didactic conferences and inpatient consultations provide additional educational opportunities to the student.

Student time distribution: Inpatient 10%; Outpatient 80%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Leonard B. Bacharier, MD, and Caroline Horner, MD
Patients seen/weekly: 40
On call/weekend responsibility: None

M65 809 / PEDIATRIC PULMONARY SUB-INTERNSHIP
Instructor(s): Thomas Ferkol, Jr., MD; Leonard Bacharier, MD; Avraham Beigelman, MD; Joshua Blatter, MD; Ferdinand Coste, DO; Andrea Coverstone, MD; Alysa Ellis, MD; Albert Faro, MD; Amjad Horani, MD; Kay Horner, MD; James Kemp, MD; Maleewan Kitcharoensakkul, MD; Peter Michelson, MD; Jessica Pittman, MD; Katherine Rivera-Spoljaric, MD; and Stuart C. Sweet, MD, PhD
Location: St. Louis Children's Hospital
Elective Contact: Thomas Ferkol, Jr., MD, 314-454-2158, or Ferdinand Coste, DO, 314-747-5752
Other Information: Students report to 7 East Respiratory Unit, St. Louis Children’s Hospital, 7:00 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

On the 7 East Respiratory Unit, the sub-intern is an active member of a multidisciplinary care team, consisting of attending pulmonologist or allergist, advanced practice nurses, second-year pediatric residents, unit nurses, and other care providers and takes responsibility for children with acute and chronic lung diseases admitted to the unit. The student will be co-managed with a senior pediatric resident and the sub-intern will be directly supervised by the pediatric residents and attending physician in the daily care of patients. The rotation is structured to provide students with a primarily clinical experience to allow them to gain exposure to the breadth of lung diseases seen at St. Louis Children's Hospital.

The volume of patients on the 7 East Respiratory Unit varies with the number of patients covered by the sub-intern at any time, and he or she will typically be responsible for the care of two to six patients at any given time. The student will be exposed to children with wide-ranging lung diseases and breathing disorders, such as asthma, cystic fibrosis, bronchopulmonary dysplasia, bronchiolitis, pneumonia, chronic respiratory insufficiency, and congenital lung anomalies during their clinical rotation. The student will also have the opportunity to participate in tests and procedures essential to the practice of pulmonary and allergy medicine, including pulmonary function studies, flexible fiberoptic bronchoscopy, and overnight polysomnography. Sub-interns do not have evening coverage responsibilities, and weekend responsibilities are limited to two days during the four-week block. They are strongly encouraged to attend departmental and divisional conferences.

Student time distribution: Inpatient 80%; Outpatient 10%; Conferences/ Lectures 10%; Primary Care 30%; Subspecialty Care 70%
Major teaching responsibility: Attending Physician
Patients seen/weekly: 10-15
On call/weekend responsibility: Two weekend days per month

M65 811 / PEDIATRIC CRITICAL CARE MEDICINE
Instructor(s): Stuart Friess, MD
Location: St. Louis Children’s Hospital
Elective Contact: Stuart Friess, MD, Friess_S@kids.wustl.edu, 286-2799

Other Information: Students report to the PICU, 7th Floor St. Louis Children’s Hospital, 6:30 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This elective is designed to familiarize the student with the diagnosis and treatment of critical illness in infants and children. To this end, each student is made responsible for a small number of assigned cases under the direct supervision of pediatric residents, pediatric critical care fellows, and faculty. The teaching activities emphasize the understanding of pathophysiological processes that lead to respiratory, circulatory, and central nervous system dysfunction and their therapy in the developing subject. Students are expected to participate in all the daily activities of the Pediatric Intensive Care Unit at St. Louis Children’s Hospital and be on occasional call after hours.

Student time distribution: Inpatient 100%; Subspecialty Care 100%
Major teaching responsibility: Attending, critical care fellows, and pediatric residents
Patients seen/weekly: 150
On call/weekend responsibility: Yes

M65 813 / PEDIATRIC CARDIAC CATHETERIZATION
Instructor(s): David Balzer, MD, and Shabana Shahanavaz, MBBS
Location: St. Louis Children’s Hospital
Elective Contact: David Balzer, MD, 314-454-6095

Other Information: Students report to St. Louis Children’s Hospital Cath Lab (7th
Floor, 8:00 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Elective will focus on interpretation of hemodynamic and angiographic data acquired in the cardiac catheterization laboratory.

Student time distribution: Inpatient 95%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Two attendings, supplemented by one fellow
Patients seen/weekly: 10
On call/weekend responsibility: None

M65 819 / PEDIATRIC CARDIOLOGY-OUTPATIENT
Instructor(s): Georgeann Groh, MD; George Van Hare, MD; Shafkat Anwar, MD; Dave Balzer, MD; Charles Canter, MD; Chesney Castleberry, MD; Mark Grady, MD; Patrick Jay, MD; Mark Johnson, MD; Caroline Lee, MD; Jennifer Silva, MD; Shabana Shahanavaz, MBBS; Kathleen Simpson, MD; Gautam Singh, MD; and Bridget Zoeller, MD
Location: St. Louis Children's Hospital and Children's Specialty Care Center
Elective Contact: Georgeann Groh, MD, groh_g@wustl.edu, 314-454-6095

Other Information: Schedules are kept on the residents’ hard drive. For additional information and questions, students should report to 8th Floor, Northwest Tower, Division of Cardiology, Kim Graham, Room 8206, 8:00 a.m. first day of elective to pick up a clinic schedule. Students are encouraged to contact/meet with the elective coordinator, Dr. Groh, prior to the elective, to plan their rotation according to their interests and career goals.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Students will be exposed to the wide spectrum of pediatric cardiology on an
outpatient basis. In addition to general cardiology clinics, several subspecialty clinics are also available, including heart failure/transplant, electrophysiology/inherited arrhythmias, pulmonary hypertension, William’s syndrome, Down syndrome, and preventative cardiology clinic. Students will independently evaluate clinic patients referred for a variety of cardiac complaints, such as cardiac murmurs, chest pain, syncope, arrhythmia, as well a wide variety of congenital cardiac lesions, and report their findings to the attending. Cardiac auscultation skills will be enhanced through auscultation of cardiac patients in a clinic environment. Students will learn basics of ECG and echocardiogram interpretation by reviewing studies performed during clinic with the attending. Clinics are held at St. Louis Children’s Hospital, and the Children’s Specialty Care Center in West County. Students also have the option to participate in outreach clinics that occur on a monthly basis (locations include Cape Girardeau, Poplar Bluff, Rolla, Bonne Terre, and Columbia). Depending on interest, students may spend additional time in the echocardiography laboratory for more in depth exposure to echocardiography. Participation in weekly surgical conference and daily cardiology educational conferences is encouraged.

Student time distribution: Outpatient 95%; Conferences/Lectures 5%; Subspecialty Care 100%

Major teaching responsibility: Multiple attendings

Patients seen/weekly: 25

On call/weekend responsibility: None required

M65 826 / GENETICS AND GENOMIC MEDICINE

Instructor(s): D. Kathy Grange, MD
Location: St. Louis Children’s Hospital
Elective Contact: D. Kathy Grange, MD, 314-454-6093

Other Information: Students should report to the Genetics office on the 9th floor of the Northwest Tower at 9:00 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.
The goal of this senior elective is to facilitate the acquisition of clinical skills and knowledge in genetics and genomic medicine. The student will actively participate in the diagnosis and management of pediatric and adult patients with genetic disease in both the ambulatory and in-patient settings. Emphasis will be placed on application of the science of genetics to the bedside and will include a broad exposure to patients with biochemical, metabolic, structural and complex genetic diseases. Students will have an opportunity to visit clinical laboratories involved with diagnosis of genetic disorders, including the cytogenetics, molecular genetics and biochemical genetics laboratories. Students will be expected to participate in the weekly clinical case conference.

Student time distribution: Inpatient 30%; Outpatient 60%; Conferences/Lectures 10%; Subspecialty Care 100%.

Major teaching responsibility: Attendings
Patients seen/weekly: 15
On call/weekend responsibility: None

M65 827 / SUB-INTERNSHIP – PEDIATRIC HEMATOLOGY/ONCOLOGY
Instructor(s): Robert Hayashi, MD
Location: St. Louis Children's Hospital, 9 West
Elective Contact: Robert Hayashi, MD, 314-454-4118

Other Information: Students report to 9 South Nursing Station, 8:00 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Students will assume the responsibilities of a pediatric resident on the inpatient Hematology/Oncology service at St. Louis Children's Hospital.

Student time distribution: Inpatient 90%; Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Single attending, first-year hematology/oncology fellow.
Patients seen/weekly: 2-3 patients a day
On call/weekend responsibility: None

M65 836 / PEDIATRIC RHEUMATOLOGY
Instructor(s): Andrew White, MD; Kevin Baszis, MD; Megan Cooper, MD, PhD; and Anthony French, MD, PhD
Location: St. Louis Children’s Hospital
Elective Contact: Andrew White, MD, 314-454-6124

Other Information: Students report to Rheumatology Clinic, Suite C, St. Louis Children’s Hospital, 8:30 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Opportunities are available to care for children with a variety of immunologic and rheumatologic disorders. Students will see patients in outpatient clinics and inpatient consultations. An in-depth approach to evaluating disorders of the immunologic system will be provided. Students will participate in evaluation of new patients with a variety of rheumatologic diseases including JRA, SLE, and scleroderma at both SLCH and Shriners Hospital clinics. Students may elect to participate in conferences and seminars.

Student time distribution: Inpatient 20%; Outpatient 70%; Conferences/ Lectures 10%; Primary Care 30%; Subspecialty Care 70%
Major teaching responsibility: Andrew White, MD
Patients seen/weekly: 35-40
On call/weekend responsibility: None

M65 838 / PEDIATRIC GASTROENTEROLOGY, HEPATOLOGY & NUTRITION
Instructor(s): Alex Weymann, MD (medical student supervisor); Brian DeBosch, MD, PhD; Christina Hickey, MD; Lori Holtz, MD; Shannon Joerger, MD; Robert Rothbaum,
MD; David Rudnick, MD; Chip Samson, MD; Phillip Tarr, MD; Yumi Turmelle, MD; and Liz Utterson, MD

Location: Gastroenterology Clinical Offices, 9th Floor, Northwest Tower

Elective Contact: Maida Redzic, 286-2848, redzic_m@kids.wustl.edu

Other Information: Students should contact Maida Redzic at least one week in advance of first day of elective for further information.

Enrollment limit per period: 1

Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The rotation in Pediatric Gastroenterology, Hepatology, and Nutrition provides broad exposure to specialized and common pediatric problems. Division patients are seen in the outpatient suites and in the hospital. Students evaluate outpatients with common pediatric complaints like abdominal pain, constipation, and poor growth. Additionally, students experience the ongoing outpatient care of patients with liver disease, inflammatory bowel disease, short-gut syndrome, celiac disease, and other rare disorders. The inpatient service provides experience in caring for patients with acute illnesses such as gastrointestinal bleeding, malnutrition, liver failure, complications of inflammatory bowel disease, and pancreatitis. Students participate in diagnostic and therapeutic endoscopic procedures. At weekly divisional conferences, faculty, fellows, and students review pathology slides from current cases and discuss difficult patient problems and topics of interest.

Student time distribution: The time spent in the outpatient clinic and on the inpatient service can be individualized according to the student’s interests. In general, the distribution is: Inpatient 50%; Outpatient 30%; Procedures 10%; Conferences/Lectures 10%; Subspecialty Care 100%

Major teaching responsibility: Faculty and fellows

Patients seen/weekly: 150 (entire division) / week (outpatients), 70/week (inpatients), 20/week (procedures). Students participate in a subset (most interesting/instructive cases)

On call/weekend responsibility: None
M65 840 / PEDIATRIC INFECTIOUS DISEASES
Instructor(s): David Hunstad, MD; Alexis Elward, MD; Michele Estabrook, MD;
Stephanie Fritz, MD; Ericka Hayes, MD; S. Celeste Morley, MD, PhD; Audrey Odom, MD,
PhD; Gregory Storch, MD; Indi Trehan, MD; and Rachel Orscheln, MD; 314-454-6050
Location: St. Louis Children’s Hospital
Elective Contact: Pam Wilson, 314-286-2778

Other Information: Students should contact Fellow on call at 314-424-6877 one week
prior to start of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This elective is designed to introduce students to the clinical aspects of infectious
diseases in children. Students will consult on both inpatients and outpatients. Regular
daily activities will include evaluation of new patients, work rounds on inpatient
consults, microbiology teaching rounds in the bacteriology and virology labs, and
teaching rounds with the infectious diseases attending. Students will attend the
general pediatric clinic and the pediatric HIV clinic once per week. Formal teaching
sessions include a weekly pediatric infectious disease case conference, a weekly joint
clinical conference with the adult infectious diseases group, and a weekly pediatric
infectious diseases research conference.

Student time distribution: Inpatient 70%; Outpatient 20%; Conferences/ Lectures 10%;
Subspecialty Care 100%
Major teaching responsibility: One or two attendings, one or two fellows
Patients seen/weekly: 5-10 new patients primarily, over 15-20 new patients with team
On call/weekend responsibility: None

M65 845 / PEDIATRIC EMERGENCY MEDICINE
Instructor(s): Kimberly S. Quayle, MD and Robert (Bo) M. Kennedy, MD
Location: St. Louis Children’s Hospital
Elective Contact: Carol Heller, 454-2341
Other Information: Students report to Room 9105 Northwest Tower, 8:30 a.m. first day of elective.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The goal of this elective is to provide the senior medical student with a broad introductory clinical experience in pediatric emergency medicine. Functioning as a subintern in the Emergency Unit of St. Louis Children's Hospital, the student will have the opportunity to evaluate and manage patients with a wide variety of emergent and urgent medical and surgical problems. Examples include: respiratory distress, abdominal pain, lacerations, bone injuries, rashes, fever, etc.

Students will work either a day shift (7:30 a.m.-3:00 p.m.) or an evening shift (3:00 p.m.-11:00 p.m.) in rotation. Daily teaching conferences are provided by the attending staff. A weekly meeting of the students and senior faculty will occur to review interesting cases. Also, attending staff and senior pediatric residents provide 24-hour on-site supervision. Each medical student will be asked to prepare a 20-minute presentation on a topic of his/her choosing.

Student time distribution: Outpatient 90% Conferences/Lectures 10%; Subspecialty Care (Emergency Medicine) 100%
Major teaching responsibility: All EM attendings
Patients seen/weekly: ~30
On call/weekend responsibility: None (unless making up time)

M65 849 / PEDIATRIC ENDOCRINOLOGY AND DIABETES
Instructor(s): Abby Hollander, MD; Bess Marshall, MD; Paul Hruz, MD, PhD; Ana Maria Arbelaez, MD; Neil White, MD; Andrea Granados, MD; and Jennifer Sprague, MD, PhD, 314-454-6051
Location: St. Louis Children's Hospital
Elective Contact: Kathy Corey, 314-286-2725
Other Information: Student has the option to extend elective. Students report to Endocrinology and Diabetes Office, 9th Floor Northwest Tower, 8:30 a.m. first day of elective.

Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This elective is designed to include broad clinical experience in pediatric endocrinology and diabetes. The student will have an opportunity to evaluate both patients admitted to St. Louis Children's Hospital and patients referred for consultation in our three outpatient clinics each week. In addition to a divisional conference to review referred patients, several joint conferences with the adult Endocrinology and Diabetes Division (clinical rounds, journal club/research seminar, case conference) are held weekly.

Student time distribution: Inpatient 40%; Outpatient 50%; Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attending physicians and fellows
Patients seen/weekly: 10-20 by student
On call/weekend responsibility: None

M65 852 / CLINICAL PEDIATRIC PULMONARY MEDICINE
Instructor(s): Thomas Ferkol, Jr., MD; Leonard Bacharier, MD; Avraham Beigelman, MD; Joshua Blatter, MD; Ferdinand Coste, DO; Andrea Coverstone, MD; Alysa Ellis, MD; Albert Faro, MD; Amjad Horani, MD; Kay Horner, MD; James Kemp, MD; Peter Michelson, MD; Jessica Pittman, MD; Katherine Rivera-Spoljaric, MD; Robert C. Struck, ND; and Stuart C. Sweet, MD, PhD; 314-454-2694
Location: St. Louis Children's Hospital
Elective Contact: Kim Tinsley, 314-454-2158

Other Information: Students should call 314-454-2158 prior to the start of elective for location and time.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and
This elective provides an excellent opportunity for students to be exposed to the full scope of respiratory diseases and sleep disorders in infants and children. Pediatric referrals will be seen in both an inpatient and outpatient setting. Rotation goals for students include: (1) gain greater insights into the genetics, epidemiology, pathophysiology, and clinical presentations of lung diseases in children; (2) learn the importance of the physical examination using inspection, percussion, and auscultation; (3) understand indications and interpretation of diagnostic tests, such as chest imaging, blood gas measurements, polysomnography, pulmonary function testing, and bronchoscopy with biopsy and lavage; and (4) learn to apply therapeutic interventions to common lung diseases. Unique aspects of this rotation include, a broad exposure to children with asthma, cystic fibrosis, ciliopathies, interstitial lung diseases, chronic lung disease of infancy, congenital lung malformations, and end-stage cardiopulmonary diseases referred for lung transplantation. Weekly didactic sessions, as well as divisional clinical conferences, provide opportunities for the trainee to develop his or her presentation skills.

Student time distribution: Inpatient varies; Outpatient varies; Conferences/Lectures 10%; Subspecialty Care 100%

Major teaching responsibility: Attendings

Patients seen/weekly: 25

On call/weekend responsibility: None

**M65 861 / NEWBORN MEDICINE**

Instructor(s): Akshaya Vachharajani, MD

Location: 8th Floor Northwest Tower

Elective Contact: Emily Alexander, 314-454-6148

Other Information: Students should schedule an appointment with Emily to meet with Dr. Vachharajani. Appointments should be scheduled one week prior to class start date.

Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The goal of this course is to provide students with responsibility for caring for newborn infants who range from normal, to acutely ill, to chronically ill, and for their families. The physiology of the transition from fetal to extrauterine existence, the pathophysiology of specific diseases, and primary accountability of the student for patient management decisions and procedures, will be emphasized. In addition, collaboration with nursing staff, other health care providers in decision-making (especially concerning the viability of individual infants), and family management will be regularly required.

Students, during each rotation, will have the option to rotate through the Neonatal Intensive Care Unit at St. Louis Children's Hospital and/or the labor and delivery services at Barnes-Jewish Hospital. Students assigned to the Labor and Delivery Service will routinely be involved in normal newborn care and delivery room management. The student will be expected to rotate patient responsibilities every fourth night.

Student time distribution: Inpatient 90%; Outpatient 5%; Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Attending, fellow and residents
Patients seen/weekly: 30
On call/weekend responsibility: Every fourth night

M65 875 / PEDIATRIC RENAL DISEASE
Instructor(s): Vikas Dharnidharka, MD, MPH; Keith A. Hruska, MD; S. Paul Hmiel, MD, PhD; Carmen Halabi, MD, PhD; Thomas Keefe Davis, MD; and Tara Neumayr, MD
Location: St. Louis Children's Hospital
Elective Contact: Vikas Dharnidharka, MD, MPH, 314-454-6043

Other Information: Students report to the Division of Nephrology, 314-286-1574, 10th Floor Northwest Tower, 8:15 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This course is designed to provide the student with a wide exposure to all aspects of pediatric renal disease and an opportunity to explore a desired aspect of the field in-depth. The student will be an integral part of the Renal Team and as such will see both inpatients and outpatients. Students will have an opportunity to follow the courses of patients with acute renal disease as well as those with more chronic problems and will help to plan the evaluation and therapeutic management of these patients. Discussions and rounds with the attending staff and fellows emphasize the relationship between clinical problems and the pathophysiology of the underlying disease. These informal teaching sessions are supplemented by more formal sessions. These include renal attending rounds, renal research rounds and grand rounds, which are conducted weekly in conjunction with the Renal Division of Barnes-Jewish Hospital. Renal biopsy material is reviewed with the renal pathologists. Attendance at the weekly pediatric grand rounds and pediatric case conferences is encouraged. Opportunities in clinical and translational research projects will be discussed with interested students.

Student time distribution: Inpatient 50%; Outpatient 40%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attendings
Patients seen/weekly: 12-15
On call/weekend responsibility: None

M65 876 / PEDIATRIC LUNG TRANSPLANTATION
Instructor(s): Stuart C. Sweet, MD; Peter Michelson, MD; Albert Faro, MD; and Joshua Blatter, MD, 314-454-2214
Location: St. Louis Children’s Hospital
Elective Contact: Kim Tinsley, 314-454-2158

Other Information: Students should call 314-454-2158 prior to the start of elective for
location and time.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

St. Louis Children’s Hospital has the largest pediatric lung transplantation program in North America. This unique clinical rotation will enable students to be exposed to the process of transplantation from referral and listing to the actual surgery and post-operative care. Both inpatient and twice weekly outpatient clinics will be available for participation and learning. The use of diagnostic tests, including flexible fiberoptic bronchoscopy with biopsies and bronchoalveolar lavage, histopathology of infection and graft rejection, and the complexities of immunosuppression will all be explored. Weekly multidisciplinary meetings with our team, as well as didactic, psychosocial, and ethical meetings will be available. Our patient referral base is worldwide, and includes infants and children with cystic fibrosis, pulmonary hypertension, complex congenital heart defects, surfactant protein defects and alveolar proteinosis.

Student time distribution: Inpatient 50%; Outpatient 40%; Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attendings
Patients seen/weekly: 20-30
On call/weekend responsibility: None

**M65 878 / CLERKSHIP IN RURAL PRIMARY CARE PEDIATRICS**
Instructor(s): Michele Estabrook, MD, 314-454-6299; Claudia Preuschoff, MD, in Cape Girardeau, MO
Location: Cape Girardeau, MO
Elective Contact: Liz Scott, St. Louis Children’s Hospital, 314-454-6299

Other Information: Students should call Liz Scott, 314-454-6299, at beginning of school year to confirm dates. Students should then report to the site on their first day, at time determined by Dr. Preuschoff. Enrollment limit per period: 1
Valid start weeks for two or four-week blocks are: Weeks 1, 3, 5, 7, 9, 11, 13, 15, 17, 19,
The clerkship in rural primary care pediatrics is designed to provide the student with first-hand experience in general pediatric practice in a rural community setting. Students will have the opportunity to see patients in a private office, participate in delivery room resuscitation, evaluate patients in the emergency department, and provide pediatric consultation to family practitioners, obstetricians, and surgeons. The objective of this elective is to provide the student with the experience of serving as a general pediatrician providing comprehensive health services in a rural community. Students assume responsibility for ongoing care of patients and have opportunities to perform procedures. Two-week or four-week blocks are available.

Student time distribution: Inpatient 10%; Outpatient 90%; Primary Care 100%
Major teaching responsibility: Single attending
Patients seen/weekly: 25-50
On call/weekend responsibility: Call with instructor, not in-house call

Research — Pediatrics

Ana Maria Arbelaez, MD
10th Floor, Northwest Tower
314-286-1138
Clinical Research in Diabetes Mellitus. Clinical research studies on hypoglycemia associated autonomic failure in patients with type 1 diabetes mellitus and on cystic fibrosis related diabetes.

Charles E. Canter, MD
8th Floor, Northwest Tower, Division of Cardiology
Single-center and multi-center clinical studies and trials in pediatric cardiomyopathy, heart failure, and heart transplantation.

F. Sessions Cole, MD, and Jennifer Wambach, MD, MS
8th Floor, Northwest Tower and 5th Floor McDonnell Pediatric Research Building
314-454-6148
Using candidate gene sequencing, exome sequencing, whole genome sequencing, and computational prediction and filtering strategies for discovery of deleterious variants in population-based cohorts, case-control cohorts, and trios of affected infant and parents, our laboratory focuses on discovering novel candidate genes associated with neonatal respiratory distress syndrome and understanding the contribution of genetic variation in candidate genes of the pulmonary surfactant metabolic pathway (including surfactant protein B, surfactant protein C, NKX2-1, and ABCA3), to risk of neonatal respiratory distress syndrome.

Vikas Dharnidharka, MD, MPH
10th Floor, Northwest Tower
314-286-1574
Clinical and translational research in childhood kidney disease. Our group is involved in several different types of clinical and translational research, including (a) multicenter clinical intervention trials to improve teen adherence with transplant medications and test new medications in children on dialysis; (b) translational biomarker studies in transplant acute and chronic rejection and genomic studies or post-transplant lymphoproliferative disease; (c) large transplant database epidemiological analyses for associations of immunosuppressive regimens with efficacy and morbidity balance.

Allan Doctor, MD
5th Floor, McDonnell Pediatric Research Building
314-454-2527
Role of Erythrocytes in Pathologic Vascular Signaling. We employ several novel experimental platforms to pursue a range of basic, translational, and clinical studies exploring: (1) the role of erythrocytes in context-responsive metabolism of vasoactive...
effectors in flowing blood; (2) molecular control of antioxidant defense in erythrocytes; (3) the role of acquired injury to normal erythrocytes in the pathophysiology of acute lung injury and multiple organ failure syndrome; and (4) the impact of genetic abnormalities in erythrocytes upon antioxidant defense and vascular signaling (modeled by sickle cell anemia). Query is modeled on many levels from isolated proteins – cell culture – isolated organ – whole mouse – to studies in humans.

Todd Druley, MD, PhD
Room 6203, 4444 Forest Park Avenue
314-286-2124
Translational genomic research in pediatric oncology. The Druley lab aims to develop novel genomic and computational methodologies for characterizing the functional impact of rare acquired and germline variation on the etiology and outcomes of various pediatric malignancies.

Jennifer Duncan, MD
3rd Floor, McDonnell Pediatric Research Building
314-747-0802
Understanding the Transgenerational Impact of Maternal Nutrition. Our lab uses Drosophila melanogaster as a model system to evaluate the impact of maternal caloric excess on metabolism and mitochondrial function in offspring. We are currently pursuing epigenetic mechanisms, specifically the role of histone modification, for altering gene expression. In addition, we are evaluating the molecular mechanisms underlying triglyceride excess in the offspring and are evaluating tissue specific mitochondrial function. This elective is for students interested in research in any of these areas.

Stephanie A. Fritz, MD, MSCI
Room 10125, Northwest Tower
314-454-4115
Our research team studies the epidemiology, microbial virulence mechanisms, and host defenses against community-associated methicillin-resistant Staphylococcus aureus (CA-MRSA) colonization, transmission, and disease. We are investigating the
transmission dynamics of CA-MRSA in households and interventions to interrupt the transmission of CA-MRSA and prevent subsequent infections. Our lab also explores the microbial and host genomic determinants, as well as the host immune response to staphylococcal toxins implicated in the pathogenesis of CA-MRSA, in patients across a spectrum of disease states. Our goal is to develop novel approaches for the prevention of CA-MRSA infections.

Carmen Halabi, MD, PhD
4th Floor, McDonnell Pediatric Research Building, Room 4107
314-286-1376

Extracellular matrix in vascular development and disease: The research in the laboratory focuses on vascular biology. Specifically, we study extracellular matrix proteins that make up the elastic fibers of blood vessels. Elastic fibers convey elasticity to blood vessels allowing large arteries to store energy during systole and release it during diastole. Abnormalities in elastic fiber components lead to various complications including hypertension, stiff vessels, and aneurysms. In the laboratory, we utilize mouse models to understand how abnormalities in these proteins lead to disease, which helps us not only learn about the normal function of these proteins, but also identify potential novel therapeutic targets.

Robert J. Hayashi, MD
Suite 9S, St. Louis Children's Hospital
314-454-4118

Clinical research interests include stem cell transplantation and its complications, including Post Transplant Lymphoproliferative Disease and long-term side effects of therapy.

Keith A. Hruska, MD
5th Floor, McDonnell Pediatric Research Building
314-286-2772

The research in the laboratory focuses on chronic kidney disease (CKD) and its complications of the chronic kidney disease mineral bone disorder syndrome that involves skeletal frailty, cardiovascular disease, and vascular calcification. The lab has
discovered important new pathologic mechanisms of disease leading to vascular calcification through systemic effects of factors involved in renal repair, and hyperphosphatemia. Translational studies that continue to develop new therapeutic approaches are being aggressively pursued. New therapies for chronic kidney disease, and its complications, are being studied in clinical trials.

Paul Hruz, MD, PhD
3rd Floor, McDonnell Pediatric Research Building
314-286-2797
Research interests include structure/function relationships in facilitative glucose transporters, congenital and acquired lipodystrophy syndromes, and insulin resistance associated with HIV protease inhibitor therapy.

David A. Hunstad, MD
Room 6106, McDonnell Pediatric Research Building
314-286-2710
Work in our lab focuses on the interactions of pathogenic bacteria with their hosts. We aim to elucidate the modulation of host immune responses by pathogens and to determine the mechanisms by which these bacteria present specific virulence factors on their surfaces. Currently, we use cultured bladder epithelial cell models and murine models of cystitis to investigate the ability of uropathogenic Escherichia coli to modulate host innate and adaptive immune responses. In addition, we are studying the molecular mechanisms by which selected outer membrane proteins contribute to the virulence of uropathogenic E. coli. Our primary goal is to discover novel targets for interventions that will prevent and better treat bacterial infections of the urinary tract. Along these lines, we are leveraging recent discoveries in UTI pathogenesis to design nanoparticle-based therapies for prevention of acute and recurrent UTI. We have also launched a new translational study of immune responses to UTI in male and female infants, paired with an innovative new mouse model of male UTI that permits first-ever studies of sex differences in these infections.

S. Celeste Morley, MD, PhD
Room 6105, McDonnell Pediatric Research Building
Our laboratory investigates the molecular mechanisms underlying immune cell signaling and trafficking using mouse models. We hope to identify molecules critical for host defense against infectious organisms such as pneumococcus. Our focus is currently on an actin-binding protein called L-plastin, which is required for normal T and B cell motility.

Audrey R. Odom, MD, PhD
Room 6108, McDonnell Pediatric Research Building
314-747-2370

Antimalarial therapies and diagnostics. Severe malaria due to infection with Plasmodium falciparum kills nearly a million children annually. My laboratory uses translational approaches to develop new methods to diagnose and treat malaria. Projects are available in several research areas, ranging from clinical studies to molecular parasitology approaches in the lab. We are eager to have students join either our team on campus, where we study parasite metabolism and evaluate new potential therapies, or our team in the field in Malawi, where we are collecting samples for new malaria biomarkers.

Jose A. Pineda, MD
10th Floor, Northwest Tower, Patient Oriented Research Unit
314-286-1246

Mechanisms of brain injury in children. Our clinical research efforts focus on investigating the mechanisms and potential new treatments for brain injury, including strategies for implementation of best clinical practices. We utilize high-resolution physiological monitoring, biochemical analysis of clinical samples, and innovative implementation science methodologies.

Alan L. Schwartz, PhD, MD
Suite 3S36, St. Louis Children's Hospital
314-454-6005

Investigative efforts are aimed at understanding: (1) the biology of cell surface receptors, including biochemical and molecular dissection of the mechanisms
responsible for receptor-mediated endocytosis of blood coagulation proteins; and (2) the regulation of intracellular protein turnover.

Shalini Shenoy, MD
Suite 9S, St. Louis Children's Hospital
314-454-6018
Investigation of novel reduced intensity transplant strategies for pediatric non-malignant disorders and the immunologic basis of graft versus host disease and graft rejection.

Gregory A. Storch, MD; Kristine Wylie, PhD; Todd Wylie, BS; Richard S. Buller, PhD
Suite 2N52, St. Louis Children's Hospital
314-454-6079
Infectious disease genomics. Our laboratory is interested in applying genomic analysis to a variety of problems in infectious diseases, mostly related to viral infections. Recent studies include use of next generation sequencing to define the human virome in immunocompromised children, improved methods for detecting viruses using next generation sequencing, use of next generation sequencing for clinical diagnosis, analysis of the human transcriptome response to acute infections, sequencing of the genome of enterovirus D68 and development of a rapid diagnostic test for that virus. Students would have the opportunity to learn genomic techniques, including informatics analysis.

Phillip I. Tarr, MD
Room 6103, McDonnell Pediatric Research Building
314-286-2848
Research in Pediatric Gastroenterology, Hepatology, and Nutrition. Students have opportunities in broadly encompassing research projects. Investigators, in the Division, have funded and vibrant projects in liver disease (fatty liver disease, acute liver failure, biliary atresia, liver transplants, cystic fibrosis liver disease), inflammatory bowel diseases (Crohn's Disease and ulcerative colitis), infections of the gastrointestinal tract (diarrhea), acute liver failure, Hirschsprung Disease, diarrhea, gut microbiome, aflatoxin injury to the liver and stunting, health services research,
necrotizing enterocolitis, antibiotic resistant pathogens in the human gut, and quality improvement, particularly related to inflammatory bowel disease management. Short- and long-term projects can be arranged around these and other related efforts. The exact nature of the project depends on the time that the student can contribute to the effort, and the availability of any of the Division faculty, who all have established track records as mentors. Interested students should contact any of our faculty, or Dr. Tarr, to discuss the possibilities.

Neil H. White, MD, CDE
9th Floor, Northwest Tower, St. Louis Children's Hospital
314-286-1157
Our work involves patient-oriented research in the management of diabetes in children. Arrangements can be made for involvement in, or development of, projects aimed at improving outcome or prevention of diabetes mellitus and its complications.

David B. Wilson, MD, PhD
Room 3102, McDonnell Pediatric Research Building
314-286-2834
Research is focused on the molecular switches that regulate control genes during early embryonic development and differentiation.

Faculty — Pediatrics

Gary Arthur Silverman, PHD, MD Harriet B Spoehrer Professor of Pediatrics (primary appointment)
Head of the Department of Pediatrics
BS Washington Jefferson College 1978
PHD University of Chicago 1982
MD University of Chicago 1984
Philip Mulayara Abraham Instructor in Pediatrics (primary appointment)
Susan E Adams, PHD, MD Assistant Professor of Clinical Pediatrics (primary appointment)
BS University of Kansas 1977
William S Adams, Associate Professor of Clinical Pediatrics (primary appointment)
Randy Agolia, MD, Instructor in Clinical Pediatrics (primary appointment)
MD St. Louis University Group of 1995
Fahd Aqeeb Ahmad, MD, Assistant Professor of Pediatrics (primary appointment)
MD University of MO Columbia 2006
Etihad S. Al-Falahi, Instructor in Clinical Pediatrics (primary appointment)
Suzanne G Albrecht, Instructor in Clinical Pediatrics (primary appointment)
Ardis Kay Allison, DOST, Instructor in Clinical Pediatrics (primary appointment)
DOST Oklahoma St University 1980
Denis Ian Altman, MBBCH, Associate Professor of Clinical Neurology (primary appointment)
Assistant Professor of Clinical Pediatrics
MBBCH University of the Witwatersra 1975
Patricia J Amato, Professor of Clinical Pediatrics (primary appointment)
BS Notre Dame College 1979
Mohamad T Amjad, MD, Professor of Clinical Pediatrics (primary appointment)
BS School Not Listed 1957
MD School Not Listed 1961
Jagruti Shah Anadkat, MD, Assistant Professor of Pediatrics (primary appointment)
BS Ohio State University 2000
MD Northeastern University 2005
Kristen Minette Andersen, Instructor in Clinical Pediatrics (primary appointment)
Dana E Ankney, MD, Instructor in Clinical Pediatrics (primary appointment)
MD Wake Forest University 2005
BA Washington Univ in St. Louis 2001
Amal F. Antoun, Instructor in Clinical Pediatrics (primary appointment)
Shafkat Anwar, MD, Assistant Professor of Pediatrics (primary appointment)
MD George Washington University 2005
Ana Marie Arbelaez Perez, Associate Professor of Pediatrics (primary appointment)
Jennifer L. Arter, Assistant Professor of Clinical Pediatrics (primary appointment)
Elizabeth L Atkinson, MD, Instructor in Clinical Pediatrics (primary appointment)
MD Hahnemann University 1994
Jeffrey Jay Atkinson, Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pediatrics
BS1 Loyola College 1990
MD1 Hahnemann University 1994
BS Loyola College 1990
Stephanie Jane Attarian, BBA, MD, Instructor in Pediatrics (primary appointment)
BBA East Tennessee State University 2004
MD University of Tennessee 2009
Robert K Atteberry, Instructor in Clinical Pediatrics (primary appointment)
Adrienne Denise Atzemis, MD, Associate Professor of Pediatrics (primary appointment)
MD Creighton University 2000
BS John Carroll University 1996
Sarah Elizabeth Aubuchon, MD, Instructor in Clinical Pediatrics (primary appointment)
BA University of MO Kansas City 2007
MD University of MO Kansas City 2008
Sara Ayers, MD Instructör in Clinical Pediatrics (primary appointment)

MD University of Missouri 1998
Fariba Azarpour, MDX (primary appointment)

MD School Not Listed 1971
Leonard B Bacharier, MD Professor of Pediatrics (primary appointment)
Professor of Medicine
MD Washington Univ in St. Louis 1992
BA Johns Hopkins University 1988

Jill M Baer, MD Assistant Professor of Clinical Pediatrics (primary appointment)
BS University of Kentucky 1972
MD University of Kentucky 1975

Dustin M Baldridge, MD Instructor in Pediatrics (primary appointment)
MD Baylor University 2011

Sirine A. Baltagi Assistant Professor of Pediatrics (primary appointment)

David T Balzer, MD Professor of Pediatrics (primary appointment)
MD Saint Louis University 1985
BS University of MO Columbia 1981

Angela L Bard, MD Associate Professor of Clinical Pediatrics (primary appointment)
MD Indiana University Bloomington 1981
BS Indiana University Bloomington 1976

Alan Roy Barnette Adjunct Instructor in Pediatrics (primary appointment)
Amanda Marie Musto Bashir Instructor in Pediatrics (primary appointment)

Kevin W Baszis, MD Assistant Professor of Pediatrics (primary appointment)
MD University of MO Kansas City 2004

Maria S Baszis Instructor in Clinical Pediatrics (primary appointment)
Aimee M Baumann-Dudenhoeffer, MD Instructor in Pediatrics (primary appointment)
BA Cornell University 2000
MD Washington Univ in St. Louis 2005

Susan L Baumer, MD Associate Professor of Clinical Pediatrics (primary appointment)
MD University of Pennsylvania 1975

Christie A. Bayer, MD Instructor in Clinical Pediatrics (primary appointment)
MD University of MO Columbia 1990
BA Saint Louis University 1986

Susan Joy Bayliss, MD Professor of Medicine (Dermatology) (primary appointment)
Professor of Pediatrics
BA University of Texas Austin 1970
MD University of Texas Galveston 1974

Julia M. Becker, MD Instructor in Clinical Pediatrics (primary appointment)
MD University of Missouri 1997

Jeffrey John Bednarski, MD, PHD Assistant Professor of Pediatrics (primary appointment)
BS Duke University 1995
MD Davenport University 2003
PHD Davenport University 2003

Earl C Beeks Jr, MD Associate Professor of Clinical Pediatrics (primary appointment)
MD University of Missouri 1981
BS Howard University 1977

Avraham Beigelman, MD Associate Professor of Pediatrics (primary appointment)
MD Hebrew University 2000

Walter F Benoist, MD Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1972
BA University of Pennsylvania 1968

Kathleen Mary Berchelmann, MD Assistant Professor of Pediatrics (primary appointment)
BS Amherst College 1998
MD University of Connecticut 2003
Louise E Berdan Instructor in Clinical Pediatrics (primary appointment)

Mary Ellen Bertrand, MD Associate Professor of Neurology (primary appointment)
Associate Professor of Pediatrics
BS McKendree College 1987
MD Southern Illinois University 1993

Shobha Bhaskar, MBBS Assistant Professor of Pediatrics (primary appointment)
MBBS Bangalore University 1994

Priya Narayana Bhat, MS, MD Assistant Professor of Pediatrics (primary appointment)
MS University of AL Hunstsville 2000
BS University of AL Hunstsville 1999
MD University of South Alabama 2004

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Huldah C Blamoville Associate Professor of Clinical Pediatrics (primary appointment)
Kevin J Blanton Instructor in Clinical Pediatrics (primary appointment)

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M PH University of Pittsburgh 2014
MD University of Pittsburgh 2008

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BA Harvard Radcliffe 1992
MD Albany Medical College 1996
Joshua P Boldt Instructor in Clinical Pediatrics (primary appointment)

Robert J Bradshaw, MD Instructor in Clinical Pediatrics (primary appointment)
BA Emory University 1976
BS Emory University 1976
MD Saint Louis University 1980

Celeste Capers Brancato Assistant Professor of Pediatrics (primary appointment)

Rita Thomas Brookheart Instructor in Medicine (primary appointment)
Instructor in Pediatrics
BA Sweet Briar College 2003

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Assistant Professor of Pathology and Immunology
Instructor in Anesthesiology

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BS City University of New York 1973
MD Washington Univ in St. Louis 1982

Earline A Brownridge Instructor in Clinical Pediatrics (primary appointment)
Seth J Brownridge, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1982
BA Washington Univ in St. Louis 1978

Kathryn Ann Bucklen, MD Assistant Professor of Pediatrics (primary appointment)
MD Wake Forest University 2001
Tara M. Budetti, Instructor in Clinical Pediatrics (primary appointment)
Lorena Buffa, MD, Instructor in Clinical Pediatrics (primary appointment)
MD University of MO Columbia 1998
Richard S Buller, Associate Professor of Pediatrics (primary appointment)
BS Michigan Tech University 1972
Rebecca Kay Bullivant, MD, Assistant Professor of Clinical Pediatrics (primary appointment)
BS Eastern Illinois University 1988
MD University of Illinois 1992
Max H Burgdorf, MD, Assistant Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1974
BA Washington Univ in St. Louis 1970
Carey-Ann Dawn Burnham, PhD, Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Pediatrics
Associate Professor of Molecular Microbiology
BS University of Alberta 2002
PHD University of Alberta 2007
Candice Marie Burns, Instructor in Pediatrics (primary appointment)
BS Lee College 2004
Garrett C Burris, MD, Associate Professor of Clinical Neurology (primary appointment)
Associate Professor of Clinical Pediatrics
BS School Not Listed 1964
MD Saint Louis University 1968
Kelley S. Caddel, MD, Instructor in Clinical Pediatrics (primary appointment)
BA Indiana University Bloomington 1998
MD George Washington University 2008
Archna Calfee, MD, Instructor in Clinical Pediatrics (primary appointment)
BA Case Western Reserve Univ 1997
MD Washington Univ in St. Louis 2001
David J Callahan, Assistant Professor of Clinical Neurology (primary appointment)
Assistant in Clinical Pediatrics
Kirstin Lee Campbell, MD, Assistant Professor of Pediatrics (primary appointment)
MD Washington Univ in St. Louis 2006
BA Johns Hopkins University 2002
Joseph Edward Cangas, Assistant Professor of Clinical Pediatrics (primary appointment)
Charles E Canter, MD, Professor of Pediatrics (primary appointment)
BS Brown University 1974
BS1 Brown University 1976
MD Saint Louis University 1979
John R Carlile, MD, Assistant Professor of Clinical Pediatrics (primary appointment)
BS University of Kansas 1972
MD University of Kansas Medical 1975
Michael J. Carney, MD, Instructor in Clinical Pediatrics (primary appointment)
BS University of Notre Dame 1987
MD University of MO Columbia 1991
Rubilinda Q Casino, MD, Instructor in Clinical Pediatrics (primary appointment)
MD University of Santo Tomas 1979
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Timothy James Casper, Instructor in Pediatrics (primary appointment)
BS University of Dayton 2005

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MD University Texas San Antonio 2005

Mario Castro, MD, M PH, Professor of Medicine (primary appointment)
Professor of Radiology
Professor of Pediatrics

Alan A and Edith L Wolff Distinguished Professor
MD University of Missouri 1988
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BS University of Illinois 1975
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DOST Kirksville College of Osteopat 2009
BA Saint Louis University 2004

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BS University of Maryland 2006
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BA Amherst College 1969

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MD Washington Univ in St. Louis 2003
PHD Washington Univ in St. Louis 2003

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MD University of Louisville 1978

Thomas Keefe Davis, MD Assistant Professor of Pediatrics (primary appointment)
MD St. George's University 2004
BS Regis University 1999

Jeffrey G Dawson, MD Professor of Pediatrics (primary appointment)
BA Northwestern University 1982
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MS Rutgers University 1978
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BA Rutgers University 1977

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MD University of Louisville 2008
BS University of Notre Dame 2004

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MD University of Missouri 1983
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UNKNOWN St Xavier's College 1982
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BA Brown University 1983

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Professor of Pathology and Immunology
BA Lawrence University 1975
MD University of Chicago 1981
PHD University of Chicago 1979

Tulay F Dincer, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MD School Not Listed 1977
John F Dipersio, MD, PHDVirginia E and Sam J Golman Professor of Medicine (primary appointment)

Professor of Pediatrics
Professor of Pathology and Immunology
MD University of Rochester 1980
PHD University of Rochester 1980
BA Williams College 1973

Allan DoctorProfessor of Pediatrics (primary appointment)
Associate Professor of Biochemistry and Molecular Biophysics
Alla Dorfman, MDInstructor in Clinical Pediatrics (primary appointment)
MD Cheruovtsy State School of Med 1986
Nico U. Dosenbach, MD, PHDAssistant Professor of Neurology (primary appointment)
Assistant Professor of Pediatrics
Assistant Professor of Occupational Therapy
BA Columbia University 2000
MD Washington Univ in St. Louis 2008
PHD Washington Univ in St. Louis 2008

Catherine J DotyInstructor in Clinical Pediatrics (primary appointment)
Charles H DoughertyProfessor of Clinical Pediatrics (primary appointment)
BA Holy Cross College 1969
Matthew P DoughertyInstructor in Clinical Pediatrics (primary appointment)

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Assistant Dean, College of Arts & Sciences
M PH Harvard University 1985
MD Harvard University 1985

Todd Druley, MD, PHDAssistant Professor of Pediatrics (primary appointment)
Assistant Professor of Genetics
Assistant Professor of Developmental Biology
MD University of Illinois Chicago 2002
BS University of Illinois 1994
PHD University of Illinois Chicago 2002
Jennifer Gries Duncan, MDAssociate Professor of Pediatrics (primary appointment)
MD University of Chicago 1997
BS Vanderbilt University 1993
Jennifer M Dunn, MDAssistant Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 2000
BS Duke University 1996
Adam C. Eaton, MDAssistant Professor of Clinical Pediatrics (primary appointment)
BS University of Illinois 1992
MD Washington Univ in St. Louis 1997
Lori L EberhartInstructor in Clinical Pediatrics (primary appointment)
Robert W Edmonds, MDAssistant Professor Emeritus of Clinical Pediatrics (primary appointment)
Asst Prof Emeritus of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1960
BA University of Missouri 1956

Pirooz Eghtesady, MD, MS, D SCPresident of Surgery (Cardiothoracic Surgery) (primary appointment)
Professor of Pediatrics
MD University of CA Los Angeles 1993
MS University of CA Los Angeles 1987
BS University of CA Los Angeles 1987
D SC University of CA Los Angeles 1993
**Alysa G. Ellis** Assistant Professor of Pediatrics (primary appointment)
BA University of MO Kansas City 2004
**Alexis M Elward, MPH, MD** Professor of Pediatrics (primary appointment)
**Vice Chair of Quality Improvement and Safety in Pediatrics**
MPH Saint Louis University 2006
BA Loyola College 1988
MD University of Maryland 1994
**Amanda R. Emke** Assistant Professor of Pediatrics (primary appointment)
BS St Marys University 1998
**Jay S Epstein, MS, MD** Professor of Pediatrics (primary appointment)
BA Emory University 1977
MS Emory University 1978
MD Emory University 1983
**Diane M Eschmann, MD** Instructor in Clinical Pediatrics (primary appointment)
MD University of Missouri 1993
BA Saint Louis University 1989
Jennifer Ess Instructor in Clinical Pediatrics (primary appointment)
**Laura Ann Esswein, MD** Instructor in Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1987
MD University of Missouri 1991
**Michele Marie Estabrook, MA, MD** Professor of Pediatrics (primary appointment)
BA Bates College 1976
MA Stanford University 1979
MD Case Western Reserve Univ 1983
**Elliott H Farberman, MD** Assistant Professor of Clinical Pediatrics (primary appointment)
MD Saint Louis University 1973
BA University of Rochester 1969
James J Fehr III Professor of Anesthesiology (primary appointment)
**Professor of Pediatrics**
Richard A. Felkel Jr Instructor in Clinical Pediatrics (primary appointment)
**Thomas W Ferkol, MD** Professor of Pediatrics (primary appointment)
**Professor of Cell Biology and Physiology**
Alexis Hartmann MD Professor of Pediatrics
MD Ohio State University 1985
BA Case Western Reserve Univ 1981
Isabel Fernandez-Holtzman Instructor in Clinical Pediatrics (primary appointment)
**Melanie Erin Fields, MD** Instructor in Pediatrics (primary appointment)
BS Tulane University 2003
MD Univ of Texas Med Sch Houston 2008
**Mayte Ideliz Figueroa, MD** Associate Professor of Pediatrics (Pending Executive Faculty Approval) (primary appointment)
MD Mount Sinai School of Medicine 1992
**Gregory K Finn, MD** Assistant Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1992
Emily Faith Fishman, MD Instructor in Pediatrics (primary appointment)
BS Youngstown St University 2005
MD Northeast Ohio Medical U 2009

Anna M Fitz-James, MD, M PH Assistant Professor of Clinical Pediatrics (primary appointment)
MD George Washington University 1981
M PH School Not Listed 1994
BA University of Massachussetts 1975

Edward B Fliesher, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MD Saint Louis University 1978
BA Northwestern University 1974

Rebecca Hope Foster Instructor in Clinical Pediatrics (primary appointment)

Myrto Frangos, MD Instructor in Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1981
MD Saint Louis University 1985

Sharon Glave Frazee Adjunct Assistant Professor of Pediatrics (primary appointment)

Anthony Raymond French, PHD Associate Professor of Pediatrics (primary appointment)
Associate Professor of Pathology and Immunology
Associate Professor of Biomedical Engineering

Stuart Howard Friess, MD Associate Professor of Pediatrics (primary appointment)
MD Mount Sinai School of Medicine 1999
BS Brown University 1985

Stephanie Ann Fritz, MD, MS Assistant Professor of Pediatrics (primary appointment)
MD Medical College of Wisconsin 2001
MS Washington Univ in St. Louis 2008
BS Univ of Wisconsin Milwaukee 1997

John P Galgani Jr, MD Associate Professor of Clinical Pediatrics (primary appointment)
MD Saint Louis University 1982
BS Massachusetts College of Phar 1977

Maria Virginia Ganninger Instructor in Clinical Pediatrics (primary appointment)

Jane M. Garbutt, MHS, MBCHB Professor of Pediatrics
MHS University of Toronto 1988
MBCHB Bristol University 1977

Tessa D Gardner, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MD Harvard University 1972
BS Mass Inst of Technology (MIT) 1968

Caryn Garriga Assistant Professor of Clinical Pediatrics (primary appointment)

Sarah Kathryn Garwood, MD Assistant Professor of Pediatrics (primary appointment)
BS Truman State University 1998
MD University of MO St Louis 2002

Karen J Garzia Instructor in Clinical Pediatrics (primary appointment)

Karen Marie Gauvain, MD Assistant Professor of Pediatrics (primary appointment)
BS University of MO St Louis 1989
MD Saint Louis University 1998

Avihu Gazit, MD Associate Professor of Pediatrics (primary appointment)
MD Technion - Israel Inst. of Tec 1997
Elliot Field Gellman, MD  Professor of Clinical Pediatrics (primary appointment)  
MD University of MO Columbia 1961  
BA Iowa State University 1957  
John F Gleeson Jr  Instructor in Pediatrics (primary appointment)  
Joseph K Goldenberg, MD  Associate Professor of Clinical Pediatrics (primary appointment)  
MD University of MO Kansas City 1980  
Matthew I Goldsmith, MD, MS  Associate Professor of Pediatrics (primary appointment)  
Assistant Professor of Genetics  
BS University of Toronto 1987  
MD University of Toronto 1995  
MS University of Toronto 1990  
Paul T Golumbek, MD, PHD  Assistant Professor of Neurology (primary appointment)  
Assistant Professor of Pediatrics  
MD Johns Hopkns University Medic 1995  
BA University of Maryland 1984  
PHD Johns Hopkins University 1995  
Misty Lynn Good, MD  Assistant Professor of Pediatrics (Pending Executive Faculty Approval) (primary appointment)  
MD American U of Carribean SchMed 2005  
Gary M Goodman  Assistant Professor of Clinical Pediatrics (primary appointment)  
Jaya Goswami, MA, MD  Instructor in Pediatrics (primary appointment)  
MA State University of New York 2008  
BS Calcutta University 2004  
MD SUNY DOWNSTATE MED BROOKLYN 2012  
Ronald M Grady, MD, MA  Associate Professor of Pediatrics (primary appointment)  
MD Washington Univ in St. Louis 1989  
BA Princeton University 1984  
MA Washington Univ in St. Louis 1989  
Laquita A Graham, MD  Instructor in Clinical Pediatrics (primary appointment)  
MD Saint Louis University 1996  
BA Washington Univ in St. Louis 1991  
Andrea Granados, MD  Instructor in Pediatrics (primary appointment)  
MD Universidad Nacional de Columb 2015  
Dorothy K. Grange  Professor of Pediatrics (primary appointment)  
BA Mount Holyoke College 1976  
Valerie Janet Gribben  Instructor in Pediatrics (primary appointment)  
BA University of AL Birmingham 2008  
Georgeann Keh-Teng Groh, MD  Instructor in Pediatrics (primary appointment)  
BS Rice University 2001  
MD Baylor College of Medicine 2006  
Jesse Brookshire Groh, MD  Instructor in Clinical Pediatrics (primary appointment)  
MD Baylor University 2006  
BA Rice University 2002  
Kristin Guilliams, MD  Assistant Professor of Neurology (primary appointment)  
Assistant Professor of Pediatrics  
MD University of Virginia 2006  
BS Furman University 2002  
Joseph Donald Gunn, MD  Associate Professor of Pediatrics (primary appointment)
MD University of Virginia 1989
Santosh K Gupta, DC Associate Professor of Clinical Pediatrics (primary appointment)
UNKNOWN School Not Listed 1963
DC University of London 1966
UNKNOWN1 University of London 1970
Christina A. Gurnett, PHD, MD Associate Professor of Neurology (primary appointment)
Associate Professor of Orthopaedic Surgery
Assistant Professor of Pediatrics
PHD University of Iowa 1998
BS University of Notre Dame 1991
MD University of Iowa 1998
David H Gutmann Donald O. Schnuck Family Professor of Neurology (primary appointment)
Professor of Genetics
Professor of Neurological Surgery
Professor of Pediatrics
Allah B Haafiz Adjunct Associate Professor of Pediatrics (primary appointment)
Brian P Hackett, PHD, MD Professor of Pediatrics (primary appointment)
BA Middlebury College 1975
PHD Boston College 1984
MD Saint Louis University 1986
Carmen Marie Halabi, PHD, MD Instructor in Pediatrics (primary appointment)
BS University of Iowa 2001
PHD University of Iowa 2009
MD University of Iowa 2009
Laura Evelyn Hall, MD Instructor in Pediatrics (primary appointment)
MD University of Toledo 2010
BS Allegheny College 2005
Mark E. Halstead, MD Associate Professor of Orthopaedic Surgery (primary appointment)
Associate Professor of Pediatrics
BS Univ of Wisconsin Madison 1994
MD Univ of Wisconsin Madison 1998
Kim P Hamlin, MD Assistant Professor of Pediatrics (primary appointment)
MD University of MO St Louis 2001
BS University of MO St Louis 1997
Roman E Hammes, MD Instructor in Clinical Pediatrics (primary appointment)
MD University of Iowa 1954
BA University of Iowa 1950
Melanie G Hampton, MD Assistant Professor of Clinical Pediatrics (primary appointment)
BS Georgetown College 1976
MD University of Louisville 1981
Elinor F Hancock, MD Instructor in Clinical Pediatrics (primary appointment)
MD Meharry Med College 1982
BA Fisk University 1975
Robin D Hanson Instructor in Clinical Pediatrics (primary appointment)
BA Johns Hopkins University 1985
Suzanne M Hanson Assistant Professor of Clinical Pediatrics (primary appointment)
Michael Raymond Harris, MS Professor of Pediatrics (primary appointment)
MS Saint Louis University 1976
Elizabeth Avis Harrison, MD  Instructor in Clinical Pediatrics (primary appointment)
BA Vanderbilt University 2002
MD Washington Univ in St. Louis 2006

Thomas J. Harrison Jr, MD  Instructor in Clinical Pediatrics (primary appointment)
BA Saint Louis University 1970
MD University of Missouri 1979

David E Hartenbach  Associate Professor of Clinical Pediatrics (primary appointment)
BA Saint Louis University 1983

Mary E Hartman, M PH, MD  Assistant Professor of Pediatrics (primary appointment)
M PH University of Pittsburgh 2006
BA Mount Holyoke College 1994
MD University of Rochester 1999

John Edward Hartwegery  Instructor in Clinical Pediatrics (primary appointment)

James Larry Harwell, MD  Assistant Professor of Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1958
MD University of Missouri 1961

Sherrie M Hauft, MD  Professor of Pediatrics (primary appointment)
MD University of Texas Austin 1984
BS University of Texas Austin 1977

Robert J Hayashi, MD  Professor of Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1986
BS Stanford University 1982

Ericka V. Hayes, MD  Associate Professor of Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1998
BS Washington Univ in St. Louis 1994

Kara E Hennelly, MD  Assistant Professor of Pediatrics (primary appointment)
MD UMICCSOM 2015
Nathan Henninger  Instructor in Clinical Pediatrics (primary appointment)

Mary Jo Hernandez-Zipfel, MD  Instructor in Clinical Pediatrics (primary appointment)
BS University of North Carolina 1996
MD University of Florida 2001

Christina Kim Ahn Hickey, MD  Instructor in Pediatrics (primary appointment)
MD Washington Univ in St. Louis 2009

Tunde Hidvegi, MS, PHD  Associate Professor of Pediatrics (primary appointment)
MS Eötvös Loránd University 1980
PHD Eötvös Loránd University 1988

Laura Hill, MD  Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
MD University of Illinois Chicago 2002

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Keiko Hirose, MD  Associate Professor of Otolaryngology (primary appointment)
Associate Professor of Audiology and Communication Sciences
Associate Professor of Pediatrics
Vice Chairman of Otolaryngology
MD Harvard University 1993

Stanley P Hmiel, MD, M PHIL, PHD  Professor of Pediatrics (primary appointment)
MD Case Western Reserve Univ 1989
BS Case Western Reserve Univ 1980
M PHIL Cambridge University 1981
Sandra Jean Hodel, Instructor in Clinical Pediatrics (primary appointment)
Dee Hodge III, MD, Professor of Pediatrics (primary appointment)
BA Occidental College 1974
MD University of CA San Francisco 1978
Robert J Hoffmann, MD, Professor of Clinical Pediatrics (primary appointment)
MD Saint Louis University 1976
BS University of Illinois 1972
Russell G. Hoffmann, PhD, Instructor in Clinical Pediatrics (primary appointment)
PHD University of Florida 1995
Nicholas Alan Holekamp, MD, Instructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1987
BA Dartmouth College 1982
Abby Solomon Hollander, MD, Associate Professor of Pediatrics (primary appointment)
BA Cornell University 1982
MD University of Cincinnati 1986
Nancy E Holmes, MD, Professor of Clinical Pediatrics (primary appointment)
MD University of Missouri 1976
BA University of Kansas 1972
Lori Rachel Holtz, MD, Assistant Professor of Pediatrics (primary appointment)
MD Ohio State University 2003
Rochelle LeAnn Holtzman, PhD, MS, Instructor in Clinical Pediatrics (primary appointment)
PHD University of Kansas 2010
BS Loyola University 2003
MS University of Kansas 2006
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MD Saint Louis University 1971
BA Wesleyan University 1967
Amjad Horani, MD, Assistant Professor of Pediatrics (primary appointment)
BS Hebrew University-Hadassah Med 2015
MD Hebrew University-Hadassah Med 2004
Caroline Clare Horner, MD, Associate Professor of Pediatrics (primary appointment)
MD Saint Louis University 2000
BA Washington Univ in St. Louis 1993
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BS University of Missouri Columbi 2003
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MD Saint Louis University 2002
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Professor of Cell Biology and Physiology
Professor of Medicine
BS Creighton University 1965
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PHD Medical College of Wisconsin 1993
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MD Baylor University 1994
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BS Indiana University Bloomington 1996
David A Hunstad, MDAssociate Professor of Pediatrics (primary appointment)
Associate Professor of Molecular Microbiology
MD Washington Univ in St. Louis 1995
BA Carleton College 1991
Jane Alyce Hunt, MDInstructor in Pediatrics (primary appointment)
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Richard J Iken, MDInstructor in Clinical Pediatrics (primary appointment)
BA Univ of Wisconsin Madison 1972
MD University of MO Columbia 1978
Carl S Ingber, MDInstructor in Clinical Pediatrics (primary appointment)
MD Boston University 1972
BA University of Rochester 1968
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MD University of Chicago 1978
BA Stanford University 1972
Sue E JaglerInstructor in Clinical Pediatrics (primary appointment)
Siddharth Vinod Jain, MDAssistant Professor of Neurology (primary appointment)
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MD D.Y. Patil Medical College 2003
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BS Southern Ill Univ Edwardsville 1995
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BS Duke University 1996
PHD Duke University 2002
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BA Oakwood College 1979
MD Loma Linda University 1984
Joyce D Johnson, MDAssistant Professor of Clinical Pediatrics (primary appointment)
MD Case Western Reserve Univ 1982
BS Oberlin College 1977
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MD Johns Hopkins University 1982

Staci R. Johnson, MD Instructor in Clinical Pediatrics (primary appointment)
MD Southern Illinois University 2002

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BA Amherst College 2001
MD Washington Univ in St. Louis 2007

Larry A Jones, MD Assistant Professor of Clinical Pediatrics (primary appointment)
BA Johns Hopkins University 1972
MD Johns Hopkins University Medic 1976

Heather Robin Joyce, MD Instructor in Clinical Pediatrics (primary appointment)
MD University of MO Columbia 2006
BS University of MO Columbia 2002

Samuel F. Julian, MD Instructor in Pediatrics (primary appointment)
MD University of Texas Southwest 2007
BS University of Texas Austin 2001

Erzsebet Jung, MD Instructor in Clinical Pediatrics (primary appointment)
MD School Not Listed 1987

Aadil Kausarali Kakajiwala, MBBS Instructor in Pediatrics (primary appointment)
MBBS Topiwala National Med College 2008

Thomas J Kasper Instructor in Clinical Pediatrics (primary appointment)

Jenny E Kaufman Instructor in Clinical Pediatrics (primary appointment)
BS University of Michigan 1999

Robert S Kebler, MD Instructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1984
BS Muhlenberg College 1980

Martin S Keller, MD Associate Professor of Surgery (Pediatric Surgery) (primary appointment)
Associate Professor of Pediatrics
BS University of Pennsylvania 1985
MD University of Vermont 1990

Robert V Kellow Assistant Professor of Clinical Pediatrics (primary appointment)

Brian J Kelly, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MD School Not Listed 1972
BS School Not Listed 1964

James Scott Kemp Professor of Pediatrics (primary appointment)

Michele E Kemp, MD Associate Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1981
BA Washington Univ in St. Louis 1977

Robert M Kennedy Professor of Pediatrics (primary appointment)
BS Georgia Tech 1975

Kent Leon Killian, MD Instructor in Clinical Pediatrics (primary appointment)
Allison A King, MD
Associate Professor of Occupational Therapy (primary appointment)
Associate Professor of Pediatrics
Associate Professor of Pediatrics
Associate Professor of Education (Courtesy)
Associate Professor of Surgery (General Surgery)
Associate Professor of Medicine

Sonya Kirmani, MD
Instructor in Pediatrics (primary appointment)
BS Northwestern University 2006
MD University of Iowa 2010

Maleewan Kitcharoensakkull
Instructor in Pediatrics (primary appointment)

Richard D Knight
Instructor in Clinical Pediatrics (primary appointment)

Shirley M Knight, MD
Professor of Clinical Pediatrics (primary appointment)
BA Dillard University 1976
MD Washington Univ in St. Louis 1980

Joel S Koenig, MD
Professor of Clinical Pediatrics (primary appointment)
MD Vanderbilt University 1982

Kenneth A Koerner, MD
Associate Professor of Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1935
MD Washington Univ in St. Louis 1941

Nikoleta S. Kolovos, MD
Associate Professor of Pediatrics (primary appointment)
MD University of Pittsburgh 1996
BS University of Pittsburgh 1991

Katherine L Komendowski, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
MD School Not Listed 1984
BS Marymount College 1980

Jamie L Kondis, MD
Instructor in Pediatrics (primary appointment)
BS Westminster College 2002
MD Indiana University South Bend 2006

Beth Ann Kozel, MD, PhD
Adjunct Assistant Professor of Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1996
MD Washington Univ in St. Louis 2004
PHD Washington Univ in St. Louis 2004

James M Krafcik
Instructor in Clinical Pediatrics (primary appointment)

Lily Tadayyon Kregenow
Instructor in Clinical Pediatrics (primary appointment)

Katherine L Kreusser, MD
Professor of Clinical Pediatrics (primary appointment)
MD Indiana University Bloomington 1978
BS University of Pennsylvania 1973

Denise Kung, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
MD Yale University 1991
BA University of Missouri 1986

Jennifer S Ladage, MD
Instructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1991
BS Valparaiso University 1987

Stacie Sharon Laff, MD
Instructor in Clinical Pediatrics (primary appointment)
Li-Ling Lai  
Instructor in Clinical Pediatrics 
BA Brigham Young University 1999  
MD University of Utah 2003

Douglas P. Larsen, MD  
Associate Professor of Neurology  
BA Lawrence University 1989  
MD School Not Listed 1993

Russell K Lawrence, MD  
Adjunct Instructor in Pediatrics  
BA Lawrence University 1989  
MD School Not Listed 1993

Leland M Laycob, MD  
Instructor in Clinical Pediatrics  
BA Washington Univ in St. Louis 1964  
MD University of Missouri 1968

Richard Lee Lazaroff  
Professor of Clinical Pediatrics  
BA Lawrence University 1989  
MD School Not Listed 1993

Caroline Kim Lee, MD  
Associate Professor of Pediatrics  
BA Wellesley College 1995  
MD University of Virginia 1999

Kathryn B Leonard, MD  
Instructor in Pediatrics (Pending Dean's Approval)  
BA Washington Univ in St. Louis 1964  
MD University of Missouri 1968

Kenneth C Levy  
Instructor in Clinical Pediatrics  
BA Emory University 1983

Philip Thaler Levy, MD  
Adjunct Instructor in Pediatrics  
BA Washington Univ in St. Louis 1964  
MD University of Missouri 1968

Steve Ming-Che Liao, MD  
Assistant Professor of Pediatrics  
BA Washington Univ in St. Louis 1964  
MD University of Missouri 1968

Barry Light, MD  
Associate Professor of Clinical Pediatrics  
BA Washington Univ in St. Louis 1964  
MD University of Missouri 1968

Anna Lijowska, MD  
Assistant Professor of Pediatrics  
BA Washington Univ in St. Louis 1964  
MD University of Missouri 1968

John Chao-Chun Lin, MD  
Assistant Professor of Pediatrics  
BA Washington Univ in St. Louis 1964  
MD University of Missouri 1968

Robert D Lins  
Instructor in Clinical Pediatrics  
BA Washington Univ in St. Louis 1964  
MD University of Missouri 1968

Blake Allen Little, MD  
Instructor in Clinical Pediatrics  
BA Washington Univ in St. Louis 1964  
MD University of Missouri 1968

Gregg T Lueder, MD  
Professor of Ophthalmology and Visual Sciences  
BA Washington Univ in St. Louis 1964  
MD University of Missouri 1968

Clifford James Luke, PHD  
Associate Professor of Pediatrics (Pending Executive Faculty Approval)  
BA Washington Univ in St. Louis 1964  
MD University of Missouri 1968

MD University of Missouri 1968

BS University of Texas Austin 1998

BS Rutgers University 2001

BS University of CA Los Angeles 1999

BS University of California Los Angeles 1999

BS University of Missouri 1980

BS Iowa State University 1981

BS Iowa State University 1981

BS Iowa State University 1981

BS Iowa State University 1981

BS Iowa State University 1981
John C. Madden
Instructor in Clinical Pediatrics (primary appointment)

Jeffrey A Magee, PHD, MD
Assistant Professor of Pediatrics (primary appointment)
Assistant Professor of Genetics

Jay Randolph Malone, MD
Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)

Mark John Manary, MD
Helene B. Roberson Professor of Pediatrics (primary appointment)

John F Mantovani, MD
Associate Professor of Clinical Neurology (primary appointment)
Assistant Professor of Clinical Pediatrics

Soe S Mar
Associate Professor of Neurology (primary appointment)
Associate Professor of Pediatrics

Bess Adkins Marshall, MD
Professor of Cell Biology and Physiology

Megan Spokes Martin, MD
Instructor in Pediatrics (primary appointment)

Patrice Mathews, MD
Instructor in Clinical Pediatrics (primary appointment)

Amit Mathur, MBBS
Professor of Pediatrics (primary appointment)

Marvin M Maurer Jr, MD
Assistant Professor of Clinical Pediatrics (primary appointment)

Ariane E May, MD
Associate Professor of Clinical Pediatrics (primary appointment)

William H McAlister
Professor of Radiology (primary appointment)
Professor of Radiology in Pediatrics

John D McAllister, MD
Professor of Anesthesiology (primary appointment)
Professor of Pediatrics

Jina L McAtee
Assistant Professor of Clinical Pediatrics (primary appointment)

Megan McBride
Instructor in Clinical Pediatrics (primary appointment)

Steven D McGaughhey
Instructor in Pediatrics (primary appointment)
Carli Laura McGeel **Instructor in Pediatrics** (primary appointment)
Bryan Edward McGill, MD **Instructor in Neurology** (primary appointment)

**Instructor in Pediatrics**
MD Baylor University 2008
BS Denison University 1999

Mark E. McGranahan, MD **Instructor in Clinical Pediatrics** (primary appointment)
MD Saint Louis University 1997

Thomas Casey McKinney, MD **Professor of Clinical Pediatrics** (primary appointment)
MD Washington Univ in St. Louis 1980
BA Illinois Wesleyan University 1976

Robert Carolin McKinstry III **Professor of Radiology** (primary appointment)

**Professor of Pediatrics**
William A McManus, MD **Assistant Professor of Pediatrics** (primary appointment)
MD Saint Louis University 1986
BA Carroll College 1980

Christopher Clayton McPherson **Assistant Professor of Clinical Pediatrics** (primary appointment)

Robert Paul Mecham, PhD **Alumni Endowed Professor of Cell Biology and Physiology** (primary appointment)

**Professor of Medicine**

**Professor of Biomedical Engineering**

**Professor of Pediatrics**
PHD Boston University 1977
BS University of Utah 1973

Nalini K Mehta **Instructor in Clinical Pediatrics** (primary appointment)
P Aravindaksha Menon **Instructor in Clinical Pediatrics** (primary appointment)

Sarah J. Mermelstein, MD **Instructor in Pediatrics** (primary appointment)
MD Drexel University 2007
BA Indiana University Bloomington 2002

Elizabeth Sarah Messer, MD **Instructor in Pediatrics (Pending Dean's Approval)** (primary appointment)
BS Washington Univ in St. Louis 2009
MD University of Illinois Chicago 2013

Mary Shaughnessy Meyer, MD **Assistant Professor of Clinical Pediatrics** (primary appointment)
MD Saint Louis University 2003
BA Saint Louis University 1999

Peter Howard Michelson, MD, MS **Associate Professor of Pediatrics** (primary appointment)
MD Jefferson Medical College 1983
MS University of Pittsburgh 2007
BS Bowdoin College 1978

Jenny Lynn Miele, MD **Instructor in Clinical Pediatrics** (primary appointment)
BS Valparaiso University 2001
MD University of Illinois at Chic 2005

Donna C Miller, MD **Instructor in Clinical Pediatrics** (primary appointment)
MD University of Miami 1982

Suzanne Lee Miller, MD **Instructor in Clinical Pediatrics** (primary appointment)
BS University of Illinois 1974
MD University of Illinois 1978
Christopher Molitor **Instructor in Clinical Pediatrics** (primary appointment)
Ramzi T Nicolas
Adjunct Associate Professor of Pediatrics (primary appointment)

Michael Justin Noetzel, MD
Professor of Neurology (primary appointment)

Professor of Pediatrics

Vice Chair of Pediatric and Developmental Neurology
BA Yale University 1973
MD University of Virginia 1977

David Craig Norman, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
MD School Not Listed 1992
BS University of Illinois 1988

Karen K Norton, MD
Associate Professor of Clinical Pediatrics (primary appointment)
BS Loyola University 1985
MD Louisiana St University 1989

Douglas Susumu Nozaki
Instructor in Clinical Pediatrics (primary appointment)

Christian J Nunez, MD
Instructor in Pediatrics (primary appointment)
BA Washington Univ in St. Louis 2005
MD University of Illinois 2013

Kevin Sullivan O'Bryan, MD
Instructor in Pediatrics (primary appointment)
MD University of Michigan 2010

Shawn David O'Connor, MD
Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
MD Medical College Georgia 2010
BS University of Georgia 2006

Jerome H O'Neil Jr, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
MD Saint Louis University 1981
BA University of Missouri 1977

Justin O Ogbevden, MBBS
Instructor in Clinical Pediatrics (primary appointment)
MBBS University of Lagos 1982

Andrea Cohron Orr
Instructor in Clinical Pediatrics (primary appointment)
BS University of Georgia 2007
Valerie Orrico
Instructor in Clinical Pediatrics (primary appointment)

Rachel C. Orscheln, MD
Assistant Professor of Pediatrics (primary appointment)
MD University of MO Columbia 1998
BS University of MO Columbia 1994

Cynthia M. Ortinau, MD
Assistant Professor of Pediatrics (Pending Executive Faculty Approval) (primary appointment)
MD University of MO Kansas City 2005

Iurma I Ortiz-Arroyo
Assistant Professor of Clinical Pediatrics (primary appointment)

Amir Mordechai Oryan
Visiting Assistant Professor of Pediatrics (primary appointment)
Alison H Oswald
Instructor in Clinical Pediatrics (primary appointment)

Pamela B Padda, MD
Instructor in Clinical Pediatrics (primary appointment)
BA University of Michigan 1986
MD University of Illinois 1990

Stephen C Pak, PHD
Associate Professor of Pediatrics (Pending Executive Faculty Approval) (primary appointment)
BS University of Sydney 1990
PHD University of New South Wales 1996

Jennifer Ann Panasci
Instructor in Clinical Pediatrics (primary appointment)

Tae Sung Park, MD
Shi Hui Huang Professor of Neurological Surgery (primary appointment)
Professor of Neuroscience
Professor of Pediatrics
MD Yonsei University 1971
BS Yonsei University 1967
David H Perlmutter, MD
Executive Vice Chancellor for Medical Affairs (primary appointment)
Dean of the School of Medicine
Professor of Pediatrics
BS1 University of Rochester 1974
MD Saint Louis University 1978
Jose A Pineda Soto, MD
Associate Professor of Pediatrics (primary appointment)
Associate Professor of Neurology
BS Francisco Marroquin University 1988
MD Francisco Marroquin University 1993
Christopher James Pingel, MD
Instructor in Pediatrics (primary appointment)
BS Washington Univ in St. Louis 2003
MD Saint Louis University 2007
Jessica E Pittman, MD, M PH
Assistant Professor of Pediatrics (primary appointment)
BS Oberlin College 1998
MD Washington Univ in St. Louis 2004
M PH University North Carolina 2009
Daniel S Plax, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1993
BA Brown University 1988
Kathryn L. Plax, MD
Ferring Family Chair Professor of Pediatrics (primary appointment)
BA Brown University 1989
MD University of Rochester 1996
John Samuel Plowden, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
BS Washington & Lee 1979
MD Medical College Georgia 1984
Santiago Boye Plurad Jr, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1982
MD School Not Listed 1987
Juanita C Polito-Colvin, MD
Associate Professor of Clinical Pediatrics (primary appointment)
BA University of Dallas 1975
MD Southwest Texas State Univers 1979
Claudia Preuschoff
Instructor in Clinical Pediatrics (primary appointment)
Cassandra Michelle Pruitt, MD
Associate Professor of Pediatrics (primary appointment)
MD Texas Tech University 1999
BA Emory University 1994
Peter J Putnam
Assistant Professor of Clinical Pediatrics (primary appointment)
Jenna M Putzel
Instructor in Clinical Pediatrics (primary appointment)
Robert Louis Quaas
Instructor in Clinical Pediatrics (primary appointment)
BA Cornell College 1970
BS University of South Dakota 1973
Kimberly S Quayle, MD
Professor of Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1988
Jennifer Quinn
Instructor in Clinical Pediatrics (primary appointment)
BA University of Kentucky 1982
Mohammad H Rahman, Instructor in Clinical Pediatrics (primary appointment)
UNKNOWN School Not Listed 1960

Vidya Raman, Instructor in Clinical Pediatrics (primary appointment)

Pathmawathy T Ramesvara, MS, Instructor in Clinical Pediatrics (primary appointment)
MS School Not Listed 1972

Rakesh Rao, MD, Assistant Professor of Pediatrics (primary appointment)
MD Maulana Azad Medical College 1996

Emanuel Rashet, MD, Instructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1962
BS University of Illinois 1958

Sheryl S Ream, MD, Instructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1986
BA Saint Louis University 1982

Neil F. Rebbe, PHS, MD, Instructor in Clinical Pediatrics (primary appointment)
BA University of MO St Louis 1978
PHS Washington Univ in St. Louis 1983
MD Saint Louis University 1996
Timothy Reed, Instructor in Clinical Pediatrics (primary appointment)
Phillip D Reichert, Instructor in Clinical Pediatrics (primary appointment)

Catherine R Remus, MD, MSN, Assistant Professor of Clinical Pediatrics (primary appointment)
MD School Not Listed 1983
BA Luther College 1975
MSN Rush University 1978

Kenneth Eugene Remy, MD, Assistant Professor of Pediatrics (primary appointment)
MD Jefferson Medical College 2004

George H Rezabek, DOST, Instructor in Clinical Pediatrics (primary appointment)
DOST School Not Listed 1988

Edward K Rhee, Adjunct Assistant Professor of Pediatrics (primary appointment)
BA University of Pennsylvania 1986

Noor Riaz, MD, Instructor in Pediatrics (primary appointment)
MD Washington Univ in St. Louis 2008

Joan K. Riley, PHD, Assistant Professor of Obstetrics and Gynecology (primary appointment)
Assistant Professor of Pediatrics
Instructor in Medicine
PHD Washington Univ in St. Louis 1998

Katherine Rivera-Spoljaric, MS, MD, Associate Professor of Pediatrics (primary appointment)
BS University of Puerto Rico 1997
MS Washington Univ in St. Louis 2008
MD University of Puerto Rico 2001

William L. Rives, MS, Assistant Professor of Pediatrics (primary appointment)
MS University of Missouri 1992

Janis B Robinson, MA, Associate Professor of Clinical Pediatrics (primary appointment)
MA Yale University 1972

Toby Andrew Rockefeller, MD, Assistant Professor of Pediatrics (Pending Executive Faculty Approval) (primary appointment)
BS Oklahoma St University 2005
MD University of Oklahoma 2009

Sandeep Rohatgi, MD, Instructor in Clinical Pediatrics (primary appointment)
MD U Medical-Dental Of New Jersey 1993
BA Saint Louis University 1989

**James R Rohrbaugh, MD**
**Associate Professor of Clinical Neurology** (primary appointment)
**Associate Professor of Clinical Pediatrics**
MD Ohio State University 1974
BA Yale University 1971

**Ayelet Rosen, MD**
**Instructor in Pediatrics** (primary appointment)
BS Rutgers University 2015
MD Albert Einstein College of Med 2015

**Joan Lee Rosenbaum**
**Professor of Pediatrics** (primary appointment)

**Isabel L Rosenbloom**
**Associate Professor of Clinical Pediatrics** (primary appointment)
BA Goucher College 1979

**Daniel B Rosenbluth, MD**
**Professor of Medicine** (primary appointment)

**Tracey C and William J Marshall Professor of Medicine**
MD Mount Sinai School of Medicine 1989
BS Columbia University 1985

**Kelly Ross, MD**
**Assistant Professor of Pediatrics** (primary appointment)
BS University of MO Kansas City 1991
MD University of MO Columbia 1996

**William J Ross, MD**
**Associate Professor of Clinical Pediatrics** (primary appointment)
MD Washington Univ in St. Louis 1972
BA Miami University 1968

**Robert J Rothbaum, MD**
**Centennial Professor of Pediatrics** (primary appointment)
MD University of Chicago 1976

**Ella Rozin**
**Instructor in Clinical Pediatrics** (primary appointment)

**Joshua Bennett Rubin, MD, PHD, MS**
**Professor of Pediatrics**
**Professor of Neuroscience**
MD Albert Einstein College of Med 1994
BS Yale University 1982
PHD Albert Einstein College of Med 1994
MS Albert Einstein College of Med 1992

**Christina M Ruby-Ziegler, MD**
**Assistant Professor of Clinical Pediatrics** (primary appointment)
BS Loyola University 1990
MD Northwestern University Med 1994

**Martin D Rudloff, MD**
**Assistant Professor of Clinical Pediatrics** (primary appointment)
MD Washington Univ in St. Louis 1981

**David Rudnick, MD**
**Associate Professor of Pediatrics** (primary appointment)

**Associate Professor of Developmental Biology**
BS University of Illinois 1987
MD Washington Univ in St. Louis 1994

**Daniel G. Rudolph, MD**
**Instructor in Clinical Pediatrics** (primary appointment)
MD Saint Louis University 1992
BS Saint Louis University 1988

Karen Elizabeth Ruecker**Instructor in Clinical Pediatrics** (primary appointment)

**Diane Mary Rup, MA, MD**
**Instructor in Clinical Pediatrics** (primary appointment)
BA State University of New York 1976
MA State University of New York 1979
MD Case Western Reserve Univ 1986
Lisa A Ryan
Instructor in Clinical Pediatrics (primary appointment)

Ahmed Sameh Said, PHD, MD
Instructor in Pediatrics (primary appointment)
PHD Ain Shams University 2009
MD Ain Shams University 2000
Charles Michael Samson, MD
Assistant Professor of Pediatrics (primary appointment)
MD University of Washington 2003
BS University of North Carolina 1998

Gretchen A Sander, MD
Instructor in Clinical Pediatrics (primary appointment)
BD Vanderbilt University 2000
MD Loyola University Chicago 2004
Heidi L Sandige, MD, MA
Instructor in Pediatrics (primary appointment)
BA Northwestern University 1991
MD Washington Univ in St. Louis 2005
MA Yale University 1993
MA1 Washington Univ in St. Louis 2003
Pravesh Sangwan, MD, MBBS
Instructor in Pediatrics (primary appointment)
MD Gauhati Medical College 2009
MBBS Vijayanagara Inst of Med Sci 2015
Diana M Sater-Roukoz
Instructor in Clinical Pediatrics (primary appointment)

Scott Saunders, PHD, MD
Associate Professor of Pediatrics (primary appointment)

Associate Professor of Developmental Biology
PHD Stanford University 1990
MD Stanford University 1990
BS University of Minnesota 1983

Brian J. Saville, MD
Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
BS Washington Univ in St. Louis 1997
MD Washington Univ in St. Louis 2001
Blaine M Sayre, M PH, MD
Professor of Clinical Pediatrics (primary appointment)
M PH University of CA Berkeley 1972
MD Washington Univ in St. Louis 1968
Joseph Schachter, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
MD Indiana University Bloomington 1979
BA Indiana University Bloomington 1974
Bradley L Schlaggar, PHD, MD
Ernest and Jane G Stein Professor of Neurology (primary appointment)
Professor of Radiology
Professor of Psychiatry
Professor of Pediatrics
Professor of Neuroscience
BS Brown University 1986
PHD Washington Univ in St. Louis 1994
MD Washington Univ in St. Louis 1994
Howard J Schlansky, MD
Instructor in Clinical Pediatrics (primary appointment)
BA University of MO Kansas City 1976
MD University of MO Kansas City 1978
Margaret Ann Schmandt, MD
Associate Professor of Clinical Pediatrics (primary appointment)
David Schnadower, M PH, MD *Associate Professor of Pediatrics* (primary appointment)

M PH Columbia University 2005
MD National Autonomous U of Mex 1993

Jacquelyn C Schnidman, MD *Instructor in Clinical Pediatrics* (primary appointment)

BA University of Missouri 1975
MD Saint Louis University 1979

Laura Graves Schuettpelz, PHD *Assistant Professor of Pediatrics* (primary appointment)

Assistant Professor of Developmental Biology

PHD Northwestern University 2000

Alan L Schwartz, PHD, MD *Alumni Endowed Professor of Pediatrics* (primary appointment)

Professor of Developmental Biology

PHD Case Western Reserve Univ 1974
MD Case Western Reserve Univ 1976

Colleen Erika Seematter *Instructor in Clinical Pediatrics* (primary appointment)

Martha Papay Sewall, MD *Instructor in Clinical Pediatrics* (primary appointment)

MD University of Missouri 1985
BA University of Missouri 1983

Purvi Shah, MD *Assistant Professor of Pediatrics* (primary appointment)

MD Baylor University 2000
BA Rice University 1996

Snehal Paresh Shah, MD *Instructor in Pediatrics* (primary appointment)

MD Ross Univ School of Medicine 2010
BA Boston College 2003

Shabana Shahanavaz, MD *Assistant Professor of Pediatrics* (primary appointment)

MD Kasturba Medical College 2002

Rachel E. Shakofsky, MD *Instructor in Pediatrics* (primary appointment)

BS University of MO Columbia 2003
MD University of MO Columbia 2007

Larry J Shapiro, MD *Spencer T and Ann W Olin Distinguished University Professor* (primary appointment)

Professor of Pediatrics

Executive Vice Chancellor and Dean Emeritus

BS Washington Univ in St. Louis 1968
MD Washington Univ in St. Louis 1971

Eleanor Maria Shaw *Assistant Professor of Clinical Pediatrics* (primary appointment)

BA University of Missouri 1978
Megan Elizabeth Shelton *Instructor in Clinical Pediatrics* (primary appointment)

Shalini Shenoy, MD, MBBS *Professor of Pediatrics* (primary appointment)

MD Kasturba Medical College 1985
BS M.G.R. Medical University 1981
MBBS Kasturba Medical College 1981

Ross William Shepherd, MD, MBBS *Adjunct Professor of Pediatrics* (primary appointment)

MD University of Queensland 1979
MBBS University of Queensland 1970

Marwan Shinawi, MD *Professor of Pediatrics* (primary appointment)

MD Technion - Israel Inst. of Tec 1996
Min-Yi Katherin Shiue, Instructor in Clinical Pediatrics (primary appointment)
BS Washington Univ in St. Louis 1992

Michael Shoykhet, MD, PHD, Assistant Professor of Pediatrics (primary appointment)
BA Cornell University 1996
MD University of Pittsburgh 2005
PHD University of Pittsburgh 2003

Marilyn J Siegel, Professor of Radiology (primary appointment)

Jennifer N Silva, Assistant Professor of Pediatrics (primary appointment)
BA Union College New York 1997

Connie Darlene Simmons, Instructor in Clinical Pediatrics (primary appointment)

Paul S Simons, MD, Associate Professor of Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1967
BA University of Texas Austin 1963

Kathleen Elizabeth Simpson, MD, Assistant Professor of Pediatrics (primary appointment)
MD University of MO Kansas City 2006

Gautam K Singh, MBBS, MD, Professor of Pediatrics (primary appointment)
MBBS Ranchi University 1977
MD Patna Medical College 1982

Carl Jeffrey Sippel, MD, PHD, Assistant Professor of Clinical Pediatrics (primary appointment)
MD Saint Louis University 1983
BA University of Missouri 1975
PHD Saint Louis University 1980

Bryan Anthony Sisk, Instructor in Pediatrics (primary appointment)

Kelsey Alayne Sisti, MD, Instructor in Pediatrics (primary appointment)
MD University of Arkansas 2009
BS University of Alaska 2005

Harold B Sitrin, MD, Assistant Professor of Clinical Pediatrics (primary appointment)
BA University of Rochester 1966
MD Saint Louis University 1971

Alan Joseph Skoultchi, MD, Instructor in Clinical Pediatrics (primary appointment)
BS Duke University 1989
MD U Medical-Dental Of New Jersey 1995

Carolyn Anne Delaney Smith, Assistant Professor of Pediatrics (primary appointment)
BA Rice University 1996

Joshua C Smith, Instructor in Clinical Pediatrics (primary appointment)

Matthew D Smyth, MD, Professor of Neurological Surgery (primary appointment)
Professor of Pediatrics
MD University of CA San Francisco 1996
BA Cornell University 1992

Nareshkumar J Solanki, Assistant Professor of Clinical Pediatrics (primary appointment)
UNKNOWN University of Nairobi 1975

Umang Sood, Instructor in Pediatrics (primary appointment)
BS University of MO Kansas City 2003

Robert D Spewak, MD, Instructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1979
BA Drake University 1975

Craig A Spiegel, MD, Assistant Professor of Clinical Pediatrics (primary appointment)
MD Case Western Reserve Univ 1982
BA Washington Univ in St. Louis 1978
Philip Charles Spinella, MD Associate Professor of Pediatrics (primary appointment)
MD New York Medical College 1995
BS Tufts University 1991
Jennifer E. Sprague, PHD, MD Assistant Professor of Pediatrics (primary appointment)
BS Indiana University Bloomington 2000
PHD Washington Univ in St. Louis 2007
MD Washington Univ in St. Louis 2007
Mythili Srinivasan, MS Associate Professor of Pediatrics (primary appointment)
MS Madurai Kamaraj University 1983
Danielle R St Leger Instructor in Clinical Pediatrics (primary appointment)
Kristin Voellinger Stahl Instructor in Clinical Neurology (primary appointment)
Sarah A Stanage Instructor in Pediatrics (primary appointment)
BS Washington Univ in St. Louis 2001
Ashley L. Steed, MD, PHD Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
MD Washington Univ in St. Louis 2008
PHD Washington Univ in St. Louis 2008
BS Duke University 2001
Norman P Steele Instructor in Clinical Pediatrics (primary appointment)
Leena Lata Stemler, MD Instructor in Pediatrics (primary appointment)
BA Brown University 2003
MD Brown University 2007
Randall S Sterkel Assistant Professor of Clinical Pediatrics (primary appointment)
BA Duke University 1989
Anita R Stiffelman, MD Associate Professor of Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1983
MD New York Medical College 1987
Jeffrey R Stokes Professor of Pediatrics (Pending Executive Faculty Approval) (primary appointment)
Janis Marie Stoll, MD Assistant Professor of Pediatrics (primary appointment)
MD Eastern Virginia Med School 2004
Stephen I Stone, MD Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
BS University of Illinois Chicago 2005
MD Rosalind Franklin University 2010
Gregory A Storch, MD Ruth L. Siteman Professor of Pediatrics (primary appointment)
Professor of Molecular Microbiology
Professor of Medicine
MD New York University 1973
BA Harvard University 1969
Jennifer Mae Strahle, MD Asst Prof of Neurological Surgery (primary appointment)
Asst Prof of Orthopaedic Surgery
Asst Prof of Pediatrics
MD University of Minnesota 2008
BS Bates College 2002
Robert H Strashun, MD, MA Associate Professor of Clinical Pediatrics (primary appointment)
MD New York University 1982
M. Anne Street, MD, Assistant Professor of Clinical Pediatrics (primary appointment)
MD University of Illinois 1976

Judith M. Stucki-Simeon, MD, Instructor in Clinical Pediatrics (primary appointment)
MD Univ of Wisconsin Madison 1987

Rosa M Suarez-Solar, Instructor in Clinical Pediatrics (primary appointment)
BA University of Puerto Rico 1990

Lisa Suffian, MD, Instructor in Clinical Pediatrics (primary appointment)
MD University of MO Kansas City 1996
BS University of MO Kansas City 1990

Toshifumi Sugatani, PHD, DDENT, Instructor in Pediatrics (primary appointment)
PHD Meiji University 2003
DDENT Meiji University 1991

Stuart C Sweet, PHD, W. Mckim O. Marriott Professor of Pediatrics (primary appointment)
PHD University of Michigan 1989

Amanda Sweetland, Instructor in Clinical Pediatrics (primary appointment)

Susan C. Sylvial, Instructor in Clinical Pediatrics (primary appointment)

Phillip Irwin Tarr, MD, Melvin E Carnahan Professor of Pediatrics (primary appointment)

Professor of Molecular Microbiology
BA Brown University 1975
MD Yale University 1980

Kristen A Terrill, Instructor in Clinical Pediatrics (primary appointment)

Donna T Thackrey, MD, Instructor in Clinical Pediatrics (primary appointment)
BS John Carroll University 1990
MD Wright State University 1994

Tama Saint The, MD, Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
BS1 University of Kentucky 2009
MD University of Louisville 2013
BS University of Kentucky 2009

Stephen Thierauf, Instructor in Clinical Pediatrics (primary appointment)

Kwee L Thio, PHD, MD, Associate Professor of Neurology (primary appointment)
Associate Professor of Pediatrics
Associate Professor of Neuroscience
PHD Washington Univ in St. Louis 1992
MD Washington Univ in St. Louis 1992
BS Brown University 1984

Mary A Tillman, Professor of Clinical Pediatrics (primary appointment)

Robert W Tolan Jr., MA, MD, Instructor in Clinical Pediatrics (primary appointment)
MA Indiana University Bloomington 1983
BA Indiana University Bloomington 1982
MD Washington Univ in St. Louis 1987

Scott A. Trail, MD, Instructor in Clinical Pediatrics (primary appointment)
BA Saint Louis University 1985
MD University of MO Columbia 1990

Indi Trehan, MD, MPH, Assistant Professor of Pediatrics (primary appointment)
MD Northwestern University 2004
MPH Northwestern University 2004
Shamik Bharat Trivedi, MD  
Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)

Garland R Tschudin, MD  
Instructor in Clinical Pediatrics (primary appointment)

Michael P Turmelle, MD  
Associate Professor of Pediatrics (primary appointment)

Yumirle Padron Turmelle, MD, AA  
Associate Professor of Pediatrics (primary appointment)

Robert Lawrence Tychsen  
Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Neuroscience
Professor of Ophthalmology and Visual Sciences in Pediatrics
John F Hardesty MD Distinguished Professor of Ophthalmology and Visual Sciences

April L Tyus  
Instructor in Clinical Pediatrics (primary appointment)

Elizabeth C Utterson, MD  
Assistant Professor of Pediatrics (primary appointment)

Akshaya J Vachharajani, MBBS, MD  
Associate Professor of Pediatrics (primary appointment)

George Frederick Van Hare III, MD  
Louis Larrick Ward Professor of Pediatrics (primary appointment)

Brad W. Warner  
Jessie L. Ternberg, M.D., PhD. Distinguished Professor of Pediatric Surgery in Surgery (Pediatric Surgery) (primary appointment)
Professor of Pediatrics
Michael S Watson, MS, PHD Adjunct Professor of Pediatrics (primary appointment)
MS University of Alabama 1978
PHD University of Alabama 1981
Benjamin David Weintraub Instructor in Clinical Pediatrics (primary appointment)
Don Weiss, MS, MD Instructor in Clinical Pediatrics (primary appointment)
MS Saint Louis University 1996
BS Dickinson College 1979
MD School Not Listed 1986
Timothy P Welch, MD Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Pediatrics
MD University of Cincinnati 2004
Valerie B. Welch, MD Instructor in Clinical Pediatrics (primary appointment)
BA Baylor University 1994
MD University Texas San Antonio 1998
Jennifer Corinne Wessman, MD Instructor in Pediatrics (primary appointment)
MD Commonwealth College 2005
Alexander Weymann, MD Assistant Professor of Pediatrics (primary appointment)
MD Witten Herdecke University 1999
Andrew J White, MD James P Keating Professor of Pediatrics (primary appointment)
Vice Chair of Medical Education in Pediatrics
MD University of Texas Southwest 1994
Frances V White, MD, MS Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Pediatrics
MD University of North Carolina 1989
MS University of North Carolina 1978
BA Princeton University 1975
Neil Harris White, MD Professor of Pediatrics (primary appointment)
Professor of Medicine
MD Albert Einstein College of Med 1975
BS State Univ of NY at Albany 1971
Nicole Izetta White Instructor in Clinical Pediatrics (primary appointment)
Karen Whiteside Instructor in Clinical Pediatrics (primary appointment)
Michael Peter Whyte, MD Professor of Medicine (primary appointment)
Professor of Pediatrics
Professor of Genetics
MD State University of New York 1972
BA New York University 1968
Karen Mori Wickline, MD Associate Professor of Pediatrics (primary appointment)
MD Saint Louis University 1986
BS University of Hawaii 1978
Denise Wilfley, PHD Professor of Psychiatry (primary appointment)
Professor of Medicine
Professor of Psychological & Brain Sciences
Professor of Pediatrics
Scott Rudolph University Professor
PHD University of Missouri Columbi 1989
Kristine G Williams, MD, MPH  
Assistant Professor of Pediatrics (primary appointment)  
MD Georgetown University 1994  
MPH Saint Louis University 2001  

Marcia Christine Willing, MS, MD, D SC  
Professor of Pediatrics (primary appointment)  
BS Goucher College 1973  
MS University of Michigan 1976  
MD University of Virginia 1982  
D SC George Washington University 1981  

David B Wilson, PHD  
Professor of Developmental Biology  
PHD Washington Univ in St. Louis 1986  

Loralee Jane Wold, MD  
Instructor in Clinical Pediatrics (primary appointment)  
MD Saint Louis University 1997  
BA Saint Louis University 1993  

Patricia Ann Wolff, MD  
Professor of Clinical Pediatrics (primary appointment)  
MD University of Minnesota 1972  
BA University of Minnesota 1968  

Michael Wong, MD, PHD  
Allen P and Josephine B Green Professor of Pediatric Neurology (primary appointment)  

Professor of Pediatrics  
Professor of Neuroscience  
MD University of Texas Southwest 1995  
PHD University of Texas Southwest 1995  
BA Princeton University 1987  

Jeffrey M Wright, MD  
Assistant Professor of Clinical Medicine (primary appointment)  
Assistant Professor of Clinical Pediatrics  
BS Vanderbilt University 1975  
MD Washington Univ in St. Louis 1979  

Kathie R Wuellner  
Associate Professor of Clinical Pediatrics (primary appointment)  
BS University of Illinois 1973  

Hayley Wurzel, MD  
Assistant Professor of Clinical Pediatrics (primary appointment)  
MD Washington Univ in St. Louis 1999  
BS Brown University 1995  

Kristine M Wylie, PHD  
Assistant Professor of Pediatrics (primary appointment)  
BA Southern Ill Univ Edwardsville 1996  
PHD Saint Louis University 2009  

Todd N Wylie  
Assistant Professor of Pediatrics (primary appointment)  
BS Southern Ill Univ Edwardsville 1995  
Christina Marie Yadao  
Instructor in Clinical Pediatrics (primary appointment)  

Mona Yassin, MD  
Instructor in Clinical Pediatrics (primary appointment)  
MD School Not Listed 1979  

Julia Catherine Young  
Instructor in Clinical Pediatrics (primary appointment)  
Cecilia H Yu  
Assistant Professor of Clinical Pediatrics (primary appointment)  
Craig Mitchell Zaidman  
Associate Professor of Neurology (primary appointment)  
Assistant Professor of Pediatrics  

John M Zempel, MD, PHD  
Associate Professor of Neurology (primary appointment)  
Associate Professor of Pediatrics  
MD Washington Univ in St. Louis 1995
Department of Psychiatry

Instruction in psychiatry is given during the second, third and fourth years of the medical curriculum. Emphasis is on the teaching of psychiatry as a medical discipline, including the biological, social and psychological mechanisms and manifestations of psychiatric illness, as well as psychological reactions to other illnesses. Psychiatric disorders are common and disabling illnesses. An explosion of knowledge resulting from research in neuroscience, genetics and epidemiology is leading to exciting advances in understanding and treating these disorders. Our department is heavily involved in this research, and our didactic curriculum integrates current clinical information with research advances to help students develop the knowledge, skills and attitudes to recognize these illnesses and understand the basic principles of treatment.

William Greenleaf Eliot Division of Child Psychiatry

The Division of Child Psychiatry offers a varied teaching program for medical students, residents in psychiatry and fellows at St. Louis Children’s Hospital and the Child Psychiatry Center. The center provides outpatient services to children with an array of mental disorders. Trainees are assigned to these various services, where they participate in diagnostic evaluations and see patients in treatment, under supervision
MD Courses — Psychiatry

Second year

M85 676A DISEASES OF THE NERVOUS SYSTEM: PSYCHIATRY
Instructor: Marcie Garland, MD  314-362-2432
This course emphasizes the diagnosis of major psychiatric illnesses in adults and children. Psychiatric diseases are described in terms of epidemiology, clinical presentation, natural history, genetics, differential diagnosis and clinical management. Interviewing techniques and performance of the mental status exam will be demonstrated by patient interviews.

Third year

M85 770 PSYCHIATRY CLERKSHIP
Instructor(s): Brendan O'Connor, MD, 362-2469
During this 4-week rotation, students will further enhance their understanding of psychiatric disorders and develop necessary clinical skills through active participation in the evaluation and treatment of psychiatric patients under the supervision of resident and attending physicians, teaching conferences and lectures, and other assigned learning experiences and educational requirements. The primary experience will be in inpatient adult psychiatry; however there will also be variety experiences in outpatient settings and with the electroconvulsive therapy (ECT) service.

For more information
Please visit the Department of Psychiatry website for more information.
M85 771 AMBULATORY CLERKSHIP: PSYCHIATRY FOR GENERALISTS
Instructor(s): Brendan O'Connor, MD, 362-2469
Students may elect to pursue their ambulatory medicine selective through the Department of Psychiatry. This rotation is intended to provide clinical experience in Psychiatry relevant to other medical fields, including Internal Medicine and Pediatrics. Students may request experience in psychiatry consult-liaison, outpatient adult psychiatry, outpatient child and adolescent psychiatry, and/or addiction psychiatry.

Fourth year

Electives

M85 805 / PSYCHIATRY CONSULT SERVICE
Instructor(s): Fay Y. Womer, MD, 314-362-2469
Location: Barnes-Jewish Hospital
Elective Contact: Fay Y. Womer, 314-362-2469

Other Information: Students should report to Renard Building 4410 at 8:00 a.m. first day. Tammie Repko is available in Renard 4408 and can be reached at 314-362-2469 for any questions or issues.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

Students will participate in the evaluation and treatment of patients referred to the psychiatry consult service. They will attend departmental conferences and other educational sessions.

Student time distribution: Inpatient 90%; Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attending psychiatrist and psychiatry residents
Patients seen/weekly: 5-10
On call/weekend responsibility: None
M85 810 / OUTPATIENT COMMUNITY PSYCHIATRY
Instructor(s): Aninkunle Owoso, MD
Location: The Psychiatry Clinic and community sites
Elective Contact: Patricia Sharp, 314-362-1251

Other Information: Please e-mail one month prior to the elective to arrange meeting time and place.
Enrollment limit per period: minimum 2; maximum 3.
Valid start weeks for four-week blocks are: Weeks 9 and 13

This is a flexible clerkship where effort is made to tailor the activities to the students’ interests. Students will assist in diagnosis and treatment of adult psychiatric clinic patients. The patients present with a wide variety of psychological and interpersonal problems, as encountered in an everyday office practice. In this setting, the student will have the opportunity to learn a variety of treatment techniques under supervision.

Student time distribution: Outpatient 80%; Conferences/Lectures 20%; Subspecialty Care 100%
Major teaching responsibility: Attending Psychiatrist and psychiatry residents
Patients seen/weekly: 20
On call/weekend responsibility: None

M85 836 / CLINICAL PSYCHIATRY – INPATIENT PSYCHIATRIC SERVICE
Instructor(s): Michael Jarvis, MD, PhD, 314-362-1816
Location: Barnes-Jewish South
Elective Contact: Michael Jarvis, MD, PhD, 314-362-1816

Other Information: Contact Cindy Bander prior to first day of elective at 314-362-1816.
Enrollment limit per period: 3
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This is a senior rotation that provides the students with an opportunity to expand their
knowledge of inpatient clinical psychiatry by functioning as interns. Students attend all staffing and teaching conferences given to first-year psychiatry residents, take patients in rotation, and share night call with first-year residents approximately every fifth night.

Immediate supervision is provided by the inpatient attending, and additional supervision can be arranged as desired. Teaching emphasis is directed toward psychiatric diagnosis, appropriate use of psychopharmacologic agents, psychotherapeutic intervention, use of community resources and pursuit of the psychiatric scientific literature. The student will write a self selected clinical topic relevant to treatment and management of psychiatric inpatients.

Student time distribution: Inpatient 85%; Conferences/Lectures 15%
Major teaching responsibility: Clinical attending, teaching attendings and residents
Patients seen/weekly: 5-15
On call/weekend responsibility: Every fifth night

**M85 840 / CHILD PSYCHIATRY**

Instructor(s): Anne Glowinski, MD, 314-286-2217
Location: Montclair Building, 24 S. Kingshighway, Outpatient Psychiatry Clinic
Elective Contact: Brigitte Northrop, MD, 314-286-2217

Other Information: Interested students should contact Dr. Anne Glowinski at 314-286-2217 in the Department of Psychiatry.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 9, 13, 17, 21, 25, 29, 33, 37, and 41 or contact Dr. Glowinski for modifications.

This elective in child psychiatry utilizes the Child Psychiatry Outpatient Clinic and the consult-liason service at St. Louis Children’s Hospital. It provides experience in age-appropriate diagnostic and treatment methods in children and adolescents. A paper on topic of student's choosing is required.
Student time distribution: Outpatient 75%; Conferences/Lectures 25%; Subspecialty Care 100%

Major teaching responsibility: Attendings and fellows

Patients seen/weekly: 15-20

On call/weekend responsibility: No, but can shadow fellow during call if requested by student

M85 844 / FORENSIC PSYCHIATRY

Instructor(s): Michael R. Jarvis, MD, PhD

Location: Barnes-Jewish Hospital Plaza, West Pavilion, Suite 15430

Elective Contact: Cindy Bander, 314-362-1816, banderc@wustl.edu

Other Information: Students should report to Barnes-Jewish Hospital Plaza, West Pavilion, Suite 15430, at 9:00 a.m. on the first day of the elective.

Enrollment limit per period: 1

Valid starting weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The medical student will be actively involved in many aspects of forensic psychiatry including civil litigation, workman's compensation, malpractice, civil commitment, and guardianship. There may be opportunities to be involved in criminal forensic issues. The student will work with Drs. Jarvis, Harbit, and Garland, within the Department of Psychiatry but will primarily meet with Dr. Jarvis a minimum of 2 hours a week. They will also work with The BJH Manager of Case Management and The City of St Louis Probate Court. The student will also be assigned readings of landmark case, textbooks, psychiatric expert opinions, legal filing with the probate court and attend civil hearings.

The student will learn relevant criminal statutes regarding competency and civil commitment, causation in civil litigation, the concept of medical malpractice and risk assessment of violence and suicide. There may be the opportunity to witness sexually violent predator evaluations and/or treatment. The student will be required to research and write an opinion on a specific approved topic in forensic psychiatry. The
objectives will be measured by attendance and by formal evaluation of the student’s participation and knowledge during the supervision discussion. It will also be determined by the originality, thoroughness and quality of the research paper.

Student time distribution: Inpatient 50%; Conferences/Lectures 50%
Major teaching responsibility: Dr. Jarvis, Dr. Harbit, Dr. Garland, Jim Hoerchler, Lisa Johnson, St. Louis Probate Court
Patients seen/weekly: No active patient treatment
On call/weekend responsibility: None

M85 855 / INTRODUCTION TO EATING DISORDERS
Instructor(s): Kimberli McCallum, MD, 314-968-1900, ext. 111
Location: 231 W. Lockwood Ave., Suite 201, St. Louis, MO 63119
Elective Contact: Kimberli McCallum, MD, 314-968-1900 ext. 111

Other Information: Students report to Dr. McCallum’s office, 231 W. Lockwood Ave., Suite 201, St. Louis, MO 63119, 9:00 a.m. first day of elective.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 9, 13, 21, 29, and 33

Students will learn the basics of assessment, participate in groups that focus on family education, gain experience in interdisciplinary psychiatric team work, attend case discussions with psychiatrists, and participate in treatment planning. Students will be able to describe core symptoms, recommend treatment options, and discuss the medical, nutritional, and psychiatric components of treatment.

Student time distribution: Inpatient 80%; Day Program 10%; Conferences/Lectures 10%; Primary Care 20%; Subspecialty Care 80%
Major teaching responsibility: Kimberli McCallum, M.D.
Patients seen/weekly: 5
On call/weekend responsibility: Second Saturday of each month

M85 870 / PSYCHIATRIC ONCOLOGY
This elective will provide additional training related to consultation-liaison psychiatry with a special emphasis on caring for patients with cancer. The Institute of Medicine has identified the need to increase the availability of psychiatric services in the setting of cancer treatment, and this elective will allow students to gain additional experience working with inpatients and outpatients receiving treatment at Siteman Cancer Center. This elective will allow students to learn about the management of end of life issues, and experience the satisfaction of providing comfort to patients and families via psychotherapy and pharmacology. Opportunities also exist to focus on specific conditions, such as gynecological cancers. Dr. Bishop and Marty Clarke, PhD, PA-C will directly supervise students providing a unique opportunity for individualized teaching and autonomy.

Student time distribution: Inpatient 60%; Outpatient, 30%; Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: The attending on the rotation
Patients seen/weekly: 12
On call/weekend responsibility: None
Other Information: Students should contact Dr. Reiersen via email 1-2 weeks prior to rotation to confirm schedule and obtain some preparatory reading materials.
Enrollment limit per period: 1
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This is an opportunity for trainees to gain experience in the evaluation of children and adolescents who may be at high risk for schizophrenia. The rotation would center around the “First Contact Assessment Service”, which evaluates patients who show characteristics suggestive of prodromal schizophrenia (such as new-onset attenuated psychotic symptoms along with recent deterioration in functioning) and/or early life characteristics that may indicate risk for developing schizophrenia later in life (for example, nonspecific social/emotional/behavioral symptoms in a child/adolescent with a strong family history of schizophrenia.). Since the full symptoms of schizophrenia are often preceded by a wide range of childhood behavioral & developmental abnormalities, this rotation would also help trainees integrate information regarding the continuity between childhood development and adult psychopathology. Trainee would observe all aspects of First Contact evaluations (including semi-structured diagnostic interviews & examination of subtle neurological signs), participate in case discussions, and observe follow-up consultations involving patients with psychotic and/or complex neurodevelopmental disorders. Trainee would also be required to write a literature review on a topic relevant to the rotation.

Student time distribution: Outpatient 50%; Conferences/Lectures 50%; Subspecialty Care 100%
Major teaching responsibility: Coursemaster (psychiatry attending)
Patients seen/weekly: 2 (possibly more if enrolled during summer months)
On call/weekend responsibility: None

M85 889 / INTERVENTIONAL PSYCHIATRY
Instructor(s): Charles Conway, MD; Donald Bohnencamp, MD; Pilar Cristancho, MD, Nuri Farber, MD; Michael Jarvis, PhD, MD; Yvette Sheline MD; Dragan Svrakic PhD, MD; Charles Zorumski, MD; and ECT staff
Interventional Psychiatry involves the application of ECT (Electroconvulsive Therapy), rTMS (Repetitive Transcranial Magnetic Stimulation) and VNS (Vagus Nerve Stimulation) in the treatment of medication-resistant psychiatric illness. The student will participate in the evaluations of patients referred to the Treatment Resistant Depression Clinic supervised by Dr. Charles Conway. The student will be involved in the neuropsychiatric assessment of patients referred for ECT. In addition, the student will receive training in the application of ECT and in the clinical management of patients receiving inpatient and outpatient ECT. As cases become available, the student will be involved in rTMS and VNS evaluations and treatment. The student will be encouraged to review appropriate literature and make clinically relevant case-oriented presentations. The student will be expected to write a review of a self-selected clinic topic relevant to interventional psychiatry.

As advances in the field occur, the rotation may also involve exposure to individuals receiving other modalities of intervention, including deep brain stimulation (DBS) and magnetic seizure therapy (MST).

Student time distribution: Inpatient 70%; Outpatient 20%; Conferences/ Lectures 10%; Subspecialty Care 100%

Major teaching responsibility: Charles Conway, MD

Patients seen/weekly: 20

On call/weekend responsibility: None
Research — Psychiatry

Andrey Anokhin, PhD – Genetics of the Brain, Behavior, and Psychopathology
Central Institute for the Deaf (CID) Building, Suite 1, 660 S. Euclid Ave
314-286-2201
andrey@wustl.edu

This Research Elective is intended for students interested in cognitive neuroscience, biological psychology, psychophysiology, and behavior genetics in relation to psychopathology. Dr. Anokhin’s laboratory is investigating relationships between genes, brain, and behavior in order to better understand complex etiology of mental disorders. Our main focus is on “externalizing” spectrum of psychopathology characterized by deficits in inhibitory self-regulation including ADHD, conduct disorder, and addictive behaviors. We are particularly interested in the intermediate phenotypes, or “endophenotypes”, mediating genetic risk for addiction such as impulsivity, risk taking, and abnormal affective processing of social-emotional information. In our laboratory-based studies with human volunteers, including twins, we investigate individual differences in brain activity using the recording of brain oscillation (event-related brain potentials, or ERPs) during the performance of different behavioral tasks. A subsample of our twin subjects also undergoes functional magnetic resonance imaging (fMRI) scanning. Other assessments used in the lab include psychiatric diagnostic interviews, personality questionnaires, neuropsychological tests, and collection of DNA samples. For example, an ongoing longitudinal study of adolescent twins explores developmental trajectories and genetic determinants of brain activity related to inhibitory control of behavior and processing of emotional information in order to identify prospective predictors of substance abuse and associated behavioral problems. Another twin study investigates the consequences of heavy drinking during adolescence by comparing neurocognitive functioning in twins who are discordant for heavy drinking. Interested students will be
able to learn a variety of methods used in these studies, such as the recording and analysis of brain oscillations, event-related neural dynamics, startle response, and autonomic measures, administration of neuropsychological and behavioral tests, and statistical analysis of data. Format of this research elective may include: (1) directed reading; (2) participation in laboratory experiments involving human subjects; (3) analysis of existing data from various research projects; (4) designing and piloting new behavioral tests and ERP experiments. Qualifications: Reliability and responsibility, ability to commit specified amount of time per week and work on schedule which can be negotiated on an individual basis, and good computer skills.

Deanna M Barch, PhD – Cognitive and Affective Neuroscience of Schizophrenia and Depression  
6612 Renard Hospital  
314-747-2160  
Students may participate in the conduct of clinical studies of schizophrenia and depression. Involvement in clinical studies can include training and experience in interviewing psychiatric patients, or gaining experience in the techniques of assessing cognitive and emotional function using behavioral and brain imaging methods.

Laura Jean Bierut, MD  
Maternity Building  
314-362-2544  
This research elective will focus on analyzing data from high-risk studies of smoking and other addictions. Students will have the opportunity to examine genetic and environmental factors that place some at risk for developing nicotine, alcohol and other substance dependence and protect others from the development of these disorders.

Kevin J. Black, MD  
4525 Scott Ave, Room 2106  
314-362-5041  
Kevin@wustl.edu  
Students will participate in ongoing studies of brain imaging, movement disorders or
neuropsychiatric illnesses. Degree of participation will relate to the student’s available research time, skills, and interest. See www.nil.wustl.edu/labs/kevin for examples of past research.

Alison Goate, DPhil – Genetic Studies of Alzheimer’s Disease
9th Floor, BJH – 1H Building
314-362-8691
Studies can involve laboratory-based projects on the genetics or cell biology of Alzheimer’s disease or clinical studies involving the collection of data through telephone or personal interview of individuals with a family history of dementia.

Ginger E. Nicol, MD
4412 Renard Building
314-362-5939
Clinical research concerning metabolism and the regulation of weight and body composition in persons with mental illness, particularly during exposure to psychotropic medications. Additional projects include 1) participation in the conduct and interpretation of results from gold standard metabolic assessments in mentally ill individuals within the context of a clinical trial 2) participation in clinical studies testing the effectiveness of behavioral and medical interventions for weight loss in youth and adults 3) learning how clinical and administrative data can be used to characterize and examine psychotropic prescribing and metabolic monitoring trends in antipsychotic-treated individuals 4) learning to evaluate the cost effectiveness of various clinical approaches to the management of weight problems and metabolic risk conditions in mentally ill individuals using decision analytic techniques, and 5) participation in the development, implementation and effectiveness testing of patient safety and quality improvement (PSQI) interventions in mentally ill obese patients in Wash U outpatient psychiatry clinic settings. This elective offers the student a broad exposure to clinical research protocols, including protocols in adults and children. Students will have an opportunity to focus on a particular project of interest.

Psychiatric and Behavioral Health Sciences Concentration
Courses are held at the Institute for Public Health TAB Bldg. The Psychiatric and Behavioral Health Sciences Concentration, an integral component of the Master of Population Health Sciences (MPHS) accredited in WUSM and taught by Psychiatry faculty members, provides clinician-researchers, postdoctoral fellows, and advanced medical and other graduate students with strong conceptual and methodological skills required for the design, advanced analysis and interpretation of epidemiological and treatment-effectiveness studies. With an emphasis on a clinical approach to psychiatric and addiction health research, didactic training focuses on in-depth understanding of disease phenotypes, pathobiology and developmental trajectories; understanding the underlying biological and environmental factors and their interactions; understanding the role of psychiatric epidemiology in disease prevention and intervention; and evaluating psychiatric clinical treatment and management programs of psychopathology. A fellow/student has an option of applying for a MPHS degree program or taking appropriate courses as part of his/her training or academic program. A total of 18 credits are needed for this Concentration for a matriculated student. Currently available courses include: (1) Epidemiology of Psychiatric Disorders across the Lifespan (M19-561; Course master, A. Glowinski, MD; 3 credits): This course takes an integrated developmental approach to the epidemiology, etiology and evolving nosology of psychiatric disorders. (2) Addictions and Addictive Behaviors (M19-562; Course master, R. Grucza; 3 credits): This course provides an overview of the principles of substance-related addictions and the processes and mechanisms that underlie addiction. Fellows/students are introduced to the epidemiology and developmental course of addiction, risk and protective influences that act on the course of addiction and its adverse health consequences. (3) Global Burden of Diseases: (M19-5656/S55-4003; Course master, RK Price; 3 credits): This course provides an overview of the current methods and research applications for studying global burden of medical and psychiatric diseases from a multidisciplinary perspective.
In addition to understanding and applying the current and advanced methodology used in studying global burden of diseases, fellow and students will learn the updated knowledge of communicable and non-communicable chronic diseases including psychiatric and addiction diseases.

Rumi Kato Price, PhD, MPE
4560 Clayton Rd., CID Bldg.
314-286-2282

Medical and graduate students, postdoctoral and clinical fellows will work closely with Dr. Price and her collaborators on ongoing research projects in psychiatric epidemiology, substance abuse, and prevention in the community research context. The current projects include: implementation of a sensor- and smartphone-based technology to monitor and manage post-traumatic stress disorder (PTSD) and anxiety disorder symptoms; and epidemiology and clinical studies of human trafficking in the St. Louis region and more globally. We work closely with the Institute for Public Health and collaborate on a wide range of topics related to human trafficking with multidisciplinary faculty (computer sciences, biomedical engineering, social work, nursing, women’s studies, and international studies) as well as with community leaders. New technologies are introduced as they fit to specific aims. Secondary analysis studies can be arranged using archived data files. Private-domain data files include: a longitudinal study assessing the impact of war experience and trauma spectrum disorders and health services utilization on National Guard service members and their families deployment to Iraq and Afghanistan; and 30-year longitudinal study series assessing the impact of drug abuse and war trauma, PTSD and suicidality. Several public domain large general population data files are also accessible.

NOTE TO STUDENTS: There are always a number of research projects in the Department of Psychiatry. For additional information contact Dr. Rubin, 314-362-2462.
Faculty — Psychiatry

Charles F Zorumski Samuel B. Guze Professor of Psychiatry (primary appointment)
Professor of Neuroscience
Head of the Department of Psychiatry
BA Saint Louis University 1974

Arpana Agrawal, PHD Associate Professor of Psychiatry (primary appointment)
PHD Virginia Comm University 2004

Aqeeb Ahmad Instructor in Clinical Psychiatry (primary appointment)

Dale J Anderson, MD Instructor in Clinical Psychiatry (primary appointment)
MD Washington Univ in St. Louis 1978

Richard H Anderson Instructor in Clinical Psychiatry (primary appointment)

Andrey P Anokhin, PHD, MS Associate Professor of Psychiatry (primary appointment)
PHD Russia Academy of Science 1987
MS Moscow State University 1981

Scott J Arbaugh, MD Instructor in Clinical Psychiatry (primary appointment)
MD Saint Louis University 1985
BA Saint Louis University 1980

Ahmad Beheshti Ardekani, MD Assistant Professor of Clinical Psychiatry (primary appointment)
MD School Not Listed 1974

Victoria Brooke Ayden Assistant Professor of Psychiatry (Child Psychiatry) (primary appointment)
BS Northwestern University 1996

Naazia H Azhar Instructor in Psychiatry (primary appointment)

Michael Roman Banton, MD Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)
MD Saint Louis University 1985

Vadim Baram Instructor in Clinical Psychiatry (primary appointment)

Ronald Beach Instructor in Clinical Psychiatry (primary appointment)

Andrew Curry Belden, PHD Assistant Professor of Psychiatry (primary appointment)
BS University of MO Columbia 2000

Savita Bhat, MS Instructor in Clinical Psychiatry (primary appointment)
MS1 School Not Listed 1989
MS St Xavier’s College 1980

Laura J Bierut Alumni Endowed Professor of Psychiatry (primary appointment)
BA Harvard University 1982

Monica E. Bishop Associate Professor of Psychiatry (primary appointment)

Kevin J. Black, MD Professor of Psychiatry (primary appointment)
Professor of Radiology
Professor of Neurology
Professor of Neuroscience
MD Duke University 1990

BS Brigham Young University 1986

Adam J. Bloom, PHD Assistant Professor of Psychiatry (primary appointment)
Assistant Professor of Anesthesiology
PHD Washington Univ in St. Louis 2006

Donald David Bohnenkamp, MD
Assistant Professor of Psychiatry (primary appointment)
BS Saint Louis University 2003
MD Univ of Nebraska Med Center 2007

Kelly N Botteron, MD
Professor of Psychiatry (Child Psychiatry) (primary appointment)

Professor of Radiology
BA University of Kansas 1984
MD University of Kansas Medical 1988

Susan Kathleen Boyer, MD
Instructor in Clinical Psychiatry (primary appointment)
BA Rockhurst College 1988
MD University of Missouri 1993

Robert Harry Brady, MD
Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)
Adjunct Instructor in Psychiatry (Child Psychiatry)
MD Tufts University 1995
BS University of Notre Dame 1988

Peter Anthony Brawer, MA
Instructor in Clinical Psychiatry (primary appointment)
MA Loyola College 1999
BS University of Scranton 1997

Steven E. Bruce, PHD
Visiting Assistant Professor of Psychiatry (primary appointment)
BA Virginia Tech 1992
PHD Virginia Comm University 1998

Tony Wayne Buchanan, MA, PHD
Adjunct Asst Professor of Psychiatry (primary appointment)
MA University of Oklahoma 1998
PHD University of Oklahoma 2000
BA Southern Nazarene University 1995

Kathleen K Bucholz, PHD, MS
Professor of Psychiatry (primary appointment)
PHD Yale University 1986
BA Yale University 1972
MS Yale University 1976
MS1 Yale University 1982
Joan Rachel Butcher
Instructor in Clinical Psychiatry (primary appointment)

James Byrd, MD
Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)
MD School Not Listed 1991
BS Southeast Missouri St Univers 1987

Joshua W. Calhoun, MD
Instructor in Clinical Psychiatry (Child) (primary appointment)
MD University of Connecticut 1982
BS Yale University 1978

Wilma J. Calvert, PHD, BN
Adjunct Instructor in Psychiatry (primary appointment)
PHD University of Missouri 2002
BN Oral Roberts University 1981

Robert Michael Carney, PHD
Professor of Psychiatry (primary appointment)
Professor of Psychological & Brain Sciences
PHD Washington Univ in St. Louis 1978
BA University of MO Columbia 1969

Patricia A Cavazos-Rehg, PHD
Associate Professor of Psychiatry (primary appointment)
BA University Texas San Antonio 1998
PHD State University of New York 2004
Mina Charepoo
Instructor in Psychiatry (Pending Dean's Approval) (primary appointment)
Li-Shiun Chen, M PH, PHS, MD
Assistant Professor of Psychiatry (primary appointment)
M PH John Hopkins University 1995
PHS Johns Hopkins University 1998
MD National Taiwan University 1993
Zhoufeng Chen
Professor of Anesthesiology (primary appointment)
Professor of Psychiatry
Professor of Developmental Biology
Andrew Chirchirillo, PHD
Instructor in Clinical Psychiatry (Child) (primary appointment)
BA Illinois State University 1973
PHD University of MO St Louis 1981
Theodore J Cicero, MS, PHD
John P Feighner Professor of Psychiatry (primary appointment)
Vice Chairman for Research, Department of Psychiatry
Professor of Neuroscience
MS Purdue University 1966
BS Villanova University 1964
PHD Purdue University 1969
Martin J Clarke, MA, MS, PHD
Assistant Professor of Psychiatry (primary appointment)
MA Fielding Institute 2005
MS National Louis University 1997
BS Saint Louis University 1981
PHD Fielding Institute 2011
William W Clendenin, MD
Assistant Professor of Clinical Psychiatry (primary appointment)
MD University of Tennessee 1963
C. Robert Cloninger, MD
Wallace Renard Professor of Psychiatry (primary appointment)
Professor of Psychiatry
Professor of Psychological & Brain Sciences
Professor of Genetics
BA University of Texas Austin 1966
MD Washington Univ in St. Louis 1983
David M Conner, MD
Instructor in Clinical Psychiatry (primary appointment)
MD University of Oklahoma 1983
John Nicholas Constantino
Blanche F Ittleson Professor of Psychiatry (Child Psychiatry) (primary appointment)
Professor of Pediatrics
BA Cornell University 1984
Charles Richard Conway, MD
Professor of Psychiatry (primary appointment)
MD University of Missouri Columbi 1995
Linda B Cottler, PHD, M PH
Adjunct Professor of Psychiatry (primary appointment)
Adjunct Professor of Anthropology
BA Emmanuel College 1977
PHD Washington Univ in St. Louis 1987
M PH Boston University 1980
Douglas Floyd Covey, MA
Professor of Pharmacology in Developmental Biology (primary appointment)
Professor of Anesthesiology
Professor of Psychiatry
BS Loyola College 1967
Lucia del Pilar Cristancho Pimiento, Assistant Professor of Psychiatry (primary appointment)

Jack L Croughan, MD, Associate Professor of Clinical Psychiatry (primary appointment)

Carlos Cruchaga, Associate Professor of Psychiatry (primary appointment)

Alejandro M Datuin, MD, AA, Assistant Professor of Clinical Psychiatry (On Staff at Malcolm Bliss Mental Health Center) (primary appointment)

Mary A Davis, MD, Assistant Professor Emeritus of Clinical Psychiatry (primary appointment)

Paul Dewald, MD, Assistant Professor of Clinical Psychiatry (primary appointment)

Plaridel C Deza, MD, Assistant Professor of Clinical Psychiatry (On Staff at Malcolm Bliss Mental Health Center) (primary appointment)

Carie Kollmeyer Dinehart, MD, Instructor in Clinical Psychiatry (primary appointment)

Joseph D Dougherty, PHD, Assistant Professor of Genetics (primary appointment)

James Earl Edwards, MD, Assistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)

Sarah Ann Eisenstein, PHD, Assistant Professor of Psychiatry (primary appointment)

Nuri Bradford Farber, MD, Professor of Psychiatry (primary appointment)

Beverly J. Field, PHD, B MUS, Associate Professor of Anesthesiology (primary appointment)

Robert T. Fitzgerald, MS, Instructor in Psychiatry (Child) (primary appointment)
Ellen E Fitzsimmons-Craft, MS PSYC, PSYD  
Instructor in Psychiatry (primary appointment)  
MS Saint Louis University 2000  
MS PSYC University North Carolina 2010  
PSYD University North Carolina 2014  
BS1 University of Notre Dame 2008  

Cynthia Florin, MD  
Instructor in Clinical Psychiatry (primary appointment)  
MD Columbia University 1984  
BS Grinnell College 1976  

Kenneth E Freedland  
Professor of Psychiatry (primary appointment)  
Professor of Psychological & Brain Sciences  
BS University of Oregon 1975  

Darrin Friesen, MD  
Instructor in Clinical Psychiatry (primary appointment)  
MD Washington Univ in St. Louis 1996  
BA School Not Listed 1990  

Lara A Fuchs  
Instructor in Clinical Psychiatry (primary appointment)  

Michael S Gaffrey, PHD  
Assistant Professor of Psychiatry (primary appointment)  
PHD Univ of Wisconsin Milwaukee 2009  

Nick S. Garg  
Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)  

Marcie Epstein Garland, MD  
Assistant Professor of Psychiatry (primary appointment)  
MD University of MO Kansas City 2008  
BA University of MO Kansas City 2008  

Dawn Lee Garzon  
Adjunct Instructor in Psychiatry (primary appointment)  

Fred W Gaskin  
Associate Professor of Clinical Psychiatry (primary appointment)  
BS University of Minnesota 1964  

Luis Giuffra, MS, PHD  
Professor of Clinical Psychiatry (primary appointment)  
MS School Not Listed 1985  
PHD Yale University 1991  
BS School Not Listed 1983  

Paul E Glaser, PHD, MD  
Professor of Psychiatry (Child Psychiatry) (primary appointment)  
PHD Washington Univ in St. Louis 1996  
MD Washington Univ in St. Louis 1996  
MS1 University of Illinois Chicago 1986  
BS1 University of Illinois Chicago 1986  

Anne L Glowinski, MS, MD  
Professor of Psychiatry (Child Psychiatry) (primary appointment)  
BS University of Houston 1988  
MS Washington Univ in St. Louis 2001  
MD Baylor University 1992  

Mark Gold, MD  
Adjunct Professor of Psychiatry (primary appointment)  
MD University of Florida 1975  

David Goldmeier, MD  
Instructor in Clinical Psychiatry (primary appointment)  
BA Dartmouth College 1978  
MD Washington Univ in St. Louis 1982  

Julia D. Grant, PHD, MA  
Associate Professor of Psychiatry (primary appointment)  
PHD Pennsylvania State University 1997  
BA Davidson College 1989  
MA Wake Forest University 1993  

Deanna Greene, PHD, MS  
Assistant Professor of Psychiatry (primary appointment)  
Assistant Professor of Radiology
PHD University of CA Los Angeles 2010
BA University of CA San Diego 2003
MS University of CA Los Angeles 2006
Richard Grucza, MS, PHD Associate Professor of Psychiatry (primary appointment)
MS Pennsylvania State University 1991
PHD Washington Univ in St. Louis 2000
BS Rochester Institute of Techno 1989
Dong Hyun Han Visiting Instructor in Psychiatry (primary appointment)
Oscar Marcos Harari, PHD, MA Assistant Professor of Psychiatry (Pending Executive Faculty Approval) (primary appointment)
PHD University of Granada 2009
BA Universidad del Buenos Aires 1997
MA Universidad del Buenos Aires 1999
Melissa A. Harbit, MD Associate Professor of Psychiatry (primary appointment)
MD University of Iowa 1997
BS University of Iowa 1993
Michael P. Harms Assistant Professor of Psychiatry (primary appointment)
Dehra Anne Harris, MD Assistant Professor of Psychiatry (Child Psychiatry) (primary appointment)
MD University of Arkansas 2000
BS Washington Univ in St. Louis 1996
Sarah McConnell Hartz, MD, PHD Assistant Professor of Psychiatry (primary appointment)
BA Knox College 1996
MD University of Iowa 2005
PHD University of Illinois 2002
Steven Arthur Harvey, MD Instructor in Clinical Psychiatry (primary appointment)
BA Washington Univ in St. Louis 1988
MD Washington Univ in St. Louis 1992
Andrew C Heath, PHD Spencer T. Olin Professor of Psychology in Psychiatry (primary appointment)
Associate Professor of Psychological & Brain Sciences
Professor of Genetics
PHD Oxford University 1983
Celeste Eileen Herleth Instructor in Psychiatry (primary appointment)
BA Loyola University 2005
Tamara G Hershey Professor of Psychiatry (primary appointment)
Adjunct Professor of Psychological & Brain Sciences (Courtesy)
Professor of Neurology
Professor of Radiology
BA Earlham College 1988
Frederick G Hicks Assistant Professor of Clinical Psychiatry (primary appointment)
Joshua Wade Hogins Instructor in Clinical Psychiatry (primary appointment)
Sheldon G Holstad, PHD, PHS Assistant Professor of Clinical Pharmacy in Psychiatry (On Staff at Jewish Hospital and St Louis College of Pharmacy) (primary appointment)
PHD University of Iowa 1986
PHS University of Iowa 1986
BS University of Iowa 1984
Barry Allen Hong, MD Professor of Psychiatry (primary appointment)
Professor of Psychological & Brain Sciences
Vice Chairman for Clinical Affairs, Department of Psychiatry
Professor of Medicine
BA Concordia University 1969
MD Concordia University 1972
Linda S Horne, MDInstructor in Clinical Psychiatry (primary appointment)
MD Ohio State University 1986
James J HudziakAdjunct Professor of Psychiatry (primary appointment)
Yukitoshi IzumiProfessor of Psychiatry (primary appointment)
Aleksandar Janca, MDAdjunct Professor of Psychiatry (primary appointment)
MD School Not Listed
Michael R Jarvis, MDProfessor of Psychiatry (primary appointment)
Vice Chairman for Clinical Affairs, Department of Psychiatry
MD Washington Univ in St. Louis 1985
Mark C. JohnsonAssociate Professor of Clinical Psychiatry (primary appointment)
La Rhonda JonesInstructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)
Wajiha Parveen KaratelaInstructor in Clinical Psychiatry (Child) (primary appointment)
Celeste Marie KarchAssistant Professor of Psychiatry (primary appointment)
Saaid Khojasteh, MDAssistant Professor of Clinical Psychiatry (primary appointment)
MD School Not Listed 1981
Neha Navsaria Kirtane, PHD, MAAssistant Professor of Psychiatry (primary appointment)
PHD Temple University 2008
MA Columbia University 2003
BA Bryn Mawr College 1999
Valerie S. Knopik, MA, PHDAdjunct Assistant Professor of Psychiatry (primary appointment)
MA University of Colorado Boulder 1998
BA Wesleyan College 1994
PHD University of Colorado Boulder 2000
Sara L Kornfield, PHDAssistant Professor of Psychiatry (primary appointment)
PHD Drexel University 2010
BA Columbia University 2003
Maria KovacsVisiting Professor of Psychiatry (primary appointment)
Suzanne Nicole L'Ecuyer, MDAInstructor in Psychiatry (primary appointment)
MD University of Louisville 2016
Eric J Lenz, MDProfessor of Psychiatry (primary appointment)
MD Washington Univ in St. Louis 1994
Shannon N Lenz, PHD, MAAssistant Professor of Psychiatry (primary appointment)
PHD University of Pittsburgh 2007
MA University of Pittsburgh 2003
F. Timothy Leonberger, PHD, MSInstructor in Clinical Medical Psychology in Psychiatry (On Staff at Malcolm Bliss Mental Health Center) (primary appointment)
BA University of Illinois 1977
PHD Univ of Southern Mississippi 1986
MS Louisiana St University 1983
Christina Lessov-Schlaggar, PHDAssistant Professor of Psychiatry (primary appointment)
PHD Oregon Health Science Univers 2000
Nigel C Lester, MDAInstructor in Psychiatry (primary appointment)
MD University of Bristol 1994
Collins E Lewis, MDAssociate Professor Emeritus of Psychiatry (primary appointment)
Assoc Prof Emeritus Of Psychiatry (primary appointment)
BA Rutgers University 1967
MD Harvard University 1971
Penelope Alathea Lind Adjunct Instructor in Psychiatry (primary appointment)
Jay L Liss, MD Associate Professor of Clinical Psychiatry (primary appointment)
MD Washington Univ in St. Louis 1966
BA Washington Univ in St. Louis 1963
Joan L Luby, MD Professor of Psychiatry (Child Psychiatry) (primary appointment)
BA Brown University 1981
MD Wayne State University 1985
Philip A Ludbrook, MBBS Professor Emeritus of Medicine (primary appointment)
Prof Emeritus of Medicine (primary appointment)
Professor Emeritus of Psychiatry
MBBS University of Adelaide 1963
BS School Not Listed 1957
Patrick Joseph Lustman, PHD Professor of Psychiatry (primary appointment)
Professor of Psychological & Brain Sciences
BA University of Illinois 1972
PHD Michigan State University 1980
Michael T. Lynskey, PHD, MS Adjunct Professor of Psychiatry (primary appointment)
PHD School Not Listed 1997
BS School Not Listed 1987
MS University of Canterbury 1989
Colin Mackenzie Instructor in Clinical Psychiatry (primary appointment)
Pamela A Madden, PHD, MS Professor of Psychiatry (primary appointment)
PHD University of Pittsburgh 1992
MS University of Pittsburgh 1983
BS University of Pittsburgh 1978
Virgil Lee Malmberg, MD, MS Instructor in Clinical Psychiatry (primary appointment)
MD University of Missouri 1978
MS University of Illinois 1970
BS University of Illinois 1968
Daniel T. Mamah Assistant Professor of Psychiatry (primary appointment)
Natasha M.V. Marrus, PHD, MD Assistant Professor of Psychiatry (primary appointment)
BA University of Southern Calif 1999
PHD Washington Univ in St. Louis 2007
MD Washington Univ in St. Louis 2007
BS University of Southern Calif 1999
Nicholas Gordon Martin Adjunct Instructor in Psychiatry (primary appointment)
Jose Mathews, MD Assistant Professor of Psychiatry (primary appointment)
MD Delhi University 1993
Gregory Warren Mattingly, MD Assistant Professor of Clinical Psychiatry (primary appointment)
BS University of Missouri 1985
MD Washington Univ in St. Louis 1989
Marcia June McCabe, PHD, MA Associate Professor of Psychiatry (primary appointment)
PHD University of Missouri 1991
BA Washburn University 1985
MA University of Missouri 1987
Kimberli McCallum, MD  Assistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)
BS Brown University 1981
MD Yale University 1986

Scott McCormick III, MD  Assistant Professor of Clinical Psychiatry (primary appointment)
MD University of Chicago 1985
BA Coe College 1981

Douglas E McCoy, MD  Instructor in Clinical Psychiatry (primary appointment)
BS Eastern Illinois University 1986
MD Southern Illinois University 1990

Vivia Van Dyne McCutcheon, MS, PHD  Assistant Professor of Psychiatry (primary appointment)
BA Ohio State University 1985
MS Washington Univ in St. Louis 2001
PHD Washington Univ in St. Louis 2005

Steven James Mennerick, PHD  Professor of Psychiatry (primary appointment)
Professor of Neuroscience
PHD Washington Univ in St. Louis 1995
BA Earlham College 1988

Jay L Meyer, MD  Associate Professor of Clinical Psychiatry (primary appointment)
BA Washington Univ in St. Louis 1956
MD Saint Louis University 1960

James R Mikolajczak, MD  Assistant Professor of Clinical Psychiatry (primary appointment)
MD Saint Louis University 1972
BS Saint Louis University 1968

Jule P. Miller Jr  Instructor in Clinical Psychiatry (primary appointment)

Susan Minchin, PHD, MD  Instructor in Clinical Psychiatry (primary appointment)
PHD University of Iowa 1991
MD University of Iowa 1991
BS Oregon St University 1981

David M Montani  Instructor in Clinical Psychiatry (primary appointment)

Grant William Montgomery  Adjunct Instructor in Psychiatry (primary appointment)

Mary Ann Montgomery, MBA, MD  Associate Professor of Clinical Psychiatry (primary appointment)
MBA Washington Univ in St. Louis
MD Northwestern University Med 1973
BA Vassar College 1967

Randi H Mozenter, MA  Instructor in Clinical Medical Psychology in Psychiatry (primary appointment)
BA Washington Univ in St. Louis 1980
MA Washington Univ in St. Louis 1982

Rashmi R Nakra  Associate Professor of Clinical Psychiatry (primary appointment)
UNKNOW Na Lady Hardings 1970

Elliot C Nelson, MD  Professor of Psychiatry (primary appointment)
MD University of Illinois 1986
BA Johns Hopkins University 1982

Ginger E. Nicol, MD  Assistant Professor of Psychiatry (Child Psychiatry) (primary appointment)
BA University of Iowa 1998
MD University of Iowa 2002

Bruce L Nock, PHD, MS  Associate Professor of Neurobiology in Psychiatry (primary appointment)
Associate Professor of Neuroscience
PHD Rutgers University 1981
BA Elizabethtown College 1969
MS Bucknell University 1975
Kevin K. Noguchi, MA, PHD Assistant Professor of Psychiatry (primary appointment)
MA University of CA Los Angeles 1998
PHD University of CA Los Angeles 2003
BS University of CA Santa Barbara 1996
Thomas John Nowotny, MD Assistant Professor of Clinical Psychiatry (primary appointment)
MD Washington Univ in St. Louis 1985
BS Washington Univ in St. Louis 1980
Brendan Joseph O’Connor, MD Assistant Professor of Psychiatry (primary appointment)
MD Creighton University 2010
BS Creighton University 2006
Kalu Onumal Instructor in Clinical Psychiatry (primary appointment)
Akinkunle Owoso, MD Assistant Professor of Psychiatry (primary appointment)
MD University of Oklahoma 2007
BS1 University of Oklahoma 2003
Vasileios Panagopoulos Instructor in Clinical Psychiatry (primary appointment)
Pablo Pastor, MD Visiting Instructor in Psychiatry (primary appointment)
MD University of Barcelona 2001
Stephen E Peterson Instructor in Clinical Psychiatry (Child) (primary appointment)
Elizabeth F Pribor, MD Associate Professor of Clinical Psychiatry (primary appointment)
BA Emory University 1981
MD Saint Louis University 1985
Rumi Kato Price, PHD, MA, MPE Professor of Psychiatry (primary appointment)
PHD University of California 1988
MA University of California 1982
BA Ochanomizu Univ 1976
MPE Washington Univ in St. Louis 1990
John R. Pruett Jr, PHD Associate Professor of Psychiatry (Child Psychiatry) (primary appointment)
Associate Professor of Radiology
Associate Professor of Psychological & Brain Sciences (Courtesy)
PHD Washington Univ in St. Louis 2000
BA Princeton University 1990
John S Rabun, MD Instructor in Clinical Psychiatry (primary appointment)
BA University of Tennessee
MD University of Tennessee
Alex Taylor Ramsey Instructor in Psychiatry (primary appointment)
Diane Rankin, MD Assistant Professor of Clinical Psychiatry (primary appointment)
BA University of Colorado Boulder 1962
MD University of Colorado Boulder 1968
Dabeeru C Rao, PHD, MS Professor of Biostatistics (primary appointment)
Professor of Biostatistics in Genetics
Director of the Division of Biostatistics
Tenure Held At-Large in the Medical School
Professor of Biostatistics in Psychiatry
Professor of Mathematics
BS Indian Statistical Institute 1967
PHD Indian Statistical Institute 1971
MS Indian Statistical Institute 1968

Radhika Rao Instructor in Clinical Psychiatry (primary appointment)
Syed A Raza Assistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)
Chandrashekar Reddy Instructor in Clinical Psychiatry (primary appointment)
Angela M. Reiersen, MD, MS PSYC Assistant Professor of Psychiatry (Child Psychiatry) (primary appointment)

MD University of Southern Calif 1999
BS University of CA Davis 1994
MS PSYC Washington Univ in St. Louis 2006
Daniel B. Reising Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)

John P Rice, MA, PHD Professor of Mathematics in Psychiatry (primary appointment)
Professor of Biostatistics
Professor of Genetics
BA Cornell University 1969
MA Washington Univ in St. Louis 1972
PHD Washington Univ in St. Louis 1975
Treva Kay Rice, MA Professor of Biostatistics (primary appointment)
Professor of Psychiatry
BS University of Texas Arlington 1981
MA University of Colorado Boulder 1984
Cheryl Richards, MA, PHD Assistant Professor of Psychiatry (primary appointment)
Assistant Professor of Medicine
MA University of Illinois 1981
BS Ohio University 1977
PHD University of Illinois 1987
Thomas F Richardson Professor of Psychiatry (primary appointment)
William M Riedesel II Associate Professor of Clinical Psychiatry (primary appointment)
Stephen L. Ristvedt, MA, PHD Associate Professor of Anesthesiology
Associate Professor of Psychiatry
BA University of Minnesota 1981
MA University of Pennsylvania 1983
PHD University of Pennsylvania 1989
Syed T Rizvi Assistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)
John Deno Rogakos Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)
BS University of Dayton 1990
Cynthia E Rogers, MD Assistant Professor of Psychiatry (primary appointment)
BA Harvard University 1998
MD Washington Univ in St. Louis 2005
Eugene Harold Rubin, MD Professor of Psychiatry (primary appointment)
Professor of Psychological & Brain Sciences (courtesy)
Vice Chairman for Education, Department of Psychiatry
BA University of Rochester 1971
MD Washington Univ in St. Louis 1978
John Conrad Rudersdorf Instructor in Clinical Psychiatry (Child) (primary appointment)
James Rutherford, MD Assistant Professor Emeritus of Clinical Psychiatry (primary appointment)
Asst Prof Emeritus of Clinical Psychiatry (primary appointment)
Jo-Ellyn M Ryall, MD
Associate Professor of Clinical Psychiatry (primary appointment)

Frank Scott Saccone
Associate Professor of Psychiatry (primary appointment)

Berette A Salazar, MD
Assistant Professor of Clinical Psychiatry (primary appointment)

Carolyn E. Sartor, PHD, MS
Adjunct Assistant Professor of Psychiatry (primary appointment)

Norman Sartorius
Adjunct Professor of Psychiatry (primary appointment)

Jeffrey Frank Scherrer, PHD
Adjunct Associate Professor of Psychiatry (primary appointment)

Bradley L Schlaggar, PHD, MD
Ernest and Jane G Stein Professor of Neurology (primary appointment)

Jeffrey I Schulman, MD, MBA
Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)

Earl R Schultz, MD
Professor of Clinical Neurology (primary appointment)

Adelita Segovia Langley
Assistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)

Bryan Norbert Sewing, DOST
Instructor in Psychiatry (Pending Dean's Approval) (primary appointment)

Paul W Sheffnner
Assistant Professor of Clinical Psychiatry (primary appointment)

Barbara Sue Silverstein, PHD
Assistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)

BS University of Missouri 1978
Nathan M Simon, MS, MD  
Professor Emeritus of Clinical Psychiatry (primary appointment)  
Prof Emeritus of Clinical Psychiatry (primary appointment)  
MS Yale University 1950  
MD Washington Univ in St. Louis 1955  
BS Yale University 1949  
Reed Earl Simpson, MD  
Assistant Professor of Clinical Psychiatry (primary appointment)  
BA Wabash College 1972  
MD Washington Univ in St. Louis 1976  
Judith Ann Skala, RN, RN, MA, PHD  
Instructor in Psychiatry (Pending Dean’s Approval) (primary appointment)  
RN St Louis Community College 1981  
RN 1981  
MA Washington Univ in St. Louis 1992  
PHD Washington Univ in St. Louis 2001  
BS Washington Univ in St. Louis 1989  
Stacey L Smith, MD  
Assistant Professor of Clinical Psychiatry (primary appointment)  
BA Northwestern University 1986  
MD Northwestern University 1991  
Timothy Eric Spiegel, MD  
Assistant Professor of Psychiatry (Child Psychiatry) (primary appointment)  
BS Saint Louis University 2006  
MD University of Utah 2011  
Wayne A Stillings  
Assistant Professor of Clinical Psychiatry (primary appointment)  
Catherine Striley  
Asjunct Assistant Professor of Psychiatry (primary appointment)  
Yun Ju Sung  
Associate Professor of Biostatistics (primary appointment)  
Assisstant Professor of Psychiatry  
Jagdish C Suri, MD  
Assistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)  
UNKNOWN School Not Listed 1959  
BS School Not Listed 1954  
MD School Not Listed 1964  
Vinod Suri  
Instructor in Clinical Psychiatry (Child Psychiatry) (Full-Time at Hawthorn Children's Psychiatric Hospital) (primary appointment)  
UNKNOWN Punjab University 1962  
Dragan M Svrakic, MD, PHD  
Professor of Psychiatry (primary appointment)  
MD University of Belgrade 1978  
PHD University of Belgrade 1989  
Chad M Sylvester, PHD, MD  
Instructor in Psychiatry (Child) (primary appointment)  
PHD Washington Univ in St. Louis 2009  
MD Washington Univ in St. Louis 2009  
BS University of Notre Dame 2001  
Mini Tandon, DOST  
Assistant Professor of Psychiatry (Child Psychiatry) (primary appointment)  
DOST Kansas Cty Univ Med/Bioscience 2002  
BS Truman State University 1997  
Alexandre Todorov, M ED  
Professor of Psychiatry (primary appointment)  
BS Vanderbilt University 1985  
M ED Vanderbilt University 1988  
Dorothy J. Van Buren  
Associate Professor of Psychiatry (primary appointment)
Michele Van Eerdewegh, MD
Instructor in Clinical Psychiatry (primary appointment)
MD School Not Listed 1970

Jeffrey A. Vander Kooi, MD
Instructor in Clinical Psychiatry (primary appointment)
BS University of Iowa 1997
MD University of Iowa 2002

Garry M. Vickar
Instructor in Clinical Psychiatry (primary appointment)

Erin Foster Voegtli, OTD
Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Neurology
Assistant Professor of Psychiatry

Mary C. Waldron
Adjunct Assistant Professor of Psychiatry (primary appointment)
MD University of South Florida 2001

Sara Walker, MD
Instructor in Clinical Psychiatry (primary appointment)

Marysia Weber
Instructor in Clinical Psychiatry (primary appointment)

Reuben R Welch II, PHD, M ED
Associate Professor of Psychiatry (primary appointment)
PHD University of Missouri 1988
M ED University of Missouri 1982
BA Point Loma Nazrene College 1980

Zila Welner, MD
Associate Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)
MD School Not Listed 1961

John Bair Whitfield
Adjunct Instructor in Psychiatry (primary appointment)

Denise Wilfley, PHD
Professor of Psychiatry (primary appointment)
Professor of Medicine
Professor of Psychological & Brain Sciences
Professor of Pediatrics

Scott Rudolph University Professor
PHD University of Missouri Columbi 1989

Matthew Stewart Wilson
Instructor in Clinical Psychiatry (primary appointment)

Eric Nicholas Wittrock, DOST
Instructor in Psychiatry (Child) (primary appointment)
DOST Kansas State University 2011

Edwin D Wolfgram, MD
Assistant Professor of Clinical Psychiatry (primary appointment)
BS Iowa State University 1954
MD University of Iowa 1959

Fay Yeh Womer, MD
Associate Professor of Psychiatry (primary appointment)
BS Washington Univ in St. Louis 1999
MD University of Connecticut 2003

David F Wozniak, MA
Professor of Psychiatry (primary appointment)
Adjunct Associate Professor of Psychological & Brain Sciences
MA Connecticut College 1977

Christopher Wuertz, MD
Assistant Professor of Clinical Psychiatry (primary appointment)
MD University of Illinois 1984

Sean H Yutzy
Adjunct Professor of Psychiatry (primary appointment)

Jorge Sergio Zvir, PHD, BSCS, MS
Assistant Professor of Psychiatry (primary appointment)
PHD University of Granada 2001
BSCS Universidad del Buenos Aires 1991
MS Universidad del Buenos Aires 1995
Department of Radiation Oncology

The Department of Radiation Oncology was created on July 1, 2001, having been part of the Mallinckrodt Institute of Radiology for many decades. The department has a broad academic program that focuses on excellence in patient care and the development of new treatment paradigms; innovative research in each of the four divisions of clinical, physics, biology and bioinformatics; and teaching for residents in radiation oncology, medical students and allied health personnel. The department is one of the largest, most academically balanced and best equipped in the country, and is responsible for all radiation therapy procedures at Washington University Medical Center. Our faculty have gained international recognition for innovative technological advances in physics and treatment planning, biological research, computer applications and clinical investigation.

Milestones

- Implementation of novel respiratory gating algorithms
- Development of biomarkers of DNA repair capacity of tumors
- Demonstrated the use of Proton Therapy
- Implementation of first Mevion S250 single room proton therapy system
- Implementation of real-time MRI guidance for radiation therapy treatment with the ViewRay system. Real-time MR guidance provides the ability to see tumors move in real-time during a patients entire treatment. This helps ensure that tumor targets are hit and health tissue is spared
- Acquisition of High Intensity Focused Ultrasound (HIFU) with MRI thermometry mapping
The Department of Radiation Oncology currently occupies a large, and convenient clinical facility on the lower level of the Center for Advanced Medicine. The downtown clinical facility includes nine linear accelerator rooms, three simulator rooms and a brachytherapy center with two high dose-rate treatment units. Furthermore, the facility houses the latest Gamma Knife Perfexion unit. We have advanced treatment planning computer systems for 3-D conformal and intensity-modulated radiation therapy. We have five linear accelerators with on-board CT imaging capability. The brachytherapy suite includes capability for high dose-rate remote afterloading and for image-guided permanent prostate seed implants. Interstitial and external hyperthermia treatments are also available. We recently implemented a new type of proton treatment facility, using a superconducting synchrocyclotron mounted on a gantry, and also recently implemented the world's first MRI-guided radiation therapy treatment program. Additionally, the department provides radiation therapy treatment at BJ South County, BJ West County, BJ Christian Hospital Northeast, and BJ St. Peters.

The Physics faculty have research laboratories and offices on the fourth floor of the Clinical Sciences Research Building plus designated areas adjacent to the clinical facility in the CAM building. The Radiation Biology laboratory and faculty offices are housed at the 4511 Forest Park Building and Wohl Hospital Building.

For more information

Please visit the Department of Radiation Oncology website for more information.

**MD Courses — Radiation Oncology**

Third year and fourth year

M90 740 RADIATION ONCOLOGY CLERKSHIP
The four-week clerkship in radiation oncology will provide students with an introduction to the evaluation and management of a broad range of patients referred for consultation regarding radiation therapy. Clerkship activities will take place within the Barnes-Jewish Hospital/Siteman Cancer Center complex, Christian Hospital, Barnes-Jewish West County Hospital and Barnes-Jewish South County Hospital. Students will conduct inpatient and outpatient evaluations under the supervision of radiation oncology department residents and faculty. Students will also attend and participate in regularly scheduled departmental conferences, with an additional didactic teaching component tailored to the third and fourth year student level. Students will also have the opportunity to attend the appropriate multidisciplinary conferences (such as pediatric neuro-oncology, cardiothoracic oncology, lymphoma, GYN oncology and ENT) pertaining to their rotation schedule. The clerkship will allow exposure to a variety of treatment techniques including brachytherapy, image guided radiation therapy (IGRT), proton therapy, and radiosurgery. Students will be given the opportunity to make a teaching case presentation and will meet weekly with the Coursemaster and/or the department Chairman for small-group case discussions.

Instructional materials are available for students on the rotation. (Students are NOT expected to purchase any curricular materials for the clerkship.) Student performance will be evaluated by faculty members who supervise the student over the course of the four-week clerkship.

Fourth year

Elective

M90 840 / CLINICAL RADIATION ONCOLOGY
Instructor(s): Maria Thomas, MD, PhD
Location: Center for Advanced Medicine, Lower Level
Elective Contact: Maria Thomas, MD, PhD, 362-8516, or Gwen Jackson 362-8567
Other Information: Students should meet the Chief Resident in the Department of Radiation Oncology in the Siteman Cancer Center on the lower level of the CAM Building.
Enrollment limit per period: 3
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The clinical division offers an elective with emphasis on the evaluation, planning of and administration of radiation therapy in patients with malignant tumors. The students have the opportunity to enhance their knowledge on the natural history, pathological, and biological features of cancer and to sharpen their clinical skills participating in the management of these patients.

Student time distribution: Inpatient 7%; Outpatient 78%; Conferences/ Lectures 15%; Subspecialty Care 100%
Major teaching responsibility: Attendings, residents and staff
Patients seen/weekly: 20-35 per physician

Research — Radiation Oncology

Dennis Hallahan, MD
4511 Forest Park, Room 202
314-362-9700

1. Radiation Sensitizers: The over arching hypothesis of this research is that interruption of the signaling will improve cancer response to therapy. Inhibitors of these molecular targets are presently in development at pharmaceutical companies. We study the efficacy of specific inhibitors when combined with
radiotherapy in mouse models of human cancer.

2. Radiation Protection of normal tissue: We study the mechanisms of cell death in normal tissues during cancer therapy. In particular, we have found that a signal transduction pathway required for radiation induced apoptosis in normal tissues involves glycogen synthase kinase 3beta. GSK-3beta regulates the apoptosis machinery within normal tissues. Cancer cells do not require GSK-3beta or apoptotic machinery to respond to cancer therapy. In contrast, injuries in normal tissues such as the brain and intestine require GSK-3 signaling. We have found that inhibitors of GSK-3beta prevent injury in normal tissues. These inhibitors prevent injury to the brain and improve neurocognitive function and reduce injury in the intestine of animal models. Presently, we are studying the mechanisms by which GSK-3 inhibition prevents program cell death in normal tissues. We are also studying new drugs intended for clinical trials.

3. Targeted Drug Delivery to Cancer: We have identified several peptides and over a dozen monoclonal antibodies that bind to cancer following treatment with ionizing radiation. Using this strategy, drug delivery can be targeted specifically to cancer and guided by use of a beam of radiation therapy. These targeting ligands have been conjugated to the drug delivery systems, including liposomes and nanoparticles to improve the specificity of drug delivery of cancer. We collaborate extensively with pharmaceutical companies to target drug delivery to mouse models of human cancer.

4. Immunotherapy: We characterize the immunological response of antibodies targeted by radiation. These monoclonal antibodies bind to radiation inducible neo-antigens. These antibodies can activate immune response. In addition, therapeutic agents are conjugated to the antibodies to provide cancer specific drug delivery. Identification of radiation inducible neo-antigens involves the co-precipitation of antigens from cancer by use of monoclonal antibodies. Antigens are then identified by use of proteomic technology. Humanization of these mouse monoclonal antibodies is performed with the goal of bringing antibodies into clinical trials.
Broad range of opportunities for investigation in:

1. Prognostic factors and therapy outcome in a variety of patients with cancer

2. Three-dimensional treatment conformal and intensity-modulated radiation therapy in the treatment of patients with head and neck, lung, pancreas, rectal or prostate cancer.

Faculty — Radiation Oncology

**Dennis E Hallahan, MD**
Professor of Radiation Oncology (primary appointment)
Professor of Cell Biology and Physiology
Professor of Pathology and Immunology
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MD Saint Louis University 2006

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BS Princeton University 1999
MD Washington Univ in St. Louis 2009

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**Kathy Baglan**
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Gary A Ratkin, MD Associate Professor of Clinical Medicine (primary appointment)

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MD CASE WESTERN RESERVE UNIV 2004

BUCK EDWARD ROGERS, PHD, MA, PROFESSOR OF RADIATION ONCOLOGY (PRIMARY APPOINTMENT)

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MA TRUMAN STATE UNIVERSITY 2006
BS TRUMAN STATE UNIVERSITY 2005

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MS JILIN MEDICAL UNIVERSITY 2000

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BA University of Chicago 1995
No entries found
Department of Radiology

The Edward Mallinckrodt Institute of Radiology (more commonly known as Mallinckrodt Institute of Radiology or MIR) serves as the Department of Radiology for Washington University in St. Louis School of Medicine, helping to guide the consulting physician in the discovery, treatment and, ultimately, the healing of disease. Established in 1930, MIR is one of the largest and most scientifically sophisticated radiology centers worldwide.

Internationally recognized for its groundbreaking research, the Institute continues to pioneer new radiological techniques for better patient care.

Milestones

- development of the first diagnostic test for gallbladder disease
- design and construction of the first cross-sectional X-ray laminagraph
- collaboration on design and installation of the first cyclotron located in a U.S. medical center
- development of positron emission tomography (PET)
- installation of one of the world’s first computed tomography (CT) and magnetic resonance (MR) scanners
- interfacing of a minicomputer with a gamma camera, improving accuracy and efficiency of nuclear medicine procedures
- establishment of the first mobile mammography van west of the Mississippi River
- integration of CT and MR scans with three-dimensional technology
- application of organic chemistry to the preparation of radiopharmaceuticals used in medical imaging
- measurement of cerebral blood flow and metabolism
- establishment of one of the largest, most comprehensive interventional radiology services in the United States
- application of PET for measuring metabolic activity in relation to cardiac blood flow
- early adoption of sequential PET/MR imaging

The Institute occupies more than 400,000 total square feet, comprising its own 12-story building, with satellite facilities in Barnes-Jewish and St. Louis Children’s hospitals; the Clinical Sciences Research and East buildings; the Scott Avenue Imaging Center; the Center for Advanced Medicine; and the Knight Emergency and Trauma Center; and the South County Siteman Cancer Center. The department provides diagnostic radiology, nuclear medicine and radiation physics services for all hospitals in the Washington University Medical Center, Barnes-Jewish West County and Barnes-Jewish St. Peters hospitals. The Institute provides diagnostic radiology for the Washington University Orthopedics and Barnes-Jewish Hospital Outpatient Orthopedic center.

MIR clinical facilities are on the second floor of the Institute (general diagnostic radiology); third floor (neuroradiology); fourth floor (gastrointestinal and genitourinary radiology, and ultrasonography); and the fifth floor (MRI). A comprehensive interventional radiology center occupies the eighth floor. Nuclear medicine is on the ninth floor of the Barnes-Jewish Hospital West Pavilion. Orthopedic imaging and musculoskeletal radiology services are on the sixth floor of the Center for Advanced Medicine. The Breast Health Center, on the fifth floor of the Center for Advanced Medicine, is a multidisciplinary facility that provides a full range of breast imaging services and interventional procedures. In the north wing of St. Louis Children’s Hospital is a complete pediatric radiology facility, offering ultrasound, nuclear medicine, CT and MRI and interventional radiology.

The Institute has 102 examination rooms used for diagnostic radiology. Clinical and research equipment includes two PET/CT scanners, 13 CT scanners, two PET scanners,
1 PET/MR scanner, 15 MR scanners (including an 11.7-Tesla research scanner), 12 high-end ultrasound machines plus seven portable units, nine interventional radiology systems, five digital chest units, 10 computer radiography units, two neurointerventional radiology systems and six mammography units. In addition, as part of the department’s community outreach effort, the Institute cosponsors with the Alvin J. Siteman Cancer Center a mobile mammography van that provides screening services at corporate and public sites in the St. Louis area.

MIR has approximately 200,000 square feet devoted to research, with facilities in the Clinical Sciences Research Building (radiological sciences), in the East Building (electronic radiology), in the Scott Avenue Imaging Center (neurological PET, molecular pharmacology, biomedical MR imaging, optical imaging and cardiovascular imaging), and in the Center for Clinical Imaging Research (a bioimaging facility for basic and translational inpatient and outpatient clinical research).

Administrative, teaching and support functions occupy the sixth floor and the ninth through the twelfth floors of the Institute.

For more information

Please visit the Department of Radiology website for more information.

MD Courses — Radiology

Michelle Miller-Thomas, MD, Coordinator of Radiology Medical Student Education; 362-5949, thomasm@mir.wustl.edu

Second year
Eight hours of lecture are devoted to an introduction to radiology. The majority of the course is devoted to diagnostic radiology, including conventional radiography, computed tomography, ultrasound, nuclear medicine and magnetic resonance imaging. The economics of imaging and radiation biology are introduced. The course also includes review of individual teaching file cases at small group sessions and online.

Third year

**M90 701 GENERAL RADIOLOGY CLERKSHIP**

Coursemasters: Matthew Parsons, MD, 362-5950, parsonsm@mir.wustl.edu, Michael Friedman, MD, 362-2978, friedmanm@mir.wustl.edu

Contact Person: Melissa Varner, Radiology Staff Library, 362-5139, varnerm@mir.wustl.edu

This four-week introductory radiology elective will be offered to third-year medical students. Each student will rotate through four of the following radiology services: Emergency Department, Pediatric Radiology, Cardiothoracic Imaging, Breast Imaging, Abdominal Imaging, Musculoskeletal Radiology, Neuroradiology, Nuclear Medicine and Interventional Radiology. The primary course objective is to familiarize students with the scope of diagnostic and interventional radiology, including the consulting role radiologists provide to primary care and specialty providers, risks/benefits and cost effectiveness of radiologic examinations, and guidelines for ordering common studies.

Students will report each morning for a service conference. These conferences are both case-based and didactic. Students will have a predominantly observational role in conferences, as they are principally designed for radiology resident teaching. Students will then spend mornings in the reading rooms with residents, fellows and attending radiology faculty. This time will consist of interactive teaching based on daily clinical cases. Each student will keep a log of cases they see to facilitate reading and to provide a vehicle for follow-up of interesting cases. Students will present one case of interest
to their peers each Friday at 3 p.m. during the clerkship. These brief (5 to 10 minutes) presentations will be evaluated by a resident or attending radiologist.

Monday through Thursday at 3 p.m., students will meet with a designated radiology resident who will present either a didactic or case-based lecture appropriate for third-year medical student teaching.

Students will select two of their four presented cases for submission to a digital teaching file. Reading lists, references and textbooks will be provided. The first and final days of the elective are mandatory. No high honors will be awarded if a student is absent for more than five days of the rotation.

The course will accommodate four to 10 students each month. The course will not be offered if enrollment falls below four.

Fourth year

Electives

M90 801 / GENERAL RADIOLOGY
Instructor(s): Michael Friedman, MD, 314-362-2978, and Matthew Parsons, MD, 314-362-5950
Location: Radiology Staff Library (First floor Mallinckrodt Tower, Room 117)
Elective Contact: Missi Varner, 314-362-5139

Other Information: Students meet in Mini-Scarpellino, 1st Floor Mallinckrodt Institute of Radiology Building, 8:00 a.m. first day of elective.
Enrollment limit per period: 5
Valid start weeks for four-week blocks are: Weeks 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This four week introductory radiology elective allows students to rotate through four of the following radiology services; Emergency Radiology, Mammography, Pediatrics,
Chest, Abdominal Imaging, Musculoskeletal, Neuroradiology, Interventional Radiology and Nuclear Medicine. The primary course objective is to familiarize students with the scope of diagnostic and interventional radiology including the consulting role radiologists provide to primary care and specialty providers, risks/benefits and cost effectiveness of radiologic examinations, and guidelines for ordering common studies as well as specific disease entities and their radiologic appearance and work-up.

Students spend the majority of the day in the radiology reading rooms with residents, fellows, and faculty for interactive teaching based on daily clinical cases. Students will attend morning case-based conferences and noon didactic conferences with the residents. The students will have an observational role in conferences and in the clinical setting. At 3:00 p.m., students will convene with a radiology resident for a didactic lecture on a scheduled topic in radiology. An image-based quiz will be given in the final week of the elective covering topics presented in the daily student didactic lectures. Fridays at 3:00 p.m., students present an interesting case from the week in Power-Point format. Two Power-Point presentations will be submitted at the end of the rotation for grading.

Students will keep a logbook of interesting cases seen daily in order to provide a foundation for further reading, as well as an opportunity for clinical or radiologic follow up of cases seen in the reading room. This log will be submitted to the Coursemaster at the end of the elective.

Students taking this elective for a second time who have a special interest in a particular area of radiology pertinent to their intended career choice may tailor their experience to focus on one or more services if desired (i.e. 4th year student going into neurosurgery may spend up to 2 full weeks in neuroradiology). This will be considered on a case by case basis by the Coursemaster. These returning students will be expected to keep a log of cases seen but will be exempt from attending the daily afternoon teaching sessions. Returning 4th year students will be required to present 4 weekly presentations with the other students in the course and take the end of rotation quiz. Please see the separate course listings for Nuclear Medicine and Interventional Radiology.
Reading lists, references and text books will be provided. The first and final days of the elective are mandatory. Grades are based on daily attendance, logbook, end of rotation quiz, and Power-Point presentations. No honors will be awarded if a student is absent for more than 5 days of the rotation.

Student time distribution: Inpatient 40%; Outpatient 30%; Conferences/ Lectures 30%; Subspecialty Care 100%

Major teaching responsibility: Radiology Faculty, Fellows, and Residents

Patients seen/weekly: N/A

On call/weekend responsibility: None

M90 820 / CLINICAL NUCLEAR MEDICINE

Instructor(s): Akash Sharma, MD, 314-362-2809
Location: 956 West Pavilion
Elective Contact: Akash Sharma, MD, 314-362-2809

Other Information: Students report to 956 West Pavilion, 8:00 a.m. first day of elective. Enrollment limit per period: 1

Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This four-week elective will be offered to third and fourth year medical students. The clinical service in Nuclear Medicine is divided into five subsections: outpatient general Nuclear Medicine, in-patient general Nuclear Medicine, PET, Pediatric, and Cardiac Nuclear Medicine. The recommended schedule will be to spend week 1 and 3 on the North Campus, where the emphasis will be on outpatient general and Pediatric Nuclear Medicine with some focused time spent in the PET reading room. Week 2 will be split between the in-patient general Nuclear Medicine and Cardiac services. Week 4 schedule will be determined after a preferences discussion with the student.

The primary objective of this rotation is to provide exposure to the full range of clinical nuclear medicine. Under direct supervision of the clinical staff, the student will be able to participate in the planning and interpreting of imaging studies for patients referred
to the Division. Opportunity also exists to explore instrumentation techniques, including dedicated computer applications in Nuclear Medicine.

In addition to the clinical experience, the student will attend the daily morning conference, held in the Miller Conference Room in 956 West Pavilion, from 8:30-9:30 a.m. From 12-1:00 p.m., the student will be excused to attend the daily department-wide conference. The student is not expected to do any formal presentations but may participate by preparing a case for the Friday follow-up conference. The student will also be excused to attend any conferences within the Department of Radiology, e.g. the 3:00 p.m. medical student didactic lectures, if desired.

Students may keep a log of interesting cases to use as a guide for additional reading, or for discussions with the Coursemaster or the other staff attendings.

A textbook will be provided. The first and final days of the elective are mandatory. No honors will be awarded if a student is absent for more than 5 days of the rotation.

Student time distribution: Inpatient 25%; Outpatient 50%; Conferences/ Lectures 25%; Subspecialty Care 100%
Major teaching responsibility: Attendings, fellows and residents
Patients seen/weekly: ~200
On call/weekend responsibility: None

M90 830 / INTERVENTIONAL RADIOLOGY
Instructor(s): Robert Pallow, MD, 314-362-7877
Location: Mallinckrodt Institute of Radiology
Elective Contact: Robert Pallow, MD, 314-362-7877

Other Information: Students should contact Dr. Pallow to discuss meeting location and time for first day of elective.
Enrollment limit per period: 2
Valid start weeks for four-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41
Students will be exposed to all clinical and procedural aspects of interventional radiology including: patient evaluation and consultation, preparation of patients for procedures, performance of a wide range of vascular and non-vascular procedures, post-procedure patient management, and longitudinal patient follow-up. Students will actively participate in interventional procedures. Students will attend the departmental noon conference (daily) and section conferences including didactic lectures, morbidity and mortality conference, and case conferences (3-4 times per week).

Student time distribution: Inpatient 60%; Outpatient 30%; Conferences 10%
Major teaching responsibility: Attending Interventional radiology physicians will provide the majority of teaching. Fellows and residents will provide additional teaching.
Patients seen/weekly: Approximately 150 patients per week are seen in consultation or for procedures in the south campus Interventional facility
On call/weekend responsibility: None

Research — Radiology

Interested students should contact the appropriate individual in each division regarding the types of research projects available.

Tom Conturo, MD, PhD
2nd Floor East Building, Rm 2120
314-362-8421
Magnetic resonance (MR) imaging is a noninvasive means of providing images of the human body at high spatial resolution and contrast sensitivity. The contrast can be manipulated to depend on different properties of tissue water, enabling the study of a
variety of biological processes. In some cases, endogenous or exogenous paramagnetic MR contrast agents are used to alter the MRI contrast by perturbing the tissue water environment. Recently, new MRI hardware has also enabled techniques having high temporal resolution. Using the unique contrast properties of MRI and the higher spatial/temporal resolution, non-invasive techniques can be devised to study neuronal activity, tissue perfusion, water mobility (diffusion), and neuronal fiber pathways in the human brain. The goals of Dr. Conturo’s research lab are to develop and apply MR imaging techniques for quantitative imaging of cerebral perfusion, brain function, water diffusion, and neuronal fiber pathways. These techniques utilize the MR signal effects of exogenous bolus-injected contrast agents, endogenous hemoglobin, and microscopic water diffusion. Long-term goals are to apply these methodologies toward imaging and understanding tissue structure, function, and physiology in the brain and other organs in normal and abnormal conditions. The approaches that are used in this laboratory cover a broad range of areas, including MRI physics, MRI pulse sequence development, theoretical derivations, computer simulations, image-processing, computer graphics, custom contrast agent design and syntheois, phantom studies, animal models, human studies, clinical patient studies, and comparison with other imaging modalities.

Farrokh Dehdashti, MD
Nuclear Medicine PET Facility, 10th Floor, Mallinckrodt Institute of Radiology
314-362-1474

Positron emission tomography (PET) is an imaging technique that produces images reflective of biochemical processes of normal and abnormal tissues. PET is complementary to anatomic imaging modalities such as computed tomography (CT) and magnetic resonance imaging (MRI). The ability of PET to quantify fundamental processes, such as blood flow, oxygen metabolism, glucose metabolism, and receptor density, makes this technique very desirable to both investigators and clinicians. Dr. Dehdashti’s research utilizes the conventional PET radiopharmaceutical, F-18 fluorodeoxyglucose (FDG), as well as a variety of unique PET radiopharmaceuticals such as Cu-64-diacetyl-bis[N4-methylthiosemicarbazone (Cu-64 ATSM), a hypoxic imaging tracer, and 18F-labeled 3’-deoxy-3’fluorothymidine (FLT), a proliferative
imaging tracer. Below is a partial list of the research projects relating to PET: (1) PET assessment of progesterone receptors in patients with newly diagnosed breast cancer with a new progesterone-receptor imaging tracer, 21-[18F]Fluoro-16,17-[(R)-1’-furylmethylidene)dioxy]-19-norpregn-4-ene-3,20 dione (FFNP); (2) assessment of cell proliferation with a new tracer, N-(4-(6,7-dimethoxy-3,4-dihydroisoquinolin-2(1H)-yl)butyl)-2 (2-[18F]fluoroethoxy)-5-methylbenzamide ([18F]3c), also called [18F]ISO-1 by imaging sigma receptors in patients with various solid cancers; (3) PET assessment of tumor hypoxia using 64Cu-ATSM in patients with cervical cancer (the major goal of this project is to predict prognosis); (4) FDG-PET/CT study in cervical cancer to evaluate the change in tumor FDG heterogeneity and SUVmax during chemoradiation and whether these changes are predictive of response to therapy; (5) PET using [18F]FHBG (9-[4-fluoro-3-hydroxymethyl-butyl]guanine), analog of Penciclovir, an acycloguanosine derivative and antiviral drug, for possible tracking of GvHD in patients who were prior recipients of unrelated allogeneic bone marrow transplant for any hematologic malignancy, (6), FLT-PET/CT to assess tumor cell proliferation in patient must have histologically or cytologically confirmed ER+ stage IV or metastatic invasive breast cancer.

Rob J. Gropler, MD
Room 1307 East Building
314-747-3878
Cardiovascular Imaging Research. The research in the Cardiovascular Imaging Laboratory is designed to better understand the relationship between myocardial perfusion, intermediary metabolism and mechanical function in both normal and abnormal cardiac states. The research involves the integration of several imaging techniques with diverse strengths such as PET, MRI, CT and echocardiography. The success of the research requires several paths of investigation to be pursued in parallel. For example, in order to image the biologic processes of interest requires continued technical developments for each of the imaging methods listed above. There are ongoing efforts to permit more accurate PET measurements of myocardial substrate metabolism. They include the development of novel tracers of extracted substrates, the development of acquisition schemes to assess endogenous substrate
metabolism, and the validation of mathematical approaches to correlate the tracer kinetics with the underlying metabolic processes. These studies are being pursued in small and large animal models and then in humans. Another example includes the current efforts to develop approaches to image the coronary arteries non-invasively by MRI using novel contrast agents and acquisition schemes. In addition, techniques are being developed to permit MR guided interventions on the coronary arteries. This undertaking includes the development of novel guide-wire tracking and catheter tracking schemes using both passive and active approaches. Finally, to permit assessments of myocardial oxygenation and thus, perfusion, techniques are being developed to permit BOLD imaging the myocardium. Another path of the research is to determine how this perfusional-metabolic-functional relation is altered by normal life changes and then determine how disease states alter the relationship. For example, both PET and echocardiography are being used to characterize the age and gender related changes on myocardial perfusion, substrate metabolism and function. To study the relationship in disease states, similar studies are being performed in patients with diabetes and obesity. A third path to determine the mechanisms responsible for these changes in this metabolic-functional relation and identify potential interventions that may reverse or ameliorate them. In this regard, similar imaging studies are being performed to determine the importance of nitric oxide and the PPARα system in defining this metabolic-functional relation.

Stephen M. Moerlein, PharmD, PhD
1st Floor East Building
314-362-8466

Research interests lie in the general area of labeled tracer development for nuclear medicine imaging, especially positron-emission tomography (PET). Developmental effort begins with synthesis of target structures, preclinical screening that involves in vitro biochemistry and pharmacological testing, and ex vivo biodistribution studies in small animals. Promising tracers are then examined by in vivo imaging of animal subjects and tracer kinetic modeling. The final step in the transition of a radiochemical into a labeled drug takes into account radiation dosimetry, pharmaceutical quality, and the development of automated production and GMP production processes to
streamline delivery to human subjects. Each of these aspects of radiopharmaceutical development are investigated, with a primary emphasis in novel agents for evaluation of pathological processes in neurology and oncology.

Marc Raichle, MD
2nd Floor East Building
314-362-6907

We use functional imaging techniques, both positron emission tomography and functional magnetic resonance imaging, to study the normal organization of the human brain and the effect of selected diseases. The research focuses on both the methodology (imaging and experimental) and specific questions in cognitive neuroscience.

Faculty — Radiology

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Elizabeth E Mallinckrodt Professor of Radiology (primary appointment)
Director of the Edward Mallinckrodt Institute of Radiology
Head of the Department of Radiology
Professor of Radiation Oncology
MD Washington Univ in St. Louis 1978

**Samuel I Achilefu, PHD**
Michel M Ter-Pogossian Professor of Radiology (primary appointment)
Professor of Biochemistry and Molecular Biophysics
PHD University of Nancy I 1991

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DVM University of MO Columbia 2001
BS University of MO Columbia 2004
PHD University of MO Columbia 2005

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Assistant Professor of Surgery (General Surgery)
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BA Notre Dame College 1976
MD Case Western Reserve Univ 1981

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PHD Washington Univ in St. Louis 2001
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Associate Professor of Biomedical Engineering
Associate Professor of Radiology
MS London School of Economics 1994
BS University of Pennsylvania 1993
PHD University of Pennsylvania 2000
MD University of Pennsylvania 2001

**Catherine M Appleton, MD** Associate Professor of Radiology (primary appointment)
BS University of Florida 1996
MD University of Florida 2000

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ME University of Iowa 1983
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MD Medical College of Wisconsin 1975
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PHD Washington Univ in St. Louis 2009
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Professor of Neurology
Professor of Neuroscience
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MD University of Kansas Medical 1988
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Steven L Brody, MD Dorothy R and Hubert C Moog Professor of Pulmonary Diseases in Medicine (primary appointment)
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BS Quigdao Ocean Univ 1982
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PHD Academia Sinica China 1988
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MS Ball State University 1983
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BS Ball State University 1981
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Professor of Obstetrics and Gynecology
Professor of Radiology
Associate Professor of Genetics
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BS Indiana University Bloomington 1966
Dewitte T Cross III, MD Professor of Radiology (primary appointment)
Professor of Neurological Surgery
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Assistant Professor of Surgery (General Surgery)

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Associate Professor of Radiology

Edward M Geltman, MD  
Professor of Medicine (primary appointment)

Assistant Professor of Radiology

Joseph Giardina, MD  
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David S Gierada  
Professor of Radiology (primary appointment)

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MD University of Chicago 2005  
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Diana Lee Gray Professor of Obstetrics and Gynecology (primary appointment)  
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PHD Southern Illinois University 1998
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John Hart Niemeyer, Instructor in Clinical Radiology (primary appointment)
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Linda R Peterson, MD, Associate Professor of Medicine (primary appointment)
Daniel D Picus, MD, Professor of Radiology (primary appointment)
David Gerard Politte, MEE, D SC, Assistant Professor of Radiology (primary appointment)
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Steven Paul Poplack, MD  
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BS Stanford University 1984  
MD Boston University 1988  

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PHD Washington Univ in St. Louis 2000  
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MD Washington Univ in St. Louis 1964  
BA University of Arkansas 1960  

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Professor of Neuroscience  
Professor of Neurology  
Alan A and Edith L Wolff Distinguished Professor of Medicine  
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Professor of Biomedical Engineering  
BS University of Washington 1960  
MD University of Washington 1964  

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Assistant Professor of Radiology (primary appointment)  
Assistant Professor of Surgery (General Surgery)  
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BS University of Chicago 1999  
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PHD University of Illinois 1994  
BS Roanoke College 1986  

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Assistant Professor of Radiology (primary appointment)  
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Professor of Radiation Oncology (primary appointment)  
Professor of Radiology  
BS Loyola University Chicago 1989  
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BS Providence College 1970  
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Professor of Pediatrics
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BS Emory University 2003

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PHD Mayo Clinic 2006

**Alexander L Sukstansky, MS, D SC** Associate Professor of Radiology (primary appointment)
MS Kharkov State University 1971
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PHD California Institute Technolo 1978
BS Cornell University 1973
Zhude Tu, MS, PHDAssociate Professor of Radiology (primary appointment)
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PHD Beijing Normal University 1995
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Assistant Professor of Radiology
Jie Wen, PHDInstructor in Radiology (primary appointment)
PHD University of Science & Tech 2012
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MD Yale University 1972
Kimberly N Wiele, MDAssistant Professor of Radiology (primary appointment)
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MD University of MO Kansas City 1981
Franz J Wippold II, MDPProfessor of Radiology (primary appointment)
BA Westminster College 1973
Pamela K Woodard, MD Professor of Radiology (primary appointment)
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ME Taiyuan University of Tech 1994

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D SC Institute for Physics and Eng 1981
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MS Kharkov State University 1970

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MD University of Chicago 2007
PHD University of Chicago 2005

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JD University of Texas Austin 1995

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Associate Dean for Continuing Medical Education

Shiying Zhao, PHD, MME Adjunct Associate Professor of Radiology (primary appointment)
PHD University of South Carolina 1991
BA University of Science & Tech 1982
MME Shanghai jiao Tong University 1984

Jie Zheng, PHD Associate Professor of Radiology (primary appointment)
PHD University of Cincinnati 1994
BS Beijing University 1986

Dong Zhou, PHD, MS Instructor in Radiology (primary appointment)
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MS1 Shandong University 1995
MS School Not Listed 1995
BS School Not Listed 1990

Dequan Zou, D SC, MS, ME Professor of Physical Therapy (primary appointment)
Professor of Radiology
BS Harbin Engineering University 1982
D SC Washington Univ in St. Louis 1993
MS Washington Univ in St. Louis 1991
ME Harbin Engineering University 1984

Darryl Adam Zuckerman, MD Assistant Professor of Radiology (primary appointment)
Assistant Professor of Surgery (General Surgery)
MD State Univ of NY Syracuse 1983
BA New York University 1979

No entries found
Mary Culver Department of Surgery

The formal instruction in surgery begins in the third year with the required, 12-week Integrated Surgical Disciplines Clerkship. During this surgical clerkship, students are assigned to clinical rotations, mostly within the Department of Surgery, with some exposure to other surgical-related disciplines outside the department. The clerkship allows students opportunities to participate in the care of surgical patients, both in- and outpatient; spend time in the operating rooms; and attend seminars, teaching conferences and didactic sessions on a regular basis. In the fourth year, students may select “subinternship” electives within the Division of General Surgery, which include a variety of general surgical specialties. In addition to the general surgery subinternships, electives are available in pediatric surgery, transplant surgery, vascular surgery, cardiovascular and thoracic surgery, urologic surgery, and plastic and reconstructive surgery.

For more information

Please visit the Department of Surgery website for more information.

MD Courses — Surgery

Third year

M95 790 INTEGRATED SURGICAL DISCIPLINES CLERKSHIP
During the 12-week surgery clerkship, students are assigned to three 4-week rotations,
one of which is a required 4-week general surgery rotation at Barnes-Jewish Hospital (plus one option at the Veterans Administration Medical Center). In addition to the general surgery rotation, each student is assigned two four-week elective rotations from a variety of surgical specialties and/or related disciplines. The 12-week clerkship focuses on the diagnosis, care, and management of surgical patients. The student is an active participant in the daily care of patients on each service and attends clinics, rounds, operating rooms, call nights, and teaching conferences. Central to the 12-week clerkship are small-group didactic sessions with assigned faculty members and a lecture/workshop series that covers a wide range of surgical topics and specialties as well as provides opportunity for practice of basic clinical skills in simulated settings.

Fourth year

There is ample opportunity for fourth-year students to participate in elective rotations within each division of the Department of Surgery. Many of the fourth-year surgery electives are structured to allow the student to participate as a “subintern,” facilitating experiences in preoperative, intraoperative and postoperative patient management. Generally, the minimum duration of a fourth-year elective rotation in the Department of Surgery is four weeks. Research electives are also available.

Electives

M95 814 / ACTING INTERNSHIP, TRAUMA SERVICE
Instructor(s): Stephen Eaton, MD; John Kirby, MD; Douglas Schuerer, MD; and Kareem Husain, MD
Location: 1411 Queeny Tower
Elective Contact: Jennifer Richter, 314-362-7775

Other Information: This is NOT a “preceptor” elective. However, students may elect to make prior arrangements to work more closely with particular attendings on this service (based on availability).
Enrollment limit per period: 1
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.
The student on this elective will function as a subintern on the Trauma and Acute Care Surgical Service within the Section of Acute and Critical Care Surgery. Student involvement in all aspects of clinical surgery is accomplished by student attendance in the outpatient office, preoperative patient evaluation, in-hospital patient management, and postoperative outpatient follow-up after discharge. Practical experience will focus on the initial evaluation and resuscitation of traumatized patients and other emergency care patients. The student will also participate in regular rounds, conferences, and in-house call. Note: If a student desires to work more closely with a “specific attending,” he/she must make special arrangements with the faculty member prior to beginning this elective. If you have any questions regarding this notice, please call Doug Brown in the Surgical Education Office 314-362-8029.

Student time distribution: Inpatient 80%, Outpatient 10%, Conferences/Lectures 10%; Primary Care 20%, Subspecialty Care 80%
Major teaching responsibility: Attendings, residents and fellows
Patients seen/weekly: 30
On call/weekend responsibility: Yes

**M95 818 / SURGICAL NIGHT FLOAT & ER SUBINTERNSHIP**
Instructor(s): John Kirby, MD; and L. Michael Brunt, MD
Location: ER
Elective Contact: Doug Brown, 314-362-8029

Other Information: Student should contact instructor prior to first day of elective.
Enrollment limit per period: 2
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This subinternship is specifically designed to give senior medical students an intern level experience in managing acute on-call problems in surgical patients and in evaluating urgent and emergent problems in the ED. The rotation will be divided into two, two week segments – one segment in the ED and the second on night float call on the surgical floors. Students will gain experience evaluating and managing the types of acute problems they will encounter as surgical interns as first responders to
patients with acute abdominal pain, chest pain, hypotension, mental status changes, and other ER/on-call type problems. They will be assigned to the on call surgical resident and will have a structured experience in order to maximize development of their diagnostic, management, and case presentation skills in the acute care setting so that they may more smoothly make the transition to a surgical internship.

Student time distribution: Inpatient 50%, Outpatient 50%, Conferences/ Lectures TBD; Primary Care 100%
Major teaching responsibility: John Kirby, MD and Surgical Residents
Patients seen/weekly: 20-30 each week
On call/weekend responsibility: No weekend call, rotation is nighttime based Tuesday through Friday for Floor two-week component and Tuesday, Wednesday, and Friday for ED two-week component

**M95 820 / CARDIOTHORACIC SURGERY**
Instructor(s): Hersh Maniar, MD; Michael Avidan, MBBCH; Umar Boston, MD; Stephen Broderick, MD; Traves Crabtree, MD; Ralph Damiano, MD; Charl De Wet, MD; Pirooz Eghtesady, MD, PhD; Dan Kreisel, MD, PhD; Sasha Krupnick, MD; Jennifer Lawton, MD; Bryan Meyers, MD; Marc Moon, MD; Michael K. Pasque, MD; G. Alexander Patterson, MD; Varun Puri, MD; Stephano Schena, MD; and Scott Silvestry, MD
Location: 3106G Queeny Tower
Elective Contact: Hersh Maniar, MD; Secretary, Leslie Wiley at 314-362-7431

Other Information: Students should contact Leslie Wiley at 314-362-7431 prior to the first day of elective. Students should report to 3106G Queeny Tower, 9:30 a.m. first day of elective.
Enrollment limit per period: 3
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37 and 41.

The senior elective in cardiothoracic surgery is a four-week clinical rotation with two week blocks divided between adult cardiac, pediatric cardiothoracic, and general thoracic surgery according to the student’s preference. Students will participate in morning work rounds, attend the operative procedures of their choice, and attend
weekly conferences and teaching rounds. Students will be introduced not only to the surgical procedures but also to the postoperative care of the surgical patients.

On the pediatric and adult cardiac services, students will be introduced to the principles of cardiopulmonary bypass, repair of congenital heart defects, ventricular assist devices, cardiac transplantation, coronary artery bypass surgery (on and off pump), valve repair and replacement, complex aortic surgery, the MAZE procedures and others.

On the adult cardiac surgery service, students will function as subinterns under the direct supervision of a faculty member.

On the thoracic surgical rotation students will have the opportunity of performing bronchoscopy, esophagoscopy, gastroscopy, and participate in surgical resections of lung cancer and esophageal cancer, as well as surgery for emphysema and for benign esophageal conditions. Students will also participate in lung transplantation surgery.

Student time distribution: Inpatient 80%, Outpatient 10%, Conferences/Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attendings and residents
Patients seen/weekly: 20
On call/weekend responsibility: One in three, no weekend call

M95 830 / PLASTIC RECONSTRUCTIVE SURGERY
Instructor(s): Kamlesh Patel, MD
Location: 11th Floor Northwest Tower
Elective Contact: Mary Darden, 314-747-1193

Other Information: Mary will e-mail the student a schedule approximately 10 days before the start date. The student will meet with Dr. Patel @ 6:30 a.m. on the first day of the rotation unless other arrangements have been made. Enrollment limit per period: 4 per block weeks 1-13; 2 per block weeks 17-41
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.
The period on plastic surgery may either be spent as a clinical clerkship or conducting a research project. The purpose of the clinical clerkship is to familiarize the student with the basic principles of Plastic Surgery. The student will have successive assignments to each of the attending staff and the ward resident services during the four weeks. This will expose the student to the breadth and depth of plastic surgery. Alternatively, if the student has identified a focus of interest, the student may participate on those services of special interest, such as hand or pediatric plastic surgery. The student will assume an active role on the plastic surgery service and will participate in the total management of a wide variety of surgical problems including congenital anomalies, microvascular surgery, surgery of the upper extremity, peripheral nerve surgery, cosmetic surgery, and general reconstructive plastic surgery. Research projects should be student-motivated and need to be approved prior to scheduling and confirming the research rotation. Student will perform a 10-15 minute case presentation.

Student time distribution: Inpatient 70%, Outpatient 20%, Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attendings and residents
Patients seen/weekly: 12
On call/weekend responsibility: One day per week, one weekend per month.

M95 832 / PLASTIC SURGERY EXTERNSHIP (Visiting Students Only)
Instructor(s): Kamlesh Patel, MD, 314-747-0541
Location: 11th Floor Northwest Tower
Elective Contact: Mary Darden, 314-747-1193

Other Information: Mary will e-mail the student a schedule approximately 10 days before the start date. The student will meet with Dr. Patel at 6:30 a.m. on the first day of the rotation unless other arrangements have been made.
Enrollment limit per period: Varies
Flexible start days for 3 to 4-week blocks are available beginning July 1, through December 31. Certain rotation dates/weeks may be limited depending on the number of students requesting rotations.
Students rotate on four different Plastic Surgery Services for one week each to maximize exposure to all faculty. If the student has transportation, they will travel to Barnes West County office on two days. Services include: breast reconstruction, hand, nerve, cosmetic and general reconstruction. Participation in conferences is expected. Student will perform a 10-15 minute case presentation.

Student time distribution: Inpatient 70%, Outpatient 20%, Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attendings and residents
Patients seen/weekly: 12
On call/weekend responsibility: one day per week, one weekend per month

**M95 850 / UROLOGY**

Instructor(s): Gerald Andriole, MD, 314-362-8212
Location: Wohl Hospital
Elective Contact: Sally Wahlbrink, 314-362-8212

Other Information: Students should contact Dr. Andriole’s office at 314-362-8212 prior to first day for room assignment.
Enrollment limit per period: 2
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

A four-week clinical clerkship in pediatric and/or adult urology will offer the interested student experience with a spectrum of problems in clinical urology. The student will learn the basic diagnostic procedures and management of surgical and non-surgical aspects of patient care under the supervision of the attending staff and house staff. Clinical conferences are held three days per week.

Student time distribution: Inpatient 65%, Outpatient 25%, Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Several attendings, chief resident and resident staff
Patients seen/weekly: >20
On call/weekend responsibility: Two Saturdays per month
M95 862 / ACTING INTERNSHIP, COLON AND RECTAL SURGERY

Instructor(s): Steve Hunt, MD; Elisa Birnbaum, MD; Matthew Mutch, MD; Paul Wise, MD; Matthew Silviera, MD; and Sekhar Dharmarajan, MD  314-747-6156
Location: 14102 Queeny Tower, South Campus
Elective Contact: Emily Stroisch, 314-454-7182

Other Information: This is NOT a “preceptor” elective. However, students may elect to make prior arrangements to work more closely with a specific attending on this elective (based on availability).
Enrollment limit per period: 1
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This subinternship elective is designed to give students in-depth experience in the clinical management of patients on the Colorectal Surgery Service. Students work closely with the attendings within the Section of Colon and Rectal Surgery, and clinical exposure is focused on a wide range of benign and malignant colorectal diseases. There is exposure to radiation oncology and the specialized areas of nursing related to care of patients with colorectal cancer and inflammatory bowel disease. The course will offer opportunities for students to gain experience in preoperative, intraoperative and postoperative, patient management under house staff, fellows, and faculty guidance, as well as ample opportunity to attend and participate in conferences.
Notice: If a student desires to work more closely with a specific attending, he/she must make special arrangements with the Colorectal Surgery Office prior to beginning this elective.

Student time distribution: Inpatient 75%, Outpatient 20%, Conferences/ Lectures 5%; Subspecialty Care 100%
Major teaching responsibility: Steven Hunt, MD, and colorectal fellows
Patients seen/weekly: 25-50
On call/weekend responsibility: Every fifth night or negotiable

M95 863 / ACTING INTERNSHIP, SURGICAL ONCOLOGY AND ENDOCRINE SURGERY

Instructor(s): Timothy Eberlein, MD; Rebecca Aft, MD; Amy Cyr, MD; William
Gillanders, MD; Julie Margenthaler, MD; and Jeffrey Moley, MD

Location: 11th Floor Northwest Tower
Elective Contact: Doug Brown, 314-362-8029; Amy Cyr, MD, 314-747-8708

Other Information: This is NOT a “preceptor” elective. However, students may elect to make prior arrangements to work more closely with a specific attending (based on availability).

Enrollment limit per period: 1
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This subinternship elective is designed to give students in-depth experience in the clinical management of patients on the Endocrine and Surgical Oncology Service (Unit I Service). Students will serve as clerks and will be responsible for patient management with house staff under the guidance of the chief resident and attending surgeons. Clinical exposure is focused on thyroid, parathyroid and adrenal surgery, as well as breast oncology, melanoma, and soft-tissue sarcomas. The course will offer opportunities for students to gain experience in preoperative, intraoperative, and postoperative patient management. There will be opportunity for students to evaluate patients, decide on a diagnostic and management strategy and provide care under house staff and faculty guidance, as well as ample opportunity to attend and participate in conferences. Note: If a student desires to work more closely with a “specific attending,” he/she must make special arrangements with the faculty member prior to beginning this elective. If you have any questions regarding this notice, please call Doug Brown in the Surgical Education Office 314-362-8029.

Student time distribution: Inpatient 75%, Outpatient 15%, Conferences/ Lectures 10%
Major teaching responsibility: Attendings, chief resident, and junior residents
Patients seen/weekly: 20-40 (varies)
On call/weekend responsibility: Every third or fourth night with a resident who will directly supervise

M95 864 / ETHICAL CHALLENGES IN SURGERY AND MEDICINE
Instructor(s): Mary Klingensmith, MD
Location: Surgical Education Office – 9th Floor Wohl
Elective Contact: Douglas Brown, PhD, 314-304-8638

Other Information:
Enrollment limit per period: 1
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This elective will involve exploration of the ethical challenges discussed during didactic conferences and in clinical settings within the Department of Surgery at Washington University in St. Louis School of Medicine. The student will be guided through readings, discussions, and projects by department faculty members with expertise in clinical ethics. The elective will result in a finished manuscript to be published, with the student as co-author, in the journal Surgery. This elective provides the opportunity to work closely with faculty mentors and should appeal to any student interested in the ethical and humanitarian challenges facing physicians in particular and society in general.

Student time distribution: Conferences/Lectures 100%
Major teaching responsibility:
Patients seen/weekly: NA
On call/weekend responsibility: NA

M95 871 / ACTING INTERNSHIP, VASCULAR SURGERY
Instructor(s): Chandu Vemuri, MD; Nanette Reed, Luis A. Sanchez, Gregorio A. Sicard, Mohammed Zayed, Jeffrey Jim, Patrick J. Geraghty, Brian G. Rubin and Robert W. Thompson, 314-362-3511
Location: 5103 Queeny Tower
Elective Contact: Students should contact Dr. Vemuri’s office prior to the start of this rotation at 314-362-3511
Assistant: Theresa Belgeri, 314-362-5707, belgerit@wudosis.wustl.edu

Other Information: This is NOT a “preceptor” elective. However, students may elect to make prior arrangements to work more closely with Dr. Vemuri 314-362-7841 or other
Enrollment limit per period: 1
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This subinternship elective is designed to give students in-depth experience in the clinical management of patients on the Vascular Surgery Service. The elective will offer opportunities for students to gain experience in preoperative, intraoperative and postoperative, management of patients with surgically treated vascular diseases/conditions. Students will serve as clerks and will be responsible for patient management with house staff under the guidance of the chief resident and attending surgeons. There will be opportunity for students to evaluate patients, decide on a diagnostic and management strategy and provide care under house staff and faculty guidance, as well as ample opportunity to attend and participate in conferences.

Notice: If a student desires to work more closely with a “specific attending,” he/she must make special arrangements with the faculty member prior to beginning this elective. If you have any questions regarding this notice, please call Doug Brown in the Surgical Education Office 314-362-8029.

Student time distribution: Inpatient 70%, Outpatient 20%, Conferences/ Lectures 10%; Primary Care 10%, Subspecialty Care 90%
Major teaching responsibility: Attending, fellows, chief resident, and junior residents
Patients seen/weekly: 100+ (varies)
On call/weekend responsibility: Student’s option

M95 879 / ACTING INTERNSHIP, HEPATOBILIARY PANCREATIC SURGERY
Instructor(s): Steven Strasberg, MD; William Hawkins, MD; Ryan Fields, MD; and Majella Doyle, MD
Location: 11th Floor Northwest Tower
Elective Contact: Chelsey Hermann, 314-454-5625

Other Information: This is NOT a “preceptor” elective. However, students may elect to make prior arrangements to work more closely with a specific attending on this service (based on availability).
Enrollment limit per period: 1
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This subinternship elective is designed to give students in-depth experience in the clinical management of patients on the Hepatobiliary/Pancreatic (Unit II) Service. The Unit II Service is a busy upper gastrointestinal service with a focus on hepatobiliary and pancreatic diseases and their treatment. The course will offer opportunities for students to gain experience in preoperative, intraoperative, and postoperative patient management. Students will serve as clerks and will be responsible for patient management with house staff under the guidance of the fellow, chief resident and attending surgeons. There will be opportunity for students to evaluate patients, decide on a diagnostic and management strategy, and provide care under house staff and faculty guidance, as well as ample opportunity to attend and participate in conferences. Note: If a student desires to work more closely with a specific attending, he/she must make special arrangements with the faculty member prior to beginning this elective.

Student time distribution: Inpatient 75%, Outpatient 15%, Conferences/ Lectures 10%; Primary Care 100%
Major teaching responsibility: Attending, chief resident, fellow and junior residents
Patients seen/weekly: Varies
On call/weekend responsibility: Every third or fourth night with a resident who will directly supervise.

M95 880 / PEDIATRIC SURGERY
Instructor(s): Kate Bernabe, M.D; Martin Keller, M.D.; Jacqueline Saito, M.D.; Pat Dillon, M.D.; Brad Segura, MD, and Brad Warner, MD.
Location: 5S40 St. Louis Children's Hospital
Elective Contact: Stacy Pokorny, 454-4169

Other Information: Students should report at 6:00 a.m. on the first day of the rotation.
Enrollment limit per period: 1
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.
The student will participate as a subintern in all aspects of pediatric surgical patient care and will be exposed to a wide variety of pediatric surgical cases. This includes the preoperative and postoperative evaluation of patients as well as the care of pediatric trauma patients. Daily rounds are made with both the resident and attending staff and active participation is expected in the pediatric surgery clinic and the operating room. Weekly conferences include Mortality and Morbidity, Radiology, Pathology and case presentations with the student expected to prepare a conference presentation on a topic of interest.

Student time distribution: Inpatient 60%, Outpatient 30%, Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attendings
Patients seen/weekly: 35
On call/weekend responsibility: Optional

M95 891 / ORGAN TRANSPLANTATION
Instructor(s): William Chapman, MD; Surendra Shenoy, MD, PhD; Majella Doyle, MD; Yiing Lin, MD; and Jason Wellen, MD
Location: Barnes-Jewish Hospital
Elective Contact: Mary Hampton 314-362-7792, Kiesha Cleark 314-747-2456

Other Information: Student should contact instructor if interested in scheduling elective.
Enrollment limit per period: 2
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

The care of transplant patients requires the integration of multiple diverse medical and surgical disciplines. This elective clerkship in organ transplantation encompasses the preoperative evaluation and management of adult and pediatric recipients of liver, kidney, and pancreas. Students participate in procurement of allografts from cadaveric or living donors, organ preservation, and transplantation. Emphasis is also placed on postoperative care, multimodality immunosuppression and management of allograft rejection. Basic hepatic and renal physiology, fluid and electrolyte balance, and
transplantation immunology are stressed. Rotation provides an elaborate exposure to different facets of management of end stage renal and liver disease. Management of the complications of diabetes, hypertension, portal hypertension, and infectious problems are an integral part of pre- and post-transplant care. This course is designed to offer the student an overview of the field of organ transplantation, however, in addition to transplant surgery, students will also get some exposure to vascular access and hepatobiliary surgery. The student functions as a member of the transplant team and assumes appropriate responsibilities under supervision.

Student time distribution: Inpatient 80%, Outpatient 10%, Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Full attending and resident staff
Patients seen/weekly: 40
On call/weekend responsibility: Yes

M95 893 / ACTING INTERNSHIP, MINIMALLY INVASIVE SURGERY
Instructor(s): L. Michael Brunt, MD 314-454-8877
Location: 11th Floor Northwest Tower
Elective Contact: Student should contact Dr. Brunt at 314-454-8877 prior to the first day of the elective

Other Information: This is NOT a “preceptor” elective. However, students may elect to make prior arrangements to work more closely with Dr. Brunt on this elective (based on availability).
Enrollment limit per period: 1
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.

This subinternship elective in minimally invasive surgery is offered by L. Michael Brunt, MD, a member of the Section of Minimally Invasive Surgery in the General Surgery Division. Surgeons in the Minimally Invasive Surgery group regularly perform the following procedures laparoscopically: cholecystectomy, splenectomy, adrenalectomy, hiatal hernia repair, inguinal hernia repair, ventral hernia repair and gastric bypass for morbid obesity. The medical student electing this rotation will
participate in the outpatient office and direct patient care, assist and observe in a wide range of laparoscopic procedures and participate in teaching rounds and conferences. During this rotation, the student will also have the opportunity to observe and participate in minimally invasive surgical procedures performed by various surgeons within the Division of General Surgery and will function as an acting intern. Notice: If a student desires to work more closely with a “specific attending,” he/she must make special arrangements with the faculty member prior to beginning this elective. If you have any questions regarding this notice, please call Doug Brown in the Surgical Education Office 314-362-8029.

Student time distribution: Inpatient/Operating Room 60%, Outpatient 30%, Conferences/ Lectures 10%; Subspecialty Care 100%
Major teaching responsibility: Attending and residents
Patients seen/weekly: ~25 (varies)
On call/weekend responsibility: One call weekend which consists of morning rounds and home call. No in-house call.

**M10 820 / CRITICAL CARE**
Instructor(s): Heidi Atwell, DO, 314-362-1196, Course Master; Walter Boyle, MD; Grant Bochicchio, MD; Stephanie Bonne, MD; Anne Drewry, MD; Stephen Eaton, MD; Daniel Emmert, MD; Alex Evers, MD; Brian Fuller, MD; Thomas J. Graetz, MD; Richard Hotchkiss, MD; Kareem Husain, MD; Jacob Keeperman, MD; Paul Kerby, MD; John Kirby, MD; Isaac Lynch, MD; John Mazuski, MD; Tiffany Osborn, MD; Patricia Penkoske, MD. Adnan Sadiq, MD; Doug Schuerer, MD; Jessica Smith, MD; Robert Southard, MD; George Tseng, MD; Brian Wessman, MD; and Robert Winfield, MD
Location: Barnes-Jewish Hospital, South Campus
Elective Contact: Barbara McKinney, 314-747-3581

Other Information: Students should meet in the 4400 Surgical Intensive Care Unit, 4th Floor of Barnes-Jewish Hospital, at 7:30 a.m. on the first day of the elective.
Enrollment limit per period: 4
Valid start weeks for 4-week blocks are: Weeks 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, and 41.
Students on this rotation are integral members of the multidisciplinary intensivist-led critical care team in the Surgical Intensive Care Unit (SICU). Students learn an organ systems-based approach for evaluation and management of critically ill and injured patients, and application of evidence-based principles in delivery of state-of-the-art critical care. Emphasis is placed on critical care knowledge and techniques used at the bedside in the clinical management of serious traumatic and surgical conditions. Students become familiar with resuscitation and cardiopulmonary support, including methods for non-invasive and invasive hemodynamic monitoring, and techniques for airway management and pulmonary support in respiratory failure. Basic knowledge and skills in the management of neurologic injuries, liver and/or renal failure, and life-threatening infections in the surgical patient are also taught, as is the importance of treatments to alleviate anxiety and pain, maintain fluid and electrolyte balance, and provide adequate nutrition. Practical experience is gained in placement of vascular access devices, interpretation of laboratory data, and use of guidelines, protocols and quality assurance tools in the management of critically ill patients.

Student time distribution: Inpatient 80%, Conferences/Lectures 20%; Subspecialty Care 100%
Major teaching responsibility: ICU Attendings
Patients seen/weekly: 50
On call/weekend responsibility: Variable

Research — Surgery

L. Michael Brunt, MD
1160 Northwest Tower, Barnes-Jewish Hospital
314-454-8877
Minimally invasive surgery, including endocrine applications. Minimum rotation length:
four weeks. Under the auspices of the Washington University Institute for Minimally Invasive Surgery (WUIMIS), a number of surgeons are investigating the physiologic consequences of laparoscopic surgery and new applications for procedures and technologies. Dr. Brunt is currently investigating clinical outcomes of various laparoscopic surgical procedures, laparoscopic hiatal hernia surgery and adrenal surgery, and is carrying out education related research of skills training for senior medical students planning to enter a surgical internship.

Division of Plastic and Reconstructive Surgery
660 S. Euclid, Box 8238
314-747-0541
The Division of Plastic Surgery offers many opportunities for research projects on various topics related to plastic surgery. A project will be designed with the student prior to his/her rotation on plastic surgery so that all of the materials and methods will be available at the beginning of the rotation. The basic science laboratories investigate primarily nerve injury and regeneration including nerve transplantation. The student will be encouraged to design and complete his/her own research study during the elective. Minimum rotation length is six weeks. The research rotation can be conducted in the plastic surgery laboratories under the direction of Drs. Moore, Snyder-Warwick, Wood or Mackinnon.
Ongoing projects include:
(1) influence of growth factors and blood flow on nerve regeneration;
(2) neural tissue engineering;
(3) diagnostic potential of biomarkers to identify nerve injury; and
(4) investigation of glial cells at the neuromuscular junction during development, maintenance, aging, and following nerve injury.

Additional clinical and educational research opportunities in various fields of plastic surgery are available with Drs. Fox, Myckatyn, Patel, Tung, and Woo.

These various projects include:
(1) in vivo tissue generation and tissue differentiation;
(2) the mechanical, structural and biochemical effects of stress on scar tissue
maturation;
(3) in vivo anatomy of craniofacial deformities;
(4) outcome analysis of methods of cleft lip and palate management;
(5) breast reconstruction (3D imaging of breasts after cosmetic or reconstructive surgery, interpretation of angiograms of the breast to measure nipple perfusion);
(6) use of nerve transfer to improve hand function in patients with cervical spinal cord injury/quadriplegia; and
(7) surgical education (specifically web-based multi-media strategies for peripheral nerve surgery education).

Faculty — Surgery

Timothy J Eberlein, MD, MA
Bixby Professor of Surgery (General Surgery) (primary appointment)
Head of the Department of Surgery
Director of The Alvin J. Siteman Cancer Center
Professor of Pathology and Immunology
Spencer T. and Ann W. Olin Distinguished Professor
MD University of Pittsburgh 1977
MA Harvard University 1996
BS University of Pittsburgh 1973

Rebecca L Aft, PHD, MD
Professor of Surgery (General Surgery) (primary appointment)
PHD Univ of Wisconsin Madison 1983
BS Univ of Wisconsin Madison 1978
MD Washington Univ in St. Louis 1992

Olaguoke Kelechi Akinwande, MD
Assistant Professor of Radiology (primary appointment)
Assistant Professor of Surgery (General Surgery)
MD Ross University 2009

Dorothy A Andriole
Associate Professor of Surgery (General Surgery) (primary appointment)
Assistant Dean for Student Affairs and Medical Education
BA New York University 1976

Gerald L Andriole, MD
Robert Killian Royce, M.D. Distinguished Professor of Urologic Surgery (primary appointment)
MD Jefferson Medical College 1978
BS Pennsylvania State University 1976

Jeffrey Michael Arbeit, MD
Professor of Surgery (Urologic Surgery) (primary appointment)
Professor of Cell Biology and Physiology
BS Boston University 1972
MD Rush University 1976
Christopher Thomas Arett, MD Assistant Professor of Surgery (Urologic Surgery) (Pending Executive Faculty Approval) (primary appointment)
MD Washington Univ in St. Louis 2003
BS Washington Univ in St. Louis 1999
Kenneth J Arnold, MD Assistant Professor of Clinical Surgery (General Surgery) (primary appointment)
MD Washington Univ in St. Louis 2003
BA University of Notre Dame 1964
Paul F Austin, MD Professor of Surgery (Urologic Surgery) (primary appointment)
BA Murray St University 1987
MD University of Kentucky 1991
Michael Simon Avidan, MBBCH Professor of Anesthesiology (primary appointment)
Professor of Surgery (Cardiothoracic Surgery)
MBBCH University of the Witwatersra 1991
Michael Magdi Awad, PHD, MD Associate Professor of Surgery (General Surgery) (primary appointment)
Associate Dean for Medical Education
PHD Brown University 2001
MD Brown University 2001
BS Brown University 1994
Jeffrey Allen Bailey, MD, M PA Adjunct Assistant Professor of Surgery (General Surgery) (primary appointment)
MD Saint Louis University 1996
M PA Golden Gate University 1986
Parul Bakhshi Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Surgery (Public Health Sciences)
Keki Rohonton Balsara, MD Assistant Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
BS1 University of Pennsylvania 1998
MD University of Pennsylvania 2003
Joaquin Barnoya, MS, MD Associate Professor of Surgery (General Surgery) (primary appointment)
Associate Professor of Medicine
MS Harvard University 2001
MD Universidad de San Carlos 1998
Kenneth J Bennett, MD Associate Professor of Clinical Surgery (General Surgery) (primary appointment)
MD Tulane University 1965
Sam B Bhayani, MD Professor of Surgery (Urologic Surgery) (primary appointment)
BS Cornell University 1992
MD Washington Univ in St. Louis 1996
Lawrence J Billy Instructor in Clinical Surgery (General Surgery) (primary appointment)
BA Youngstown St University 1962
Elisa H Birnbaum, MD Professor of Surgery (General Surgery) (primary appointment)
MD University of Illinois 1985
BS Univ of Wisconsin Madison 1981
Jeffrey Alan Blatnik, MD Assistant Professor of Surgery (General Surgery) (primary appointment)
MD Case Western Reserve Univ 2007

Grant Bochicchio, MD, M PH Professor of Surgery (General Surgery) (primary appointment)
MD Pennsylvania State University 1993
M PH University of Pittsburgh 1989

Walter A Boyle III, MD Professor of Anesthesiology (primary appointment)
Assistant Professor of Developmental Biology
Professor of Surgery (General Surgery)
MD University of CA San Francisco 1977

Keith E Brandt, MD William G. Hamm Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
MD Univ Texas Health Science Ctr 1983
BS Texas A&M University 1979

Anoop k Brar, PHD Instructor in Surgery (Cardiothoracic Surgery) (Pending Dean's Approval) (primary appointment)
PHD University of Edinburgh 1983
BS University of Edinburgh 1979

L. Michael Brunt, MD Professor of Surgery (General Surgery) (primary appointment)
MD Johns Hopkins University Medic 1980
BA University of Mississippi 1976

Donald William Buck, MD Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
BS Indiana University Bloomington 2002
MD Johns Hopkins University 2006

Sara Anne Buckman, MD, PHARMD Assistant Professor of Surgery (General Surgery) (primary appointment)
MD Univ of Wisconsin Madison 2008
PHARMD Univ of Wisconsin Madison 1999

John B Buettner, MD Instructor in Clinical Surgery (General Surgery) (primary appointment)
MD Washington Univ in St. Louis 1967

Arnold D Bullock, MD Professor of Surgery (Urologic Surgery) (primary appointment)

Alan A and Edith L Wolff Distinguished Professor
MD Johns Hopkins University 1987
BS Xavier University Louisana 1983

David Anthony Caplin, MD Instructor in Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)
MD University of Cincinnati 1975
BA Kenyon College 1971

Kenneth R Carson Assistant Professor of Medicine (primary appointment)

Assistant Professor of Surgery (Public Health Sciences)

Ebony Boyce Carter, MS, MD Assistant Professor of Obstetrics and Gynecology (primary appointment)

Assistant Professor of Surgery (Public Health Sciences)

MS University of Michigan 2002
BS Stanford University 2000
MD Duke University 2006

Diego Casali Assistant Professor of Surgery (Cardiothoracic Surgery) (Pending Executive Faculty Approval) (primary appointment)
Su-Hsin Chang, MA Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
MA Mass Inst of Technology (MIT) 2004
BA National Chengchi University 1995
Will C Chapman, MD Eugene M. Bricker Professor of Surgery (General Surgery) (primary appointment)
MD University of South Carolina 1984
BA University of North Carolina 1980
Alexander Chi Chen, MD Associate Professor of Medicine (primary appointment)
Associate Professor of Surgery (Cardiothoracic Surgery)
MD University of MO Kansas City 2001
Heidi Atwell Coco, DOST Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
BS Truman State University 2000
DOST Kirksville College of Osteopat 2005
John E. Codd, MD Professor of Clinical Surgery (Cardiothoracic Surgery) (primary appointment)
BA Gonzaga University 1954
MD Saint Louis University 1963
Graham A Colditz, MBBS, DRPH Niess-Gain Professor of Surgery (General Surgery) (primary appointment)
Professor of Medicine
Deputy Director for the Institute of Public Health
BS University of Queensland 1977
MBBS University of Queensland 1979
DRPH Harvard University 1986
H. Groves Cooke III, MS, DDENT Instructor in Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)
MS George Washington University 1975
BA De Paul University 1967
DDENT Washington Univ in St. Louis 1971
Douglas E Coplen, MD Associate Professor of Surgery (Urologic Surgery) (primary appointment)
BA Wabash College 1981
MD Indiana University Bloomington 1985
James L Cox, MD Evarts A. Graham Professor Emeritus of Surgery (Cardiothoracic Surgery) (primary appointment)
Evarts A. Graham Prof Emer of Surg (Card Surg) (primary appointment)
BS University of Mississippi 1964
MD1 University of Tennessee 1967
MD University of Tennessee 1967
UNKNOWN Duke University 1978
Michael Crittenden Associate Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Brian P. Cupps, PHD Associate Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
PHD Texas A&M University 1994
Amy Cyr, MD Assistant Professor of Surgery (General Surgery) (primary appointment)
BA Creighton University 1997
MD Univ of Nebraska Med Center 2002
Ralph James Damiano Jr, MD Evarts Ambrose Graham Professor of Surgery (Cardiothoracic Surgery)
Michael D Darcy, MD
Professor of Radiology (primary appointment)
Associate Professor of Surgery (General Surgery)
BA Dartmouth College 1976
MD Duke University 1980

Charl Johan De Wet
Associate Professor of Anesthesiology (primary appointment)
Associate Professor of Surgery (Cardiothoracic Surgery)
MD Ohio State University 1979

Michael D Darcy, MD
Professor of Radiology (primary appointment)
Associate Professor of Surgery (General Surgery)

Charl Johan De Wet
Associate Professor of Anesthesiology (primary appointment)
Associate Professor of Surgery (Cardiothoracic Surgery)
MD Ohio State University 1979

Patrick A Dillon
Associate Professor of Surgery (Pediatric Surgery) (primary appointment)

Julianne Elizabeth Donnelly, MD
Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
MD University of Kansas 2009

Maria Bernadette Majella Doyle, MD
Associate Professor of Surgery (General Surgery) (primary appointment)
MD Trinity College Dublin 1996
BS Trinity College Dublin 1990

Bettina Drake, M PH, PHD
Associate Professor of Surgery (Public Health Sciences) (primary appointment)
M PH Univ Texas Health Science Ctr 2003
BS Baylor University 2001
PHD University of South Carolina 2006

Eleanor Lynn Powell Drew, AB
Assistant Professor of Surgery (General Surgery) (primary appointment)
AB Brown University 2005

Joseph W Eades
Assistant Professor of Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)

J. Chris Eagon, MD, MS
Associate Professor of Surgery (General Surgery) (primary appointment)
MD Harvard University 1988
MS University of Utah 1997
BA Williams College 1984

Stephen Ray Eaton, MD
Assistant Professor of Surgery (General Surgery) (primary appointment)
BS1 Southern Illinois University 1997
MS1 Southern Illinois University 2000
MD Ross University 2005

Shaina Rose Eckhouse, MD
Assistant Professor of Surgery (Cardiothoracic Surgery) (Pending Executive Faculty Approval) (primary appointment)
MD Univ Texas Health Sci San Anto 2008

Pirooz Eghtesady, MD, MS, D SC
Professor of Surgery (Cardiothoracic Surgery) (primary appointment)

Professor of Pediatrics
MD University of CA Los Angeles 1993
MS University of CA Los Angeles 1987
BS University of CA Los Angeles 1987
D SC University of CA Los Angeles 1993
Daniel Emmert, MD
Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
MD Saint Louis University 2005

Sean Jason English
Assistant Professor of Surgery (General Surgery) (Pending Executive Faculty Approval) (primary appointment)

Christopher R. Erwin, MS, PHD
Associate Professor of Surgery (Pediatric Surgery) (primary appointment)
MS University of CA Davis 1978
PHD University of Iowa 1983
BS University of CA Davis 1976

John Matthew Felder III
Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (Pending Executive Faculty Approval) (primary appointment)

Ryan Courtney Fields, MD
Assistant Professor of Surgery (General Surgery) (primary appointment)
BS Davenport University 1998
MD Duke University 2003

Robert S Figenshau, MD
Taylor Family and Ralph V. Claman, M.D. Professor of Surgery (Urologic Surgery) (primary appointment)
MD University of Minnesota 1987
BS Macalester College 1981

Timothy Peter Fleming
Professor of Surgery (General Surgery) (primary appointment)

Gretchen Marie Foltz, MD
Assistant Professor of Radiology (primary appointment)

Ida K Fox, MD
Associate Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
BS Haverford College 1994
MD University of Rochester 1999

Bradley D. Freeman, MD
Professor of Surgery (General Surgery) (primary appointment)
MD Duke University 1988
BS University of Central Florida 1984

Anja G. Fuchs, PHD
Assistant Professor of Surgery (General Surgery) (primary appointment)
BS School Not Listed 1994
PHD University of Manchester 2006

Feng Gao, PHD
Associate Professor of Surgery (Public Health Science) (primary appointment)
Associate Professor of Biostatistics
Associate Professor of Medicine
PHD Emory University 2003

Andrew E. Gelman, PHD
Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Professor of Pathology and Immunology
PHD University of Pennsylvania 2006
BS University of CA Los Angeles 1996

Patrick J Geraghty, MD
Professor of Surgery (General Surgery) (primary appointment)
BS Northwestern University 1989
MD Northwestern University 1991

William Ewald Gillanders, MD, MS
Professor of Surgery (General Surgery) (primary appointment)
Vice Chair for Research, Department of Surgery
MD Duke University 1991
Sean C. Glasgow, MD
Assistant Professor of Surgery (General Surgery) (Pending Executive Faculty Approval) (primary appointment)
BS Duke University 1995
MD Duke University 1999
Katherine LuBell Glover-Collins
Assistant Professor of Surgery (General Surgery) (Pending Executive Faculty Approval) (primary appointment)
BS Duke University 1995
MD Duke University 1999
Melody Serene Goodman, MS, PhD
Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
BS Duke University 1995
MD Duke University 1999
PHD Harvard University 2006
Thomas J Graetz, MD
Assistant Professor of Anesthesiology (primary appointment)
BS Duke University 1995
MD Duke University 1999
Robert Lee Grubb III, MD
Associate Professor of Surgery (Urologic Surgery) (primary appointment)
BS Davidson College 1992
Jun Guo, PhD, MS
Assistant Professor of Surgery (Pediatric Surgery) (primary appointment)
BS Duke University 1995
MD Duke University 1999
Michael E Hayek, MS, MD
Instructor in Clinical Surgery (General Surgery) (primary appointment)
BS Saint Louis University 1976
MS Saint Louis University 1978
MD University of Missouri 1982
Mark Francis Heiland
Assistant Professor of Clinical Surgery (General Surgery) (primary appointment)
BS Duke University 1995
MD Duke University 1999
Mohammad Anas Helwani, MD
Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
MD Damascus University 1998

Virginia M Herrmann, MD Professor of Surgery (General Surgery) (primary appointment)

Professor of Medicine
MD Saint Louis University 1974

Elizabeth Hilliker, MA Assistant Professor of Emergency Medicine in Medicine (primary appointment)

Assistant Professor of Surgery (General Surgery)
BA Washington Univ in St. Louis 1965
MA Washington Univ in St. Louis 1970
Richard S Hotchkiss Professor of Anesthesiology (primary appointment)

Professor of Surgery (General Surgery)

Professor of Medicine
Steven R Hunt, MD Associate Professor of Surgery (General Surgery) (primary appointment)
BA Dartmouth College 1992
MD Stanford University 1997

Kareem D. Husain Assistant Professor of Surgery (General Surgery) (primary appointment)
BS University of Notre Dame 1995

Mohsen Ibrahim Instructor in Surgery (Cardiothoracic Surgery) (primary appointment)

Obeid Noor Ilahi, MD Associate Professor of Surgery (General Surgery) (primary appointment)
MD Aga Khan University 1992

Akinobu Itoh Assistant Professor of Surgery (Cardiothoracic Surgery) (primary appointment)

Aimee S. James, PHD, MA, M PH Associate Professor of Surgery (General Surgery) (primary appointment)
PHD University of Houston 1999
MA University of Houston 1998
M PH University of Texas Houston 2000
BA Goucher College 1995

David P. Jaques Professor of Surgery (General Surgery) (primary appointment)

Jeffrey Jim, MS, MD Associate Professor of Surgery (General Surgery) (primary appointment)
BS University of Southern Calif 1996
MS University of Southern Calif 1999
MD University of CA Irvine 2003

Cassandra Johnson, PHD Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
BS1 University of Maryland 1998
PHD Harvard University 2003
MS1 Harvard University 2000

Puja Kachroo, MD, MS Instructor in Surgery (Cardiothoracic Surgery) (primary appointment)
BS Boston University 2001
MD Ross Univ School of Medicine 2007
MS Columbia University 2003

Demetrios Katsikas, MD Instructor in Clinical Surgery (Urological Surgery) (primary appointment)
BS University of Michigan 1985
MD Wayne State University 1989

Martin S Keller, MD Associate Professor of Surgery (Pediatric Surgery) (primary appointment)

Associate Professor of Pediatrics
Andrew M Kim, MS, DDENT Assistant Professor of Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)
Instructor in Clinical Otolaryngology

Seung Kwon Kim Assistant Professor of Radiology (primary appointment)
Assistant Professor of Surgery (General Surgery)

Allison A King, MD Associate Professor of Occupational Therapy (primary appointment)
Associate Professor of Pediatrics
Associate Professor of Pediatrics
Associate Professor of Education (Courtesy)
Associate Professor of Surgery (General Surgery)
Associate Professor of Medicine
Associate Professor of Medicine

Grant Michael Kleiber Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)

Saul Klein Instructor in Clinical Surgery (Urologic Surgery) (primary appointment)

Mary E Klingensmith, MD Professor of Surgery (General Surgery) (primary appointment)
Mary Culver Distinguished Professor
Vice Chairman for Education, Department of Surgery
Sr Associate Dean for Education
Sr Associate Dean for Education

Benjamin D. Kozower, MD Professor of Surgery (Cardiothoracic Surgery) (Pending Executive Faculty Approval) (primary appointment)

David Paul Krajcovic, MD Instructor in Clinical Surgery (General Surgery) (primary appointment)

Daniel Kreisel, MD, PHD Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Professor of Pathology and Immunology

Hing Hung H Lai, MD Associate Professor of Surgery (Urologic Surgery) (primary appointment)
Associate Professor of Anesthesiology

John M Lasala, MD Professor of Medicine (primary appointment)
Professor of Surgery (Cardiothoracic Surgery)
BA Drew University 1975
MD University of Connecticut 1983
Constance Wye Leng Lee, MD Instructor in Surgery (Pediatric Surgery) (primary appointment)
MD University of Virginia 2006
BS University of Virginia 2001
Jerome F Levy Professor Emeritus of Surgery (General Surgery) (primary appointment)
Prof Emeritus of Surgery (General Surg) (primary appointment)
Wenjun Li Assistant Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Yiing Lin, PHD, MD Assistant Professor of Surgery (General Surgery) (primary appointment)
PHD Washington Univ in St. Louis 2005
MD Washington Univ in St. Louis 2005
BS Duke University 1997
Erin Lynn Linnenbringer, PHD Instructor in Surgery (Public Health Sciences) (primary appointment)
BS1 Washington Univ in St. Louis 2000
MS1 Northwestern University 2003
PHD University of Michigan 2014
Ying Liu, MD, PHD Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
MD Southeast U Medical School 1995
PHD Texas Tech University 2006
Rebecca Lobb, PHS Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
PHS Harvard University 2009
Alan M Londe, MD Instructor in Clinical Surgery (General Surgery) (primary appointment)
MD Washington Univ in St. Louis 1961
Stanley L London, MD Associate Professor Emeritus of Clinical Surgery (General Surgery) (primary appointment)
Assoc Prof Emeritus of Clin Surg (Gen Surg) (primary appointment)
MD Washington Univ in St. Louis 1949
Esther Jiaxin Lu, PHD, MS Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
Assistant Professor of Biostatistics
PHD Medical College of Wisconsin 2007
MS National Univ of Singapore 2002
BS Nankai University 1997
Mark A Ludwig, MD Instructor in Clinical Surgery (General Surgery) (primary appointment)
MD University of Chicago 1976
BA Emory University 1972
Jingqin Luo, PHD, MS Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
Assistant Professor of Biostatistics
Assistant Professor of Medicine
PHD Duke University 2006
MS Renmin University of China 2001
MS1 Duke University 2003
BS Renmin University of China 1998
Susan E Mackinnon, MD Sydney M., Jr. and Robert H. Shoenberg Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
Professor of Otolaryngology
Professor of Occupational Therapy
BA Queens College 1971
MD Queen's University 1975
Hersh Maniar, MD Associate Professor of Surgery (Cardiothoracic Surgery) (primary appointment)

Associate Professor of Medicine
MD University of Illinois 1998
BS University of Michigan 1994
Peter Bruce Manning, MD Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
BS Bucknell University 1978
MD University of Michigan 1982
Scott R. Manson, PhD Instructor in Surgery (Urologic Surgery) (primary appointment)
BS University of Illinois 1999
PHD Washington Univ in St. Louis 2007
Julie Ann Margenthaler, MD Professor of Surgery (General Surgery) (primary appointment)
MD Southern Illinois University 1997
BA Boston University 1993
Muhammad Faraz Masood, MD Assistant Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
MD Dow Medical College Karachi 2001
John E. Mazuski, PhD, MD Professor of Surgery (General Surgery) (primary appointment)
PHD University of Minnesota 1993
MD University of CA Los Angeles 1981
Patricia A McGuire, MD Instructor in Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)
MD University of Missouri 1985
Spencer J Melby Assistant Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
BS Brigham Young University 1997
Bryan F Meyers, MD Patrick and Joy Williamson Endowed Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
MD University of Chicago 1986
Jerry R Meyers, MD Assistant Professor of Clinical Surgery (General Surgery) (primary appointment)
MD Washington Univ in St. Louis 1966
BA University of Texas Austin 1962
Kevin Joseph Mitchell Instructor in Clinical Surgery (General Surgery) (primary appointment)
BS Howard University 1981
Jeffrey F Moley, MD Professor of Surgery (General Surgery) (primary appointment)
MD Columbia University 1980
BA Harvard University 1976
Marc R Moon, MD John M Shoenberg Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
BS University of Michigan 1983
MD Wayne State University 1988
Amy M. Moore, MD Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
MD Virginia Comm University 2004
Julian C Mosley, MD Instructor in Clinical Surgery (General Surgery) (primary appointment)
BS Saint Louis University 2000  
MD Washington Univ in St. Louis 1972

**Nabil A Munfakh, MD** Professor of Surgery (Cardiothoracic Surgery) (primary appointment)  
MD University of Michigan 1985  
BS University of Michigan 1981

**Matthew G Mutch, MD** Professor of Surgery (General Surgery) (primary appointment)  
MD Washington Univ in St. Louis 1994  
BA St Olaf College 1990

**Terence M. Myckatyn, MD** Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)  
BS Univ of Northern British Colu 2003  
MD Univ of Northern British Colu 1997

Neal Neuman Instructor in Clinical Surgery (Urologic Surgery) (primary appointment)  
**Thomas E Niesen, MD** Instructor in Clinical Surgery (General Surgery) (primary appointment)  
BS Tulane University 1975  
MD Tulane University 1979

**Richard James Nissen, DDENT, MS** Assistant Professor of Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)  
DDENT University of Iowa 1983  
MS Washington Univ in St. Louis 1985  
BS Iowa State University 1979

Anthony Ian Nunez Instructor in Clinical Surgery (Cardio Surgery) (primary appointment)  
**Nadia Mariana Obeid, MS, MD** Instructor in Surgery (General Surgery) (primary appointment)  
BS University of Michigan 2003  
MS Wayne State University 2005  
MD Wayne State University 2009

**George A Oliver, MD** Assistant Professor Emeritus of Clinical Surgery (General Surgery) (primary appointment)  
Asst Prof Emeritus of Clin Surg (Gen Surg) (primary appointment)  
Asst Prof Emeritus of Clin Surgery (Gen Surg) (primary appointment)  
BA Washington Univ in St. Louis 1948  
MD Washington Univ in St. Louis 1952

**Margaret Olsen, PHD, MPH** Professor of Medicine (primary appointment)  
Professor of Surgery (Public Health Sciences)  
PHD University of Pennsylvanina 1986  
MPH Saint Louis University 2001  
BS Southern Illinois University 1976

**Tiffany Medlin Osborn, M PH, MD** Associate Professor of Surgery (General Surgery) (primary appointment)  
Asso Prof Emeritus of Clin Med (Gen Surg) (primary appointment)  
Asso Prof Emeritus of Clin Surgery (Gen Surg) (primary appointment)  
BA Washington Univ in St. Louis 1948  
MD Washington Univ in St. Louis 1952

**Yikyung Park, PHD** Associate Professor of Surgery (Public Health Sciences) (primary appointment)  
BS Tulane University 1975  
MD Houston Texas Health Sci San Anto 1997

Sharad P Parikh Instructor in Clinical Surgery (General Surgery) (primary appointment)  
UNKNOWN University of Pune 1967  
**Yikyung Park, PHD** Associate Professor of Surgery (Public Health Sciences) (primary appointment)  
MS1 EWHA Womans University 1996  
PHD Harvard University 2005
BS EWHA Womans University 1994
Charles L Parks Instructor in Clinical Surgery (General Surgery) (primary appointment)
BS University of South Dakota 1967
Diana C. Parra Perez, MS, PHD Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Surgery (Prevention and Control)
MS Saint Louis University 2008
PHD Washington Univ in St. Louis 2013
BA Universidad del Rosario 2001
Jeffrey Andrew Parres, MD Instructor in Clinical Surgery (Urologic Surgery) (primary appointment)
MD University of Missouri 1987
Michael K Pasque, MD Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Professor of Radiology
Professor of Biomedical Engineering
MD University of Oklahoma 1978
Kamlesh Babulal Patel, MD Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
MD University of Arizona 2005
BS University of MO Kansas City 2000
G. Alexander Patterson Joseph C Bancroft Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Enrique Pedro Perinetti, PHD, MD Instructor in Clinical Surgery (Urologic Surgery) (primary appointment)
PHD School Not Listed 1975
MD School Not Listed 1969
Orlando Petrucci, MD, PHD, MS Assistant Professor of Surgery (Cardiothoracic Surgery) (Pending Executive Faculty Approval) (primary appointment)
MD University of Campinas 1991
PHD University of Campinas 2004
MS University of Campinas 2001
Daniel D Picus, MD Professor of Radiology (primary appointment)
Professor of Surgery (General Surgery)
Vice Chair for Diagnostic Radiology in Radiology
MD University of Chicago 1981
BS1 University of Illinois 1977
BS University of Illinois 1977
Mary Politi, M PHIL Associate Professor of Surgery (General Surgery) (primary appointment)
M PHIL George Washington University 2004
BS Barnard College 2001
William G Powderly, MD J. William Campbell Professor of Medicine (primary appointment)
Director for the Institute of Public Health
MD National University of Irelan 1979
Laurie Jean Punch Assistant Professor of Surgery (General Surgery) (primary appointment)
Varun Puri, MD, MS Associate Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
MD Washington Univ in St. Louis 2009
MS Creighton University 2007
Raja Ramaswamy Assistant Professor of Radiology (primary appointment)
Assistant Professor of Surgery (General Surgery)
BA Emory University 2004

**Ricardo Rao, MD**  
Instructor in Clinical Surgery (General Surgery) (primary appointment)

MD University of Missouri 1987
BA University of CA San Diego 1983

**Antonella Luisa Rastelli, MD**  
Associate Professor of Medicine (primary appointment)  
Associate Professor of Surgery (General Surgery)

BA University of Verona 1984
MD University of Verona 1991

**Nanette Rahee Reed, MD**  
Assistant Professor of Surgery (General Surgery) (Pending Executive Faculty Approval) (primary appointment)

MD Baylor College of Medicine 2004
BS University of Notre Dame 2000

**Frank O Richards**  
Assistant Professor Emeritus of Clinical Surgery (General Surgery) (primary appointment)

Asst Prof Emeritus of Clin Surg (Gen Surg) (primary appointment)
Asst Prof Emeritus of Clin Surg (Gen Surg) (primary appointment)

BA Talladega College 1944

**Clare H Ridley, MD**  
Assistant Professor of Anesthesiology (primary appointment)  
Assistant Professor of Surgery (Cardiothoracic Surgery)

MD Washington Univ in St. Louis 2008
BA Columbia College of Phy & Surg 2002

**Shale M Rifkin, MD**  
Assistant Professor of Clinical Surgery (General Surgery) (primary appointment)  
Assistant Professor of Surgery (Cardiothoracic Surgery)

MD Washington Univ in St. Louis 1948

**Brian G Rubin, MD**  
Professor of Surgery (General Surgery) (primary appointment)  
Professor of Radiology

MD University of Vermont 1984
BA Colgate University 1979

**Nael E. A. Saad, MBBCH**  
Associate Professor of Radiology (primary appointment)  
Associate Professor of Surgery (General Surgery)

MBBCH Ain Shams University 1998

**Adnan Sadiq, MD**  
Assistant Professor of Anesthesiology (primary appointment)  
Assistant Professor of Surgery (Cardiothoracic Surgery)

MD Royal College of Surgeons 2001
BS State Univ of NY Buffalo 1996

**Jacqueline Mitsouko Saito, MD**  
Assistant Professor of Surgery (Pediatric Surgery) (primary appointment)

BS Harvard Radcliff 1989
MD Columbia University 1993

**Arghavan Salles, MD, PHD**  
Assistant Professor of Surgery (General Surgery) (Pending Executive Faculty Approval) (primary appointment)

MD Stanford University 2006
BA University of Southern Calif 2002
PHD Stanford University 2014

Luis A Sanchez  
Professor of Surgery (General Surgery) (primary appointment)

**Gregorio A. Sicard**  
Distinguished Professor  
Professor of Radiology

**Donald C Sauer, MD**  
Assistant Professor Emeritus of Clinical Surgery (General Surgery) (primary appointment)
Asst Prof Emeritus of Clin Surg (Gen Surg) (primary appointment)
MD Washington Univ in St. Louis 1960
Stefano Schena
Assistant Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Douglas J Schuerer, MD
Professor of Surgery (General Surgery) (primary appointment)
BS Allegheny College 1991
MD University of Pittsburgh 1995
Richard B Schuessler, MS, PHD
Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Associate Professor of Biomedical Engineering
BS University of Missouri 1973
MS University of Missouri 1974
PHD Clemson University 1977
Maryls E Schuh, MD
Instructor in Clinical Surgery (General Surgery) (primary appointment)
BS1 University of North Dakota 1977
BS University of North Dakota 1973
MD Washington Univ in St. Louis 1979
Homayoun Sedighi, DDENT
Assistant Professor of Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)
BA Indiana University Bloomington 1983
DDENT Washington Univ in St. Louis 1987
Debra L Seoane, MD
Instructor in Clinical Surgery (General Surgery) (primary appointment)
MD University of Miami 1986
Courtney Shands III, MD
Instructor in Clinical Surgery (Urologic Surgery) (primary appointment)
MD Vanderbilt University 1982
BA Stanford University 1978
Surendra Shenoy, MD
Professor of Surgery (General Surgery) (primary appointment)
BS Kasturba Medical College 1980
MD Kasturba Medical College 1984
Matthew Leon Silviera, MD
Assistant Professor of Surgery (General Surgery) (primary appointment)
MS1 Temple University 2010
BS Pennsylvania State University 2001
MD Temple University 2005
David Siroospour, MD
Assistant Professor of Clinical Surgery (General Surgery) (primary appointment)
MD School Not Listed 2000
Jason Andrew Snyder
Assistant Professor of Surgery (General Surgery) Pending Executive Faculty Approval (primary appointment)
Alison K Snyder-Warwick, MD
Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
MD Washington Univ in St. Louis 2004
Dirk M Spitzer, PHD
Assistant Professor of Surgery (General Surgery) (primary appointment)
BS School Not Listed 1995
PHD Technische U Braunschweig 1999
Alan Joel Stein, MD
Assistant Professor of Clinical Surgery (Urologic Surgery) (primary appointment)
BS Univ of Wisconsin Madison 1972
MD Wayne State University 1976
Daniel Charles Stoeckel \textbf{Instructor in Clinical Surgery} (primary appointment)

\textbf{Steven M Strasberg, MD}\textbf{Pruett Professor of Surgery (General Surgery)} (primary appointment)
\textbf{Associate Professor of Cell Biology and Physiology}
MD University of Toronto 1963

\textbf{Herbert Sunshine, MD}\textbf{Instructor in Clinical Surgery (Urologic Surgery)} (primary appointment)
BA Washington Univ in St. Louis 1950
MD Washington Univ in St. Louis 1954

\textbf{Siobhan Sutcliffe, MHS, PHD, MS}\textbf{Associate Professor of Surgery (Public Health Sciences)} (primary appointment)
MHS Johns Hopkins University 2001
BS Princeton University 1998
PHD Johns Hopkins University 2005
MS Johns Hopkins University 2004

\textbf{Marissa Morningstar Tenenbaum, MD}\textbf{Assistant Professor of Surgery (Plastic and Reconstructive Surgery)} (primary appointment)
BS Univ of Wisconsin Madison 1998
MD Washington Univ in St. Louis 2002

\textbf{Robert W Thompson, MD}\textbf{Professor of Surgery (General Surgery)} (primary appointment)
\textbf{Professor of Cell Biology and Physiology}
BA Hope College 1979
MD University of Michigan 1983

\textbf{Adetunji Toriola, PHD}\textbf{Assistant Professor of Surgery (General Surgery)} (primary appointment)
PHD University of Tampere 2011

\textbf{Ralph J Torrence, MD}\textbf{Assistant Professor of Surgery (Urologic Surgery)} (primary appointment)
MD Georgetown University 1983

\textbf{Erica J Traxel, MD}\textbf{Assistant Professor of Surgery (Urologic Surgery)} (primary appointment)
BS Texas A&M University 1998
MD Beaufort Technical College 2002

\textbf{Thomas H Tung}\textbf{Professor of Surgery (Plastic and Reconstructive Surgery)} (primary appointment)

\textbf{Isaiah Turnbull, MD, MS}\textbf{Assistant Professor of Surgery (General Surgery)} (primary appointment)
MD Washington Univ in St. Louis 2008
MS Washington Univ in St. Louis 2008
BS University of Oregon 1998

\textbf{Suresh Vedantham, MD}\textbf{Professor of Radiology} (primary appointment)

\textbf{Professor of Surgery (General Surgery)}
BA Northwestern University 1988
MD University of Chicago 1992

\textbf{Ramakrishna Venkatesh, MS}\textbf{Professor of Surgery (Urologic Surgery)} (primary appointment)
MS1 School Not Listed 1991
MS Bangalore University 1991

\textbf{Gino J Vricella, MD}\textbf{Assistant Professor of Surgery (Urologic Surgery)} (primary appointment)
BS Saint Louis University 2012
MD University of MO Columbia 2006

\textbf{Howard S Walker, MD}\textbf{Instructor in Clinical Surgery (Cardiothoracic Surgery)} (primary appointment)
BA Citadel 1971
MD Beaufort Technical College 1974

**Jean S Wang, PHD**

**Associate Professor of Medicine** (primary appointment)

**Associate Professor of Surgery (General Surgery)**

PHD John Hopkins University 2009

Brad W. Warner

**Jessie L. Ternberg, M.D., PhD.**

**Distinguished Professor of Pediatric Surgery in Surgery (Pediatric Surgery)** (primary appointment)

**Professor of Pediatrics**

**Erika Waters, M PH, MS PSYC**

**Associate Professor of Surgery (Public Health Sciences)** (primary appointment)

M PH Johns Hopkns University Medic 2007

MS PSYC Rutgers University 2003

BS Arizona State University 1999

**Leonard B Weinstock**

**Associate Professor of Clinical Medicine** (primary appointment)

**Assistant Professor of Clinical Surgery (General Surgery)**

BA University of Vermont 1977

**Michael D Weiss, MD**

**Assistant Professor of Surgery (General Surgery)** (primary appointment)

MD Ohio College of Podiatric Medi 1981

BS1 Ohio State University 1977

**Jason R Wellen**

**Assistant Professor of Surgery (General Surgery)** (primary appointment)

BS Emory University 1998

**Brad C White, MD**

**Instructor in Clinical Surgery (Urologic Surgery)** (primary appointment)

BS Illinois State University 1986

MD Loyola University Chicago 1993

Bruce I White

**Instructor in Clinical Surgery (Plastic and Reconstructive Surgery)** (primary appointment)

**Anke Christiane Winter, MD, MS**

**Assistant Professor of Surgery (Public Health Sciences)** (primary appointment)

**Assistant Professor of Anesthesiology**

MD RWTH Aachen University, 2006

MS Harvard University 2010

**Paul Edward Wise, MD**

**Associate Professor of Surgery (General Surgery)** (primary appointment)

BS Georgetown University 1992

MD John Hopkins University 1996

**Matthew D Wood, MS, PHD**

**Assistant Professor of Surgery (Plastic and Reconstructive Surgery)** (primary appointment)

MS Washington Univ in St. Louis 2008

BS Saint Louis University 2005

BS Washington Univ in St. Louis 2009

PHD Washington Univ in St. Louis 2009

**Yan Yan, MHS, MD**

**Professor of Surgery (Public Health Sciences)** (primary appointment)

**Professor of Biostatistics**

MHS Johns Hopkins University 1995

MD Nanjing Medical University 1983

**William D Yates, MD**

**Instructor in Clinical Surgery (General Surgery)** (primary appointment)

MD Northwestern University 1985

BA Northwestern University 1983

**Robert A Young, MD, MS, JD**

**Instructor in Clinical Surgery (Plastic and Reconstructive Surgery)** (primary appointment)
MD Ohio State University 1978
MS Ohio State University 1975
BA University of Michigan 1973
JD Saint Louis University 1997

Alan Zajarias, MD Associate Professor of Medicine (primary appointment)
Associate Professor of Surgery (Cardiothoracic Surgery)
MD National Autonomous U of Mex 2000

Mohamed A Zayed, PHD, MD Assistant Professor of Surgery (General Surgery) (primary appointment)
BS University North Carolina 2002
PHD University of North Carolina 2007
MD University of North Carolina 2009

Darryl Adam Zuckerman, MD Assistant Professor of Radiology (primary appointment)
Assistant Professor of Surgery (General Surgery)
MD State Univ of NY Syracuse 1983
BA New York University 1979
No entries found

Policies

The information provided here is intended to assist university students, faculty and staff in locating university policies related to the educational mission. These policies, procedures and guidelines exist to assist Washington University students, faculty and administrators in doing the business of Washington University in St. Louis in ways that are effective, consistent and compliant and to provide a safe, effective and supportive environment in which to learn, teach and work.

Washington University Policies

Organized here are the university-wide policies, procedures and guidelines available to
assist School of Medicine students, faculty, staff and administrators in doing the business of Washington University in St. Louis in ways that are effective, consistent and compliant. Additional university-wide policies are available on the Washington University website.

Non-Discrimination Statement

Washington University encourages and gives full consideration to all applicants for admission, financial aid, and employment. The University does not discriminate in access to, or treatment or employment in, its programs and activities on the basis of race, color, age, religion, sex, sexual orientation, gender identity or expression, national origin, veteran status, disability or genetic information. Inquiries about compliance should be addressed to the University's Vice Chancellor for Human Resources, Washington University, Campus Box 1184, One Brookings Drive, St. Louis, MO 63130. The School of Medicine is committed to recruiting, enrolling and educating a diverse student body.

Sexual Harassment Policy

Washington University’s Sexual Harassment Policy is available on the Human Resources website.
Drug and Alcohol Policy

Washington University’s Drug and Alcohol Policy is available on the Human Resources Website.

Discriminatory Harassment Policy

Washington University’s Discriminatory Harassment Policy is available on the Human Resources website.

HIPAA Policies


Computer Use Policy
Washington University’s Computer Use Policy is available in the Compliance and Policies section of the university’s website.

### Academic Integrity Policy for Graduate Students

The Academic Integrity Policy for Graduate Students Policy is available on the Graduate School of Arts & Sciences website.

### Disability Resource Center

Learn about disability resources at Washington University on the Cornerstone Center for Advanced Learning website.

### Policy Governing Alcohol Service at Events Sponsored by Graduate Student Organizations
Policy on Alcohol Service at Graduate Student Events is available on the Professional and Graduate Student Coordinating Committee website.

Policy on Consensual Faculty-Student Relationships

The Policy on Consensual Faculty-Student Relationships is available on the Compliance and Policies section of the Washington University website.

University Judicial Code

The University Judicial Code is available in the Policies section of the Washington University website.

Washington University School of Medicine Policies

Washington University School of Medicine is committed to providing a safe,
professional and supportive environment in which to learn. The policies organized here pertain to professionalism, appropriate conduct and student rights. They exist to protect students and employees as they conduct their daily responsibilities.

Policies Related to Professionalism and Conduct

Research Integrity Policy

Policy Against Abusive Conduct

Guidelines for Professional Conduct in Teacher/Learner Relationships and Policy Against Medical Student Mistreatment

Tobacco-Free Policy

Research Integrity Policy

Allegations of breach of research integrity policy are the primary responsibility of the Research Integrity Committee of the School of Medicine. Complaints regarding students enrolled for the M.D. degree will be directed promptly to that committee. The
Research Integrity Committee will promptly investigate the charges and report its conclusions and recommendations to the Dean, who will refer the issue to CAPES as a breach of professional integrity if further action is warranted.

For further information, visit the Research Integrity Policy posted on the Washington University website.

Policy Against Abusive Conduct

<< Back to Policies Related to Professionalism and Conduct

Please visit the Human Resources website for the Policy Against Abusive Conduct.

Guidelines for Professional Conduct in Teacher/Learner Relationships and Policy Against Medical Student Mistreatment

<< Back to Policies Related to Professionalism and Conduct

Washington University School of Medicine Guidelines for Professional Conduct in Teacher/Learner Relationships and Policy against Medical Student Mistreatment.
I. Preamble

The goal of the Washington University Medical Center is to provide patient care, medical education, and biomedical research of the highest quality. Accomplishing this goal depends in part on an atmosphere of mutual respect and collegiality among all those who work and study here. The current document focuses on the special issues presented by the teacher/learner relationship, and applies to all years of the medical school curriculum.

II. The Teacher and Learner Relationship

Effective learning is possible only in an environment where students can trust their teachers to treat them fairly and with respect. For purposes of this policy, a teacher shall be defined as any person subject to School of Medicine policies, such as a member of the School of Medicine faculty, to whom a student is assigned during a course or clinical rotation. A teacher may also be defined as an attending physician, fellow, resident, research mentor, student, nurse or other person charged with supervising the education of a student.

One manner in which the teacher/learner relationship is unique is that students may be vulnerable, depending on many of their teachers for evaluations and recommendations. In addition, medical education includes mastering not just pathophysiology but also the essentials of professional behavior, as set forth in our Guiding Principles of Professionalism.

We also recognize that students learn professional behavior primarily by observing the actions of their teacher role models. Unprofessional, offensive, disrespectful or abusive behavior by teachers is antithetical to standards of professional conduct that medical students are expected to master. These behaviors by teachers may also be self-perpetuating, as students come to believe that such behavior is appropriate when they assume the role of teacher. As we strive to create an environment of mutual respect, all faculty, staff and students are expected to abide by the Policy Against Abusive Conduct.
Behaving in ways that embody the ideal student-teacher relationship fosters respectful behavior, minimizes the likelihood of student mistreatment, and optimizes the educational experience for students. The following practices are examples of ways in which teachers and learners can encourage a positive learning environment conducive to the exchange of ideas among all who participate in the learning process:

A. Teachers

- Be prepared and on time.
- Provide learners with most current materials.
- Treat students fairly, respectfully, and without bias related to their race, color, age, religion, sex, sexual orientation, gender identity or expression, national origin, veteran status, disability or genetic information.
- Give students timely, constructive and accurate feedback.
- Distinguish between the Socratic method, where insightful questions are a stimulus to learning and discovery, and over-aggressive questioning, where detailed questions are repeatedly presented with the endpoint of embarrassment or humiliation of the student.

B. Learners

- Treat teachers, peers, patients and members of the health care team fairly, respectfully, and without bias related to their race, color, age, religion, sex, sexual orientation, gender identity or expression, national origin, veteran status, disability or genetic information.
- Treat fellow students as colleagues, not competitors.
- Take responsibility for maximizing your educational experience by addressing conflicts and discomforts which may impede your learning.
- Be an enthusiastic learner.
- Be trustworthy and honest.
- Be prepared and punctual
- Know your limitations and ask for help when needed.
- Put the patients welfare first and ahead of your educational needs
- Know and understand your patients’ medical history, diagnoses, treatment and status.
- Take the initiative to educate yourself about your patients’ illness.
- Be compassionate.
- Respect patients’ privacy.

III. Student Mistreatment

The School of Medicine prohibits behavior that is abusive or which mistreats students or others in the learning environment. We take issues of mistreatment seriously and aspire to a culture of zero tolerance for instances of abuse, mistreatment, and disrespect. WUSM is committed to maintaining an environment free from discrimination, harassment of any type, and abuses of authority. The Association of American Medical Colleges (AAMC) has defined Mistreatment in previous Graduation Questionnaires as follows: Mistreatment arises when behavior shows disrespect for the dignity of others and unreasonably interferes with the learning process. It can take the form of physical punishment, sexual harassment, psychological cruelty, and discrimination based on race, religion, ethnicity, sex, age or sexual orientation. The behaviors listed below are provided as examples of mistreatment and offensive behavior by the AAMC. However, we recognize that there are nuances to interpersonal interactions. Students who feel they may have been subjected to mistreatment are encouraged to follow the procedures outlined in Section IV of this policy. The goal of this process is to provide the best learning environment possible.

Examples of Potential Mistreatment

- Public humiliation
- Threats of physical harm
- Physical harm (e.g., hit, slapped, kicked)
- Requirements to perform personal services (e.g., shopping, babysitting)
- Offensive sexist remarks/names
- Denial of opportunities for training or rewards based solely on gender, race, sexual orientation or ethnicity
- Lower evaluations or grades because of gender, race, sexual orientation or ethnicity rather than performance
- Unwanted sexual advances
- Being asked to exchange sexual favors for grades or other rewards
- Racially or ethnically offensive remarks/names
- Offensive remarks/names related to sexual orientation

**IV. Steps for Reporting Student Mistreatment**

The University takes allegations of student mistreatment by faculty, residents, staff or other students very seriously and strongly encourages its faculty, staff, and students who are witness to such conduct to report it immediately, without fear of retaliation, to any of the following three deans: the Senior Associate Dean for Education, the Associate Dean for Student Affairs, or the Associate Dean for Medical Student Education. These individuals will offer guidance and support to the student and discuss informal and formal options to resolve the matter, which are described below. (See section VI. Additional Resources).

Students may also consult with the Student Ombudsperson as a confidential resource. The Student Ombudsperson can provide guidance as well as mediation, directly or indirectly, between the student and the offender.

Students may also choose to report student mistreatment via a link on the Canvas learning management system student commons homepage or via the Oasis
curriculum management system. The end of clerkship and elective surveys have questions regarding mistreatment where incidents can be reported in real time. These reports are confidential. The Office of Medical Student Affairs will receive all reports and will follow up with the reporting individual, if identified, to offer guidance, support and options for resolution to the student. If sufficient information is provided, the report will be passed on to the clerkship director and department chair after student evaluations are finalized for the course or clerkship in which the event occurred. Reports will be reviewed quarterly by a Learning Climate Committee. This committee will be chaired by the Associate Dean of Student affairs and will consist of a medical student, advisory dean or deans, the director of GME (or designee), a hospital staff member, and the student ombudsperson. Aggregate reports will generally be forwarded to department chairs quarterly for monitoring purposes.

Confidentiality and Anonymous Reporting:

The University will strive to protect, to the greatest extent possible, the confidentiality of persons reporting mistreatment and of those accused of mistreatment. Because the University may have certain legal obligations, e.g. in response to allegations of sexual harassment, the University cannot guarantee complete confidentiality where it would conflict with the University’s obligation to investigate meaningfully or, where warranted, take corrective action. Even when some disclosure of the University’s information or sources is necessary, it will be limited to the extent possible. The University will keep confidential all records of complaints, responses and investigations, to the extent permitted by law.

If the student is not comfortable reporting to one of the individuals identified above, the student may choose an intermediary that can then directly communicate the incident with these individuals while maintaining anonymity. Students may also submit anonymous reports via the Oasis curriculum management system in real time or when filling out course evaluations. Anonymous reports will be shared with the clerkship director and department chair.

If a student insists on confidentiality or anonymity, the University may be limited in
its ability to respond and take action with respect to the report.

_Bias Report and Support System (BRSS)_

In addition, Washington University developed a system through which students, faculty, staff and community members who have experienced or witnessed what they perceive as incidents of bias, prejudice or discrimination involving a student can report their experiences to the university's Bias Report and Support System (BRSS) team. If, for any reason, students want to provide identifying information when filing a report, they have the option to fill out the **BRSS form** anonymously online by selecting the “For Information Only” option. Please note that a brief description of the incident will be included in the quarterly summary report. If an individual submitting a report selects the “For Support and Referral” option, a member of the BRSS team will meet with the individual and refer that person to the appropriate university policy and administrator. _Note that these non-anonymous BRSS reports on the WUSM campus are sent to the Assistant Provost, who assists WUSM students in navigating their programs and connects them with the relevant policies and contacts within those programs._

V. Informal and Formal Options for Possible Resolution

**Informal Options**

If you feel comfortable dealing with the situation without assistance, you can communicate either orally or in writing with the person whose behavior is offensive. The most useful communication will have three parts:

1. A factual description of the incident(s) including date, time, place and specific action.

2. A description of the writer’s feelings, including any consequences of the incident.

3. A request that the conduct cease.

Frequently, such a communication will cause the offensive behavior to stop,
particularly when the person may not be aware that the conduct is offensive.

If you would like to proceed informally, but with the assistance of someone else, you may:

1. Ask the person’s supervisor, e.g., department chair, dean, director, housing office representative, academic advisor, or a trained WUSM faculty member to speak to the person whose behavior was offensive. The purpose of such conversations is the cessation of offensive behavior. You should note that these individuals may be obligated to report the incident or conduct you disclose to the University for further investigation and action.

2. Consult with one of the Advisors listed in Additional Resources who are specifically charged with responding to mistreatment inquiries and complaints. These individuals are thoroughly familiar with WUSM’s mistreatment policy and are available to consult with victims, those accused of engaging in mistreatment, witnesses and supervisors of parties to a complaint. They can provide information about informal actions that might remedy the situation and discuss University policies and procedures for resolving complaints.

3. Ask the Advisor to mediate or arrange for mediation. Mediation is discussion and negotiation, with the help of a third party, designed to permit the parties to reach a mutually agreeable resolution of a dispute. If a person complaining of mistreatment seeks mediation, the person accused of mistreatment agrees, and the Advisor concludes that the mediation would be consistent with the University’s legal obligations in responding to and preventing discrimination or discriminatory harassment, then the Advisor may mediate or arrange for mediation.

Formal Options

Should informal resolution be unsuccessful or inappropriate under the particular circumstances alleged, the student will be referred to the applicable University policies and procedures for filing a formal complaint. The University will initiate an
investigation into the allegations under the appropriate policy and take disciplinary action as contemplated by the applicable procedures. For example, if a student asserts that a faculty member has engaged in mistreatment in the form of sexual harassment, the University’s Sexual Harassment Policy would be followed.

VI. Education

The School of Medicine will provide ongoing education to promote a respectful and positive learning environment. The purpose of this education will be to provide definitions and standards for an optimal learning environment, to inform students and educators of policies and processes for reporting offensive behavior and learner mistreatment. This educational information will be provided by the Learning Climate Committee. The policy will be posted in the Bulletin, clerkship and course master handbooks and will be reviewed with students at orientations. In addition, educational sessions may be provided at departmental and division meetings, resident sessions, staff meetings and curriculum committee meetings.

VII. Additional Resources

List of Advisors

Tessa Madden, MD, MPH

Evan Schwarz, M.D.

Yumi Turmelle, MD, MPH

Senior Associate Dean for Education

Associate Dean for Medical Student Education

Associate Dean for Student Affairs

Student Ombudsperson (Confidential Advisor)
Related Policies

Washington University Discrimination and Discriminatory Harassment Policy

Washington University Sexual Assault Policy

Washington University Sexual Harassment Policy

Washington University School of Medicine Abusive Conduct Policy

WUSTL/Diversity Bias Report Form

Assessing Academic Achievement and Professionalism (MD Program)

Tobacco-Free Policy

<< Back to Policies Related to Professionalism and Conduct

Please visit the Healthy Living website for the Tobacco-Free Policy.

Policies Related to Student Rights, Procedures and Services

Students with Disabilities Policy
It is the goal of Washington University to assist students with disabilities in removing the barriers their disabilities may pose and provide support in facing the challenge of pursuing an education at Washington University.

Washington University recognizes and accepts its professional, legal and moral responsibility to avoid discrimination in the acceptance and education of qualified students with disabilities and to provide reasonable accommodations to such students consistent with the principles embodied in the law. These guidelines apply to students seeking admittance as well as to those who become disabled while they are enrolled. Washington University makes every effort to insure that all qualified applicants and students can participate in and take full advantage of all programs and opportunities offered within the University. Washington University encourages and gives full consideration to all applicants for admission. Washington University does not discriminate in access to its programs and activities on the basis of age, sex, sexual orientation, race, disability, religion, color, or national origin.

All students in educational programs at the School of Medicine, those seeking
admittance, as well as those who become disabled while they are enrolled, must possess those intellectual, ethical, physical, and emotional capabilities required to undertake the full curriculum and to achieve the levels of competence required by the faculty and the profession. In this regard, we will be guided by the principles outlined below.

A. Responsibilities of the student

1. Disclosure of disability
   It is the responsibility of a student who has a disability to disclose it and request accommodation from the Dean for Student Affairs or Program Director. The School encourages students with disabilities to identify themselves as early as possible in order to optimize the mobilization of resources and available accommodations.

2. Diagnosis of disability
   Students who are in academic difficulty that might be a consequence of a disability are encouraged to avail themselves of diagnostic services that may lead to accommodations. Furthermore, such students are encouraged to explore with the administration of their academic unit the possibility of a disability if the inquiry is relevant to educational performance and there is evidence of educational performance problems.

3. Documentation of disability and request for accommodation
   The disability, its functional impact and requested accommodation(s) must be documented. If the student discloses a disability and requests accommodation, the School requires documentation of the disability from a qualified professional. The student is financially responsible, unless there are extraordinary and compelling circumstances, for the costs related to the documentation by an appropriately educated and trained professional. The information provided by the professional must be factual, objective and technically valid, and must establish clearly that the disability substantially limits one or more of the student’s major life activities. The professional(s) who evaluate the student should identify options for management of the disability. Based on this
information, the affected student then should request in writing the accommodations which he or she requests be made. The Dean for Student Affairs or Program Director and the student should work together to arrive at reasonable accommodations. The School may also require a second expert opinion for which the School may be financially responsible under extraordinary and compelling circumstances. The School reserves the right to request as much detailed information from the student and/or the professional(s) as is necessary to assess the scope of the disability and/or the reasonable accommodations.

B. Responsibilities of the school

1. **Review of requests for accommodation**

   Requests for accommodations will usually be reviewed by the Dean for Student Affairs or Program Director. An ad hoc assessment team may be convened which may include the Dean for Student Affairs, the educational Program Director (or curriculum supervisor), selected members of the Disabilities Oversight Committee (See Section B.5 below) and other consultants as appropriate to the individual circumstances. The assessment team usually should include: (1) individuals who understand the curriculum in question; (2) a person who is knowledgeable about the Americans with Disabilities Act; (3) a person with authority to authorize accommodations and cause them to be implemented.

2. **Responsibilities for accommodation**

   The School of Medicine is responsible for the costs incurred in making accommodations which are not unduly burdensome or unreasonable. Accommodations may include but may not be limited to academic modifications which do not fundamentally alter the nature of the program, auxiliary services, modifications of the circumstances and methods of qualification examinations, classroom modifications and others. The School's responsibility to accommodate ends when a student with a disability: (1) refuses reasonable accommodations; (2) is unable, with reasonable accommodations, to fulfill the essential requirements of the program; (3) fulfills the essential requirements and graduates; or (4) transfers to another institution. The School is not required to
provide an accommodation which fundamentally alters the nature of the program, is unduly burdensome or is unreasonable.

3. Confidentiality
Information pertaining to a student’s disability and accommodations will be maintained in a file that is kept confidential and separate from the student’s academic record. Appropriate faculty, staff and administrators may be informed regarding the disability, limitations, restrictions, and accommodations when they have a need to know such information.

4. Application of the CAPES policies
The policies and procedures of the School regarding promotion and retention are contained in the CAPES Policies for each academic unit. These policies and procedures govern the relationship between the School and all students, including those with disabilities. The School is not obligated to retain a student with a disability who poses a significant threat to the health or safety of others when there is no reasonable accommodation that either eliminates or sufficiently reduces that risk.

5. Disabilities Oversight Committee
There shall exist a standing Disabilities Oversight Committee composed of members designated by the Dean of the School of Medicine. The committee shall have the following responsibilities: periodic review of requests for accommodations and accommodations granted, provide recommendations regarding accommodations for disabilities, to serve as requested on disability appeals committee. This group serves as a resource regarding issues of significance to the institution and to students with disabilities.

C. Appeals
A student with a disability who believes that a request for accommodation has been improperly denied or who perceives that he or she has been discriminated against on the basis of a disability should direct his or her appeal to the Dean of the School of Medicine. As needed, the Dean of the School of Medicine may assemble an advisory group to review appeals and make recommendations. This group may include, but
Policy on Student Rights Under Family Educational Rights and Privacy Act (FERPA)

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. They are:

1. **The right to inspect and review the student’s education records within 45 days of the day the University receives a request for access.** Students should submit to the registrar, dean, head of the academic department or other appropriate official, written requests that identify the record(s) they wish to inspect. The University official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the University official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.

2. **The right to request the amendment of the student’s education records that the student believes are inaccurate or misleading.** Students may ask the University to amend a record that they believe is inaccurate or misleading. They should write the University official responsible for the record, clearly identify the part of the record they want changed, and specify why it is inaccurate or
misleading. If the University decides not to amend the record as requested by the student, the University will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

3. The right to consent to disclosures of personally identifiable information contained in the student’s education records, except to the extent that FERPA authorizes disclosure without consent. One exception which permits disclosure without consent is disclosure to school officials with legitimate educational interests. A school official is a person employed by the University in an administrative, supervisory, academic, research, or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the University has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks. A school official has a legitimate educational interest if that official needs to review an education record in order to fulfill his or her professional responsibility. Upon request, the University discloses education records without consent to officials of another school in which a student seeks or intends to enroll.

4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by the University to comply with the requirements of FERPA.

The name and address of the Office that administers FERPA is:

Family Policy Compliance Office
U.S. Department of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202-4605
Student Academic Records and Transcripts

The Family Educational Rights and Privacy Act of 1974 (FERPA) provides current and former students of the University with specific rights of access to and control over their student record information. In compliance with the statute, appropriate federal regulations, and guidelines recommended by the American Association of Collegiate Registrars and Admission Officers (AACRAO), the University has adopted procedures that implement these rights.

A copy of the University policies regarding educational records and the release of student record information may be obtained online.

Transcript requests may be made in person or by writing to the Registrar's Office. The written request must include your name, signature, date of birth and approximate dates of attendance. Either fax to (314) 362-4658 or a scanned request with signature can be sent via email to wusmregistrar@wustl.edu. Note: The School of Medicine does not presently charge for transcripts.

Bloodborne Pathogens Policy

In 1992, the Executive Faculty of the School of Medicine formally adopted a Medical
Campus policy on Human Immunodeficiency Virus (HIV) and Hepatitis B Virus (HBV) infections. This policy was updated in 2001 to include Hepatitis C Virus (HCV) infections. The purpose of the policy is to provide guidelines to prevent or reduce the transmission of these infectious agents between patients and health care workers (HCWs). It is an ethical and moral obligation for the student/employees to report BBP infections.

The policy deals with 1) the University’s responsibilities to infected patients (including obligation to treat, confidentiality and appropriate serologic testing), 2) appropriate health and safety precautions and procedures for faculty, students and staff (including compliance with CDC guidelines, blood and body fluid precautions and handling of needles or sharp instruments), and 3) the University’s responsibilities to faculty, staff, or students who are infected with HIV, HBV, or HCV infection – including admission to medical school, participation in clinical rotations, serologic testing confidentiality and medical treatment.

The policy makes a distinction between Category I activities – those involving no risk of transmission from infected HCWs to patients, such as routine history/physical examinations, minor surface suturing, elective phlebotomy; and Category II – procedures for which bloodborne virus transmission is theoretically possible but unlikely such as minor local procedures, central venous lines, other specialty procedures; and Category III – procedures for which there is definite risk of bloodborne virus transmission such as General Surgery, CT surgery, Neurosurgery, etc. and non-elective procedures performed in the Emergency Department.

In 2012 a committee was formed including representation from Administration, Legal – Risk Management, Infectious Disease, Occupational Health, and the Director of Student Health. The SHS Director meets with the infected student and discusses the need for restricted activities and proper follow-up.
When a student is enrolled in the curriculum of the MD program, the following policy applies regarding standards for Satisfactory Academic Performance (SAP).

NOTE (for Non-MD students): Students enrolled in other School of Medicine degree programs should refer to the policies of their primary program (Applied Health Behavior Research, Audiology and Communication Sciences, Biostatistics, Clinical Investigation, Genetic Epidemiology, Occupational Therapy, Physical Therapy, and Population Health Sciences) or through the links in the Admission section.

Federal law and regulations require that all students receiving financial assistance from Federal Title IV funds maintain Satisfactory Academic Progress (SAP). This policy presents the standards adopted by the Washington University School of Medicine and applies to all MD students.

Annually, at the end of each spring term, the School of Medicine at Washington University in St. Louis evaluates SAP. If a student is not maintaining progress, they will be notified by the Committee on Academic and Professional Evaluation of Students (CAPES) and the Director of Financial Aid and will be ineligible, or ‘suspended’, for federal aid for future terms unless you appeal your status and it is approved by CAPES and the Director of Financial Aid.
In order to be compliant in maintaining SAP, and thus eligible for financial aid, students must be satisfactorily progressing toward their academic objectives. Federal regulations require the following measurements for determining SAP: time frame and quantitative/qualitative requirements.

**Time frame requirement:**

The Maximum Time Frame of full-time enrollment for completion of each program is as follows:

- Four-year MD program: 6 years
- Five-year MD program: 7.5 years
- MA/MD program: 7.5 years (or nine years if a two-year MA is pursued)

Periods of non-enrollment are NOT counted in the measurement of satisfactory academic progress but all periods of attendance, regardless of whether or not the student received Title IV aid, are counted.

This policy is applied in the context of each individual student’s enrollment status in order to accommodate the student who does not enroll on a full-time basis. For example, if a student enrolls in a four-year program, the full-time student would meet the 150 percent maximum rule (as per Title IV guidelines) after six years of full-time enrollment, and the half-time student is expected to complete in twelve years. If a student vacillates between full-time and half-time enrollment, that student would have a maximum time frame between six and 12 years, and the maximum time frame for that student would be continuously adjusted.

If a student reaches a point where they cannot complete their program within the 150% maximum, the student becomes ineligible for aid.

**Quantitative/qualitative requirement:**

Academic requirements for the MD degree include the satisfactory completion of the
curriculum designated by the faculty. The progress of each student working toward an MD degree is monitored carefully by the Committee on Academic and Professional Evaluation of Students (CAPES). Refer to the Assessing Academic Achievement section in the Bulletin under ‘Policies’ for more information.

A student failing to meet the standards of satisfactory progress as determined by CAPES shall be placed on financial aid suspension. The student will be eligible for aid when they achieve SAP or the student may appeal. Students who choose to appeal must state the reasons for failing to meet SAP (e.g. injury/illness of the student, death in the family or other special circumstance) and what has changed in the student’s situation so that he or she can now make SAP. If the student successfully appeals, the student will be placed on financial aid probation and may receive financial assistance for one semester. At the conclusion of this period, the student must have achieved compliance with each standard or be progressing per their individual academic plan to receive additional aid. A student who does not achieve compliance with each standard by the conclusion of the probationary period is suspended from financial aid eligibility.

The Office of Student Financial Aid must notify a student of implementation of probationary status and/or suspension.

The Director of Student Financial Aid shall have primary responsibility for enforcement of this policy. The Office of Student Financial Aid shall ascertain at the time of each disbursement of funds and prior to certification of a financial aid application that the student is in compliance with the policy.

Standards for Satisfactory Academic Progress for Financial Aid Eligibility: MD
Students

When a student is enrolled in the curriculum of the MD program, the following policy applies. Students enrolled in other School of Medicine degree programs should refer to the policies of their primary program through the links to the left.

Federal law and regulations require that all students receiving financial assistance from Federal Title IV funds maintain satisfactory academic progress (SAP). This policy presents the standards adopted by the Washington University School of Medicine and applies to all MD students.

The School of Medicine at Washington University in St. Louis evaluates SAP annually, at the end of each spring term. If you are not maintaining progress, you will be notified by the Committee on Academic and Professional Evaluation of Students (CAPES) and the Director of Financial Aid and will be ineligible, or ‘suspended’, for federal aid for future terms unless you appeal your status and it is approved by CAPES and the Director of Financial Aid.

In order to be considered to be maintaining SAP, and thus eligible for financial aid, students must be satisfactorily progressing toward their academic objectives. Federal regulations require three measurements for determining SAP; qualitative, quantitative and timeframe.

The Maximum Time Frame of full-time enrollment for completion of each program is as follows:

- Four-year MD program: 6 years
- Five-year MD program: 7.5 years
- MA/MD program: 7.5 years (or nine years if a two-year MA is pursued)

Periods of non-enrollment are NOT counted in the measurement of satisfactory academic progress but all periods of attendance, regardless of whether the student
received Title IV aid, are counted.

This policy is applied in the context of each individual student's enrollment status in order to accommodate the student who does not enroll on a full-time basis. For example, if a student enrolls in a four-year program, the full-time student would meet the 150 percent maximum after six years of full-time enrollment, and the half-time student is expected to complete in twelve years. If a student vacillates between full-time and half-time enrollment, that student would have a maximum time frame between six and 12 years, and the maximum time frame for that student would be continuously adjusted.

If you reach a point where you cannot complete your program within the 150% maximum, students become ineligible for aid.

**Quantitative/qualitative requirement:**

Academic requirements for the MD degree include the satisfactory completion of the curriculum designated by the faculty. The progress of each student working toward an MD degree is monitored carefully by the Committee on Academic Evaluation of Students (CAES). Refer to the Assessing Academic Achievement section in the Bulletin under ‘Policies’ for more information.

A student failing to meet the standards of progress as determined by CAPES shall be placed on financial aid suspension. The student will be eligible for aid when they achieve SAP or the student may appeal. Students who choose to appeal must state the reasons for failing to meet SAP (e.g. injury/illness of the student, death in the family or other special circumstance) and what has changed in the student’s situation so that he or she can now make SAP. If the student successfully appeals, the student will be placed on financial aid probation and may receive financial assistance for one semester. At the conclusion of this period, the student must have achieved compliance with each standard or be progressing per their individual academic plan to receive additional aid. A student who does not achieve compliance with each standard by the conclusion of the probationary period is suspended from financial aid eligibility.
The Office of Student Financial Aid must notify a student of implementation of probationary status and/or suspension.

The Director of Student Financial Aid shall have primary responsibility for enforcement of this policy. The Office of Student Financial Aid shall ascertain at the time of each disbursement of funds and prior to certification of a financial aid application that the student is in compliance with the policy.

Other Policies — School of Medicine

Needle Stick/Human Blood and Body Fluid Exposure Policy

Pharmaceutical and Medical Device Industry Policy

Student Constitution and Bylaws

Needle Stick/Human Blood and Body Fluid Exposure Policy

<< Back to Other Policies

All exposures to human blood and body fluids will be reported immediately to the Health Service. The Health Service maintains a 24 hour reporting system. During
working hours, 8 a.m. – 4 p.m., the office can be reached at 362-3523 or 362-3528. After hours the Health Service can be contacted through a digital beeper at 871-2966.

Procedure

Cleanse wound immediately with soap and water. If a mucous membrane has been exposed, rinse with copious amounts of water.

1. Identify the source of exposure.
2. Call the Health Service for further instructions. Source patient will be evaluated for HIV, Hepatitis B and Hepatitis C. The responsibility of acquiring patient consent for testing will be the responsibility of the physician in charge of the case. The employee will notify the physician. All source patient charges will be the responsibility of the Health Service.
3. Complete the Injury/Exposure Report form
4. Employees and students will report to the Health Service for follow-up. Individuals will be evaluated for:
   1. HIV or Serum Sample Save
   2. Hepatitis B Vaccination
   3. HbsAB (+test in past eliminates further testing)
   4. HCV
   5. Td
   6. PEP Prophylaxis

Human blood and body fluid exposures

Procedure

1. Clean area with soap and water.
2. Call Employee Health (362-3528) or Student Health (362-3523) or after hours call the Digital Beeper (871-2966).

3. Keep source or patient available for HIV, HbsAg, and HCV testing.

4. Follow the instruction given by the Health Service. Complete an incident report.

Always wear Personal Protective Equipment (PPE)!

Pharmaceutical and Medical Device Industry Policy

<< Back to Other Policies

For the Pharmaceutical and Medical Device Industry Policy, please visit the Faculty Practice Plan website.

Student Constitution and Bylaws

MD Program Policies
Provided here are policies related to students in the medical degree program. Included are policies covering professionalism, student evaluation, absences and leaves, payment and technical standards. Additional School of Medicine policies are available within the Washington University School of Medicine section.

Assessing Academic Achievement and Professionalism

Committee on Academic and Professional Evaluation of Students (CAPES)

The Academic and Professional Evaluation of Students

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Appeals Process for the CAPES Decisions
Committee on Academic and Professional Evaluation of Students (CAPES)

Responsibility of the committee

Overall academic and professional evaluation of students at the Washington University School of Medicine will be made by the Committee on the Academic and Professional Evaluation of Students (CAPES). The deliberations of the CAPES are generally positive in approach and are committed to the ultimate aim of assisting students to successfully complete the courses of study required by the School. The principle that careful selection of students will minimize attrition from the School is strongly endorsed by the CAPES. The CAPES has several important roles, including but not limited to:

A. At the annual end-of-year CAPES meeting, the Committee will vote to recommend promotion of students who have successfully completed all of the requirements of the current academic year to the studies of the subsequent year.

B. Recommending to the Executive Faculty those students who have successfully completed all the prescribed requirements of the School and are qualified to
receive the Doctor of Medicine degree;

C. Requiring entry of a student into an individualized program of study (ISP);

D. Deciding upon matters of disciplinary action, including instances of unprofessional behavior, brought to the CAPES; and

E. Deciding upon matters of student status and remediation as contemplated by these procedures.

It is also the ultimate responsibility of the CAPES to decide whether each student meets the academic and ethical standards necessary to enter the profession of medicine.

The rules governing operation of the CAPES apply to students in the following categories:

A. Students who are engaged in the preclinical and clinical education requirements for the MD degree;

B. Students in dual and joint degree programs including but not limited to the MD and MPH, the MD/MSCI, the MA/MD and the MD/PhD (MSTP) programs taking the pre-clinical or clinical portion of their MD education.

C. Students in all years of the Five Year MD program.

Membership of the CAPES

A. Appointed and ex officio membership

There will be 12 voting faculty members of the CAPES, and membership will be appointed for a four-year term by the Dean of the School of Medicine following
nomination of suitable individuals by the department heads and Associate Deans.

A faculty member may be reappointed to serve on the CAPES. Membership will include both clinical and preclinical departments. In addition, the CAPES membership will include, in ex officio capacity, the Registrar (non-voting) and the Associate Dean for Student Affairs (non-voting). The Senior Associate Dean, the Associate Deans for Medical Student Education, Admissions and Diversity Programs and the Director of the Student Health Service may attend the CAPES meetings as non-voting participants.

B. Chair

A faculty member will be appointed by the Dean from within the CAPES committee to serve as chair. The term of the chair will be four years. The chair may be reappointed.

C. Guests

1. A course master who is not a member of the CAPES but who has submitted a Fail/Incomplete grade for a student which is to be discussed at a meeting of the CAPES will be present at the meeting to provide information concerning the students performance. Alternatively, a course master may send a designated representative or may submit additional information in writing. In the event that a course master or designated representative is not present or sufficient information has not been forwarded, final action for that student will be deferred until adequate information concerning the students performance is available.

2. Similarly, when the committee is addressing issues of professionalism, the individual filing the professionalism concern form will be present for the meeting or in some instances may instead be allowed to submit information in writing.

Any faculty, administrator or staff may be invited at the discretion of the chair.
Meeting frequency

The CAPES meetings must occur in a timely manner after final examinations or re-examinations (i.e., as soon as practical after grades are submitted to the Registrar). Generally grades will be submitted to the Registrar within 10 days of the completion of an examination. A meeting of the Committee also may be convened at any time such that timely review of a matter to be determined by CAPES and action thereupon is provided.

Quorum for the CAPES meetings

Seven voting members must be present to consider academic or disciplinary actions.

Procedures for making changes to this document

Major revisions in this document will be approved by the Academic Affairs Committee.

The Academic and Professional Evaluation of Students

In order to continue their studies at the Washington University School of Medicine, students must demonstrate the ability to synthesize and apply knowledge and the capability of becoming a safe and effective physician. In addition, they must demonstrate the principles of professionalism including sound judgment, honesty and integrity, responsibility, a sensitivity and compassion for individual needs, and compliance with applicable laws, policies and regulations. Serious or repeated breaches of these principles will be referred to the CAPES for review. See Guiding
A. First and Second year

Courses in the first-year and second-year curriculum are evaluated on a Pass (P) or Fail (F) basis. For purposes of the final official grade records of the School of Medicine, grades used for the first year and second year are:

- P = Pass, indicating satisfactory performance
- F = Fail, any grade of F remains on the students academic record. When the course is repeated or remediated the new grade will appear as a separate entry in addition to the failing grade.
- L = Successful audit
- NG = Course credit earned, students not graded
- W = Withdrawal from a course
- Z = Unsuccessful audit

Valid temporary grades include:

- E = Temporary grade, makeup of failed exam pending
- I = Incomplete, temporary grade pending completion of course requirements, replaced with an F if not removed within one year. In rare instances, the CAPES
may grant an extension. Incomplete indicates that, because of a delay excused by the course master, the student has not completed the requirements to pass a course.

B. Subsequent years

For purposes of the final official grade records of the School of Medicine, the following grades are used for subsequent years:

- **H** = Honors, reflecting a truly outstanding performance
- **HP** = High Pass, awarded for excellent/very good work
- **P** = Pass, indicating satisfactory performance
- **F** = Fail, any grade of F remains on the students academic record. In clinical clerkships that have a subject examination, students must score at or above the 10th percentile of the national pool of students taking the examination to pass the clerkship. If a student fails a shelf examination for the second time in a third year clerkship an F is recorded on the permanent record.

When the course is repeated or remediated the new grade will appear as a separate entry in addition to the failing grade.

- **Cr/NCr** = Credit/No Credit for select second and fourth-year courses
- **L** = Successful audit
- **NG** = Course credit earned, students not graded
- **W** = Withdrawal from a course
- **Z** = Unsuccessful audit

Valid temporary grades include:

- **E** = Temporary grade, makeup of failed exam pending. Does not apply to block long courses in second year. In clinical clerkships that have a subject
examination, students must score at or above the 10th percentile of the national pool of students taking the examination to pass the clerkship. If a student fails the subject examination once, the grade of E will be recorded. Upon successfully retaking the subject examination the new grade will replace the grade of E on the permanent academic record. If the shelf examination is failed a second time, the grade of F is recorded on the permanent academic record.

- I = Incomplete, temporary grade pending completion of course requirements, replaced with an F if not removed within one year. In rare instances, the CAPES may grant an extension. Incomplete indicates that, because of a delay excused by the course master, the student has not completed the requirements to pass a course.

C. Grade reporting

Final grades will be submitted to the Registrar by course masters within 10 working days (Monday through Friday excluding university holidays) of the final examination or final class meeting for the first two years. For third and fourth years, grades are due within 10 working days of the receipt of standardized examination scores or the last day of the rotation if no examination is given. A web-based University system, WEBSTAC, provides timely access to grades for the first two years. Grades and evaluations of student clinical performance are submitted on a standardized form and are available for review in the Office of the Registrar throughout the academic year. Final grades for the clinical clerkships and electives are recorded in the University student information system at the end of the academic year and are subsequently available on WEBSTAC and appear on the transcript.

D. Grade point average, class ranking and grade distributions

The School of Medicine does not calculate grade point averages. Hours of credit appearing on the transcript reflect clock hours scheduled for the course or clinical rotation. For the purpose of residency applications only, students are placed in the upper, middle or lower third of the class according to a formula which considers weighting of courses and each academic year. This ranking is not recorded on the
permanent academic record and therefore does not appear on transcripts. It may appear in the Medical Student Performance Evaluation (MSPE)/students deans letter. At the conclusion of the academic year, when all the official grades have been received, the official transcript, in addition to listing courses and grades achieved, gives the grade distribution in each course with the exception of elective and selective courses.

E. Grade appeals

A student who wishes to appeal his/her grade with the course master should file his/her request for review by completing the grade appeal form which includes the basis for the appeal. This should be filed within 10 working days after the grade is posted. If reasons beyond the students control delay the resolution of the appeal past the deadline, the Registrar must be notified so that the final transcripts, grade distributions and class rankings for match can be held pending resolution of the matter. If this notice is not received by the Registrar prior to the deadline, the new grade cannot be accepted. Students participating in the residency match should also notify the office of career counseling that a grade appeal is in process. The course master will consider the appeal. He/she will indicate the resolution of the appeal on the grade appeal form and forward it to the Registrar and Associate Dean for Student Affairs. A copy of the grade appeal form is available in the Registrars Office and is also included in this document.

NO GRADE CHANGES ARE PERMITTED FOR THE ACADEMIC YEAR AFTER JULY 15.

F. Remediation

A. Occasionally, in order to remediate a failed course in the first or second year, students are permitted to complete equivalent coursework at other institutions with the permission of the responsible department and written notification to the Registrar.

B. When a students performance indicates review by the CAPES, with input from
course master(s) concerned, the CAPES may invoke requirements for the remediation of individual courses that are different from those determined by individual course masters concerned. In such cases, the CAPES determination will supersede the course masters as the CAPES is considering the students global academic performance and history. The CAPES may also require the student repeat an academic year or portion thereof if it is judged necessary given the academic history.

Individual Study Program

The educational program is designed to assist the specialized needs of all medical students in an individualized and personalized manner. Tutorial assistance is available to any student at any time as detailed below. Occasionally students who have difficulty in handling the normal academic course load will enter an Individual Study Program (ISP), requiring five years to complete rather than four years.

The following rules govern students engaged in an ISP:

A. The intent of an ISP is to optimize the prospect that the student will successfully complete the curriculum. Entry into an ISP may occur in one of three ways: 1) a student may request an ISP, or after careful consideration of the students academic performance at intervals throughout the curriculum, the CAPES may either 2) recommend or 3) require entry into an ISP.

B. The specific program of any ISP (i.e. the content and sequences
of courses) will be determined by the Associate Dean for Student Affairs with input from the student, relevant course masters and the CAPES. The specific recommendations of the CAPES will generally be adopted. The plan for execution of an ISP, once established, will be recorded in the students file in the Registrars office and a copy provided to the student.

C. Unless extenuating circumstances exist, ISP students are required to take the examinations for a particular course in their usual temporal relationship to the coursework. Requests for exceptions due to unusual circumstances should be recorded in the students file in the Office of the Associate Dean for Student Affairs. Approval of such requests is considered according to the Washington University School of Medicine Guidelines for Exam Administration found in the Policies section of the School of Medicine website.

D. In the event that a single Fail or Incomplete grade is recorded for a student after entry into an ISP, the CAPES will again review the students record. The consequences may include remediation, repeat of the course, or dismissal from the School.

E. Students on an ISP who have not successfully completed and received a grade of Pass or above in all required courses of the first- and second-year curricula by the start of the second six-week period in the year of the clinical clerkship may be dismissed from the School.

Tutorial Assistance Program

<< Back to Assessing Academic Achievement and Professionalism
Students experiencing difficulty in any course may request tutorial assistance. Such requests should initially be directed toward the course masters and thereafter to the Associate Dean for Student Affairs. Students who are repeating courses will be offered the opportunity for tutorial assistance. The CAPES may also require it. There is no charge to the student for tutorial assistance.

Indications for Review of Academic Performance

<< Back to Assessing Academic Achievement and Professionalism

General

Indications for Academic Review refers to guidelines used at the School in the event that a student fails a course or fails to complete a course in the requisite time.

A. In the event of any initial failure of a course offered at the School, the student will meet with the Associate Dean for Student Affairs to formulate a plan to remediate such failure, in coordination with the course master.

B. If the Registrar has recorded a Fail or Incomplete grade in two or more courses in a single year or cumulatively three courses between years, the student's academic performance will be referred to the CAPES for review and determination of a course of action.

C. Refer to The Individual Study Program (ISP) section for additional guidelines pertaining to students engaged in an ISP.
D. When the performance of a student is referred to the CAPES for potential academic review, the following rules will apply:

1. No student may take more than three years to complete the coursework required for the first two years. Time periods included in a leave of absence are not counted in these three years. See the section entitled Individualized Study Program for more information.

2. In the absence of extenuating circumstances, or an approved leave of absence no student may take more than two academic years to complete the coursework required in any individual curricular year.

3. The maximum number of attempts to pass any individual course during enrollment in the School will be three.

E. Throughout the enrollment of a student, it is within the jurisdiction of the CAPES to terminate the enrollment of a student who has demonstrated serious academic failure or breaches of professionalism.

F. If a student enrolled in a joint or dual degree program is found in violation of the other programs academic or professional integrity policy or is found to have committed any disciplinary violations, including violations of the University Judicial Code, such matters may be brought to the attention of CAPES for review and further action. Notwithstanding decisions made by the other schools or programs, CAPES reserves the right to take further action against a student found in violation of such policies. If a student enrolled in a joint or dual degree program is not making satisfactory academic progress or is not meeting academic performance expectations of the other program or school such that the students status in that school or program may be impacted, CAPES reserves the right to determine whether any action should be taken with respect to the students status at WUSM.

G. It is the responsibility of students who feel that personal concerns, health problems, or any other factors may be adversely affecting their academic performance to bring such matters to the attention of the Director of the Student
First year

A. Failure of any examination that comprises a significant portion of the final grade (typically 20% or more) must be reported by the course master to the Associate Dean for Student Affairs. In the event of a failure of a single exam within the course, the course master may allow one attempt at remediation of this examination at a time prescribed by the course master. The scheduling of a remedial examination will be agreed upon by the course master and student but in general should not extend beyond 30 days after the end of the course. Days of recess for Winter Break or Spring Break will not be counted in the 30 days. A grade of E will be submitted by the course master if the remedial examination is not accomplished within the course dates. This grade will stand on the academic record until it is replaced with a valid final grade of Pass or Fail. Grades of E that are not resolved within 30 days will be replaced with a grade of Fail (F). In rare circumstances the Associate Dean for Student Affairs may approve an extension of this deadline. If the student successfully remediates the examination, and has otherwise passed the course, a Pass (P) will be recorded by the Registrar. A student may remediate only one examination in any course.

B. If a student has received a Fail/Incomplete grade in a single first-year course, the Associate Dean for Student Affairs will meet with the student to formulate a plan from the following options:

1. Enroll in and successfully complete, at the level designated by the course master, a summer course at a different institution, such course being completed and passed by the beginning of classes for the second year.

2. A student who, for a single course, fails the re-examination taken to remediate a failed course or fails to successfully complete an approved summer course will be referred for the CAPES to review and propose a recommended course of action. The CAPES may require such a student
to enter an ISP or may be dismissed from the School. Alternatively, the CAPES may permit a second re-examination. If this second re-examination is failed, the student will be dismissed from the School.

C. A student for whom the Registrar has recorded a Fail/Incomplete grade in two or more courses during the first year will be referred to the CAPES for determination of a course of action. The Committee may decide to permit the student to take re-examinations, if a re-examination has not already been taken, in the courses for which Failed/Incomplete grades have been recorded. Such re-examinations will generally occur during the inter-academic year break. If such a re-examination is failed, the student may be required to enter an ISP or be dismissed from the School.

D. The Associate Dean for Student Affairs may also request that the CAPES review performance of a student who has demonstrated poor academic performance by failing two or more examinations.

In such instances, the CAPES may recommend a course of action.

E. All first year courses must be completed before the start of the second year curriculum in the next academic year.

Second year

A. The Associate Dean for Student Affairs will meet with students in the following categories regarding taking a re-examination, according to the schedule listed under the next section (B):

1. a student for whom an Incomplete or a final grade of Fail has been recorded in a single interval examination in a year-long course, OR

2. a student for whom a Fail or Incomplete grade has been recorded in one block-long course.
B. The schedule for re-examinations:

1. in year-long courses will generally be offered during the inter-academic year break, prior to entry into the third year.

2. for students who have failed one block-long course will be generally offered at a time determined by the course master and the Associate Dean for Student Affairs. All re-examinations must be offered to students and completed by them prior to the start of the next academic year.

3. for students who fail a re-examination of a single block-long course will be referred to the CAPES to determine a course of action. The CAPES may decide that the student must enter an ISP. Alternatively, a second re-examination may be offered. If the examination is failed for a third time, enrollment will be terminated.

C. Students in the second year for whom the Registrar has recorded Fail/Incomplete grades under the following categories will be referred to the CAPES for review and resolution of a recommended course of action:

1. one year-long course OR

2. two or more block-long courses OR

3. an interval examination in one year-long course and one block-long courses OR

4. two interval examinations in year-long courses OR

5. students for whom the Registrar has recorded a Fail/Incomplete grade in any re-examination.

D. At review by the CAPES for students referred to above, the Committee may decide to permit the student to take re-examinations, if a re-examination has not already been taken, in the courses for which Failed/Incomplete grades have been recorded. Such re-examinations will generally occur during the inter-academic year break. The CAPES may allow the student to defer beginning the clinical
rotations so that re-examinations may be taken up to six weeks after the beginning of the usual cycle of clinical clerkships. Such extra time, used for study and preparation, will ordinarily mean that the student will not have the usual unscheduled time in the elective year. In the event that a Fail/Incomplete grade is recorded at a re-examination, the CAPES may require that a student enter an Individualized Study Program or that enrollment in the School of Medicine be terminated.

In the event that the CAPES decides not simply to permit re-examination, the CAPES may require that the student enter an Individualized Study Program as detailed previously, or that the student will be dismissed from the School.

E. No student will be permitted to begin clinical rotations of the third year until all first- and second- year courses have been successfully completed.

**Cumulative academic review/academic warning**

Prior to promotion to the clerkship year, the CAPES will review the cumulative academic record of each student brought forth by the Associate Dean for Student Affairs to determine whether the students academic performance justifies advancement to the clinical phase of the medical education without warning. Typically, multiple remediated examinations and/or failing grades during the first two years of the curriculum would raise concerns about the students fund of knowledge and readiness to participate in clinical care of patients. Students with overall records indicating globally poor performance may be dismissed, may be required to repeat specific preclinical course work, may be advanced to the third year with academic warning or may be placed on probation.

Upon written notification of advancement with academic warning into the clerkship year, the student must meet with the Associate Dean for Student Affairs:

A. to review the planned clerkship schedule in order to consider schedule changes
to facilitate successful clinical experiences;

B. to pursue available resources for academic intervention; and

C. to address any additional problems that may arise. It is recommended that these students seek tutorial assistance through each clerkship course master.

A third-year student who has received an academic warning after the first two years and then fails any component of a clinical clerkship may be dismissed from the School.

Contingencies for continued enrollment on probationary status and for return to good standing will be specified by the CAPES in each individual case.

**Third and subsequent years**

A. Regarding performances beyond the second year, the Associate Dean for Student Affairs will meet with a student for whom a single Fail/Incomplete/E grade has been entered regarding the requirements stipulated by the relevant course master to remediate the academic encumbrance. Options will generally include a re-examination or repeating all or a portion of the course. If a Fail grade has been entered following the prescribed remediation, the student will be referred to the CAPES to determine a course of action. When such a student is referred to the CAPES, the CAPES may permit a re-examination or re-taking or repeating all or a portion of the course. If the course is failed a third time, the student will be dismissed from the School.

B. Any student who fails to achieve a passing grade (defined as greater than or equal to 10th percentile as reported by the NBME) on any two or more subject (shelf) examinations conducted as part of the evaluation of clerkships will be referred to the CAPES for review and course of action.

C. A student for whom the Registrar has recorded a single failing grade in the clinical clerkships or electives maybe referred to the CAPES for review and course
D. A student who fails any clinical component of a clerkship or elective will have a Fail recorded on the Permanent Academic Record. At the discretion of the course master or CAPES, the student must repeat either the portion failed or the entire clerkship or elective in order to remove the academic encumbrance. The failing grade will remain on the academic record. If the course is remediated the second grade will also be recorded.

E. A failing grade for clinical clerkships will be recorded on the Permanent Academic Record when a student fails the subject examination (defined as scoring at less than the 10th percentile as reported by the NBME) for the second time. A failing grade will be recorded when a student fails any clinical portion of the clinical clerkship or elective. In both events, the failing grade remains on the Permanent Academic Record. When the course is remediated the new grade will also appear on the Permanent Academic Record.

F. The Associate Dean for Student Affairs may also request that the CAPES review performance of a student who has demonstrated poor academic performance in two or more courses at interval evaluations conducted throughout the course when such performance has been reported to the Associate Dean. In such instances, the CAPES may determine a course of action.

G. For students referred to the CAPES, the Committee may endorse or amend the remediation recommendations of course masters from whom Fail/Incomplete grades have been entered. In the event that a student fails such a course of remediation, as defined by the course master and approved by the CAPES, the CAPES may require that the rotation be repeated or that enrollment of a student in the School be terminated. Students will generally be permitted three attempts to achieve a passing grade in any clerkship course. If three failing examination grades or final clerkship grades have been submitted for a course, the student will be dismissed from the School.
H. A student who advances to the clinical years with academic warning and who fails any component of a clerkship will be referred to the CAPES for action including possible dismissal from the School. See Cumulative Academic Review/Academic Warning.

Procedures Concerning Review of Academic Performance

Actions for Academic Review shall be referred to the CAPES for consideration by the Associate Dean for Student Affairs or Registrar.

A. The Associate Dean for Student Affairs will convene a meeting of the CAPES. He/she shall notify the student in writing of the course(s) for which Academic Review is scheduled and the date and time at which the CAPES will address the matter.

B. The Associate Dean for Student Affairs, the Registrar, the course master(s) or their designated representatives, shall present the matter to the CAPES in a closed and confidential CAPES meeting.

C. For students referred for course or examination failure, the CAPES meetings will have, in addition to the grade report forms for the course for which the student is referred to the CAPES, a complete record of the student's academic performance and the student file.

D. All students to be considered at a CAPES meeting will be asked to be available
to appear before the Committee to provide additional information relevant to the concern. If the student fails to be available to appear at the meeting, the Committee may postpone the meeting or may conduct the meeting and impose sanctions without the student present. Failure of a student to appear or provide information requested by the CAPES may result in the committee’s filing a professionalism concern form. Meetings may be rescheduled at the discretion of the CAPES Chair.

E. If there are extenuating circumstances or contributing factors that the student feels the CAPES should consider, it is the students responsibility to bring them to the attention of CAPES in a timely manner before a determination is made regarding the students status.

F. The student shall be permitted, upon request in advance of the CAPES meeting, to appear before the CAPES on his or her own behalf. At the student’s request, he or she may be accompanied by a member of the faculty or staff of the School of Medicine for guidance and support. Alternatively, again following request, the student may be accompanied by a fellow student enrolled in the School of Medicine.

G. A record of the CAPES meeting shall be preserved for purposes of review by the School of Medicine’s Appeals Committee, as necessary.

H. When a student is considered by CAPES, their entire academic and professionalism record will be considered in deliberations regarding student status.

I. Action taken by the CAPES for poor academic performance may include dismissal. Sanctions short of dismissal from the school include but are not limited to warning, probation, defined penalty, and suspension. Additional consequences may include a program of remediation or additional oversight. The CAPES may also rule that the Dean’s letter/MSPE should include a citation regarding the matter. The CAPES decision shall be by simple majority vote unless the vote is for
dismissal, in which case, a three-fourths majority will be required. The decision of the CAPES shall be communicated, in writing, to the student by the Registrar’s office.

J. After the meeting, the Associate Dean for Student Affairs will inform the student verbally of the decision of the CAPES. The Registrar will inform the student in writing of the result within ten working days.

Indications for Review of Professional Integrity

Matters involving possible breaches of professional integrity shall be brought to the attention of the Associate Dean for Student Affairs. The individual(s) raising the questions of possible misconduct shall present them in writing to the Associate Dean for Student Affairs by completing a Professionalism Concern Form providing other detailed written information as necessary. Individuals submitting such forms are reminded of the need for confidentiality regarding all matters of misconduct.

Behaviors inappropriate to the medical profession shall include, but are not limited to breaches of personal confidence and trust including cheating or unauthorized use of materials during examinations; abuse, misrepresentations or other seriously improper conduct in relation to patients or colleagues including breaches of confidentiality; other misconduct in violation of University policies or the University Student Judicial Code; illegality; substance abuse; failure of judgment including that related to non-compliance in the treatment of any personal medical condition; and misrepresentation or failure in personal actions or in meeting
obligations, so as to raise serious unresolved doubts about the integrity of the student to enter the practice of medicine. See the Guiding Principles of Professionalism link under the Policies section on the School of Medicine website.

Procedures Concerning Review of Professional Integrity

<< Back to Assessing Academic Achievement and Professionalism

At the discretion of the Associate Dean for Student Affairs, in cases of serious or repeated breaches of professionalism raising concern about a pattern of behavior, the Associate Dean for Student Affairs will convene a meeting with the Associate Dean for Admissions, the Associate Dean for Medical Student Education or the Senior Associate Dean for Medical Education to review the complaint(s) and to decide whether further action is necessary.

If further inquiry is deemed necessary, the Associate Dean for Student Affairs and either the Associate Dean for Medical Student Education or Admissions, or the Senior Associate Dean for Medical Education will discuss the complaint with the student. If the two Associate Deans deem that further action is warranted, the Associate Dean for Student Affairs will follow the procedures below:

A. The Associate Dean for Student Affairs will convene a meeting of the CAPES. If the person bringing the complaint is a member of CAPES, he or she will not vote but may participate in the discussion. If the person bringing the complaint is not a member of CAPES, he or she will be asked to present the complaint and will then be excused. The CAPES chairperson will be responsible for overseeing the procedure of the meeting. The Registrar will attend the meeting to record the
minutes. The CAPES shall, whenever possible, convene within one to two weeks after the initial meeting between the student and the Associate Dean for Student Affairs.

B. The purpose of the CAPES meeting is to provide fair and prompt review of the inquiry. The Committee is not positioned in an adversarial role against the student, but simply serves to review the evidence as presented and determine its decision regarding disciplinary action, if necessary.

C. Prior to the meeting, the Associate Dean for Student Affairs will forward information concerning the matter to the Committee. In addition, the Associate Dean for Student Affairs will inform the student in writing regarding the time, date and place of the meeting. A copy of the complaint will be provided to the student. Such notification shall also state that the proceedings are confidential, and that the student may bring a faculty member, staff member or fellow student of the School of Medicine for guidance and support. If this person is not a fact witness to the complaint he/she may not address the committee.

D. Any student to be considered at a CAPES meeting will be asked to be available to appear before the Committee to provide additional information relevant to the concern. If the student fails to be available for the meeting, the Committee may postpone the meeting or may conduct the meeting and impose sanctions without the student present. Failure of a student to appear or provide information requested by the CAPES may result in the committee's drawing adverse conclusions. Meetings may be rescheduled at the discretion of the CAPES Chair.

E. The CAPES will consider evidence which tends to prove or disprove the alleged conduct. If the CAPES finds that the student engaged in misconduct, it may consider additional evidence of prior conduct, evidence as to the charged student's character, the student's entire academic and disciplinary record, or any other evidence which could assist the CAPES in determining an appropriate sanction. The Chair of the CAPES will rule on whether or not evidence or testimony will be considered. The CAPES has neither the advantages nor limitations inherent
in a court of law.

F. During the meeting the student will have access to the written evidence presented and may present evidence and fact witness(es) on his or her own behalf. The student should be prepared to discuss the circumstances of the complaint after which the CAPES will excuse the student from the room.

G. The decision as to whether the student committed the alleged act will be made solely on the basis of evidence and testimony presented at the meeting. Innocence of the student will be presumed. A CAPES member must find in favor of the student unless the member is persuaded that it is more likely than not that the student engaged in the misconduct alleged.

H. Action taken by the CAPES for breaches of professional integrity may include dismissal. Sanctions short of dismissal from the School include but are not limited to advancement with academic warning, other warning, probation, defined penalty, suspension, fine and restitution. Additional consequences may include a program of remediation or additional oversight. The CAPES may also rule that the MSPE/ Deans letter should include a citation regarding the matter. Contingencies for continued enrollment on probationary status and for return to good standing will be specified by the CAPES in each individual case.

I. A simple majority will prevail, except when the motion is to dismiss from the School where three-fourths majority will be required.

J. After the meeting and decision of the CAPES, the Associate Dean for Student Affairs will inform the student verbally of the result. The Registrar will inform the student in writing of the result within ten working days.

K. The record of such proceedings will be held confidentially with access restricted to Committee members, the student involved, and relevant members of the Administration.
L. The University does not tolerate retaliation against individuals who bring forward complaints or who participate in the CAPES process.

M. Unless it is determined by the Associate Dean for Student Affairs that extraordinary circumstances exist, the student will be permitted to continue in the usual academic activities during the CAPES proceedings. However, if there is a reasonable basis for believing that the continued presence of the student on campus or in clinical rotations poses a substantial threat to the student, to patients or to the rights of others to engage in their normal University functions and activities, the procedure outlined under section B of Leave of Absence Policy applies.

N. Should a student be referred to the CAPES for an issue(s) involving both academic performance and professionalism concerns, the procedures for Professionalism Concerns will be followed.

Appeals Process for the CAPES Decisions

<< Back to Assessing Academic Achievement and Professionalism

The School of Medicine has the right and responsibility to assure that each student, during the time of enrollment, demonstrates levels of academic achievement and ethical stature appropriate to the practice of medicine. The School must also ensure provision of fairness in discharging those rights and responsibilities.

Within 14 working days of the date on which an academic or disciplinary decision is rendered by the CAPES, the student may request, in writing to the Registrar, that the School of Medicine’s Appeals Committee review the record of the CAPES decision to
determine that the appropriate CAPES procedures were followed or that the Appeals Committee request that the CAPES consider additional, new relevant information which was not previously presented to the CAPES for good cause. The letter to the Registrar should include the basis for the appeal as well as any new relevant information and an explanation as to why it was not timely presented to the CAPES.

An Appeals Committee, composed of faculty members appointed by the Dean of the School of Medicine, shall be created to review appeal of decisions by the CAPES. Members of the CAPES Committee may not be appointed to the Appeals Committee. A quorum of this committee shall consist of five members.

The Appeals Committee shall review the record of the CAPES decision solely to determine whether the pertinent CAPES procedures were followed and whether all relevant information was considered by the CAPES. If the appeal is based on a contention that all relevant information was not presented to the CAPES, the written appeal must provide the Appeals Committee with adequate reason why the student did not present this information at the CAPES meeting in question. In all cases, the Appeals Committee shall not substitute its judgment of the facts or its opinions of the merit of matter for those of the CAPES.

On all appeals the Appeals Committee may either (1) remand the matter to the CAPES for reconsideration with its explanation for the remand, or (2) deny the appeal. If the matter is remanded to the CAPES, all documents, minutes of the Appeals Committee meeting, and information submitted by or for the student in support of the appeal will be made available to the CAPES. The Appeals Committee shall provide its decision in writing to the Dean, the student, the CAPES, the Associate Dean for Student Affairs and the Registrar. The Associate Dean for Student Affairs shall determine whether the student may continue his or her curriculum pending the Appeals Committee review of a CAPES decision.

Within 10 working days of the date of an Appeals Committee’s decision or referral back to the CAPES, the student may request, in writing, that the Dean of the School of Medicine review the decision of the Appeals Committee. The decision of the Dean shall
Glossary of Terms

<< Back to Assessing Academic Achievement and Professionalism

The following definitions are applied when the indicated terms are used in relation to the foregoing rules concerning review of academic performance and professional integrity:

**Academic Warning, Advancement with**

A supervised status that may be imposed if a student's cumulative academic review indicates that special oversight is warranted. See section on Cumulative Academic Review/Academic Warning for additional information.

**Action, Disciplinary**

An action, including counseling and penalties, taken by the School of Medicine, after consideration of the disciplinary problem.

**Administrative Withdrawal**

Termination of a student's enrollment from or eligibility to return to the School of Medicine by the University where the student has:

A. failed to register and has not sought a leave of absence; or
B. not returned from an approved leave of absence within the designated period of time and where an extension of the leave of absence has not been timely requested and approved by the CAPES.

Dismissal, Academic

Involuntary separation of a student from the School of Medicine because he/she has not met the academic requirements.

Dismissal, Disciplinary

Involuntary separation of a student from the School of Medicine as a result of action taken because of misconduct.

Good Standing

As a record or transcript notation, it signifies that the student is eligible to continue, to return, or to transfer elsewhere. It implies good academic standing as well as good citizenship and replaces such terms previously used as honorable dismissal, honorable withdrawal, withdrawn, voluntary withdrawal, eligible to return and clear record.

Grade, Incomplete

Indicates there is still a possibility of credit after further work. Used when the instructor is not prepared to give a final mark for the term in view either of sickness of the student or some justifiable delay in the completion of certain work. It is accompanied by a note that explains the circumstances and indicates how and when the incomplete may be resolved. A definitive mark for the term is recorded on the official transcript when the work is completed and the incomplete grade is removed. In case the work is not completed within the time allowed, the recorded grade will be changed to fail.
Permanent Academic Record

The all-inclusive abstract of academic achievement. This is also commonly referred to as the official educational record or official transcript.

Probation

Probation status may be for academic and for disciplinary reasons. Academic probation is the result of unsatisfactory scholarship. It is not a penalty but a warning and provides an opportunity to improve. Usually the student is required to make regular specified improvement in his record in order to avoid dismissal.

Disciplinary probation is the middle status between good standing and suspension or dismissal. The student remains enrolled but under stated conditions according to school policies. Disciplinary probation covers a stated trial period during which it is determined whether the student is returned to good standing having met the stated requirements or dismissed from enrollment at the end of the period for failure to meet the stated requirements.

Professionalism Concern Form

A form completed by a member of the University community to communicate an instance of unprofessional behavior to the Associate Dean for Student Affairs. Serious or repeated instances of unprofessional behavior may be referred to the CAPES by the Associate Dean for Student Affairs.

Suspension

Suspension is an involuntary separation of the student from the school but it differs from dismissal from enrollment in that it implies and states a time limit when return will be possible. Thus, suspension may extend for a specified time, until a specified date or until a stated condition is met.
Withdrawal

A release from enrollment. A student may request that they be allowed to withdraw from enrollment. Such requests are directed to the Registrar or the Associate Dean for Student Affairs. When a student has requested withdrawal status, the school, by action of the CAPES, will determine whether the withdrawal will be annotated with good standing or not in good standing in the official academic record. Such annotations may be accompanied by explanations in the official educational record.

Forms

<< Back to Assessing Academic Achievement and Professionalism

Grade Appeal form and Professional Concern form are available on the following links:

Grade Appeal Form

Professional Concern Form

Policies Related to Evaluation

United States Medical Licensing Exam (USMLE)
Students who matriculated prior to 2014 and who anticipate practicing clinical medicine are required to take the USMLE Step 1 and 2 examinations. Beginning with the class matriculating in 2014, all students are required to take the USMLE Step 1, Step 2CK and Step 2 CS prior to graduation.

The USMLE is designed to “assess a physician’s ability to apply knowledge, concepts, and principles, and to demonstrate fundamental patient-centered skills, that are important in health and disease and that constitute the basis of safe and effective patient care.” The USMLE represents a single uniform examination for medical licensure in the United States, and as such, is a minimum requirement for obtaining a medical license.

The USMLE consists of four separate examinations. “Step 1 assesses whether you understand and can apply important concepts of the sciences basic to the practice of medicine, with special emphasis on principles and mechanisms underlying health, disease, and modes of therapy. Step 1 ensures mastery of not only the sciences that provide a foundation for the safe and competent practice of medicine in the present, but also the scientific principles required for maintenance of competence through lifelong learning.” Step 1 is taken after completing the second year at WUSM.
Step 2 consists of two separate examinations, Step 2 CK (Clinical Knowledge) and Step 2 CS (Clinical Skills) which are taken at different times. “Step 2 assesses whether you can apply medical knowledge, skills, and understanding of clinical science essential for the provision of patient care under supervision and includes emphasis on health promotion and disease prevention. Step 2 ensures that due attention is devoted to principles of clinical sciences and basic patient-centered skills that provide the foundation for the safe and competent practice of medicine.” Step 2 exams are taken after completing the third year but prior to graduation from WUSM.

“Step 3 assesses whether you can apply medical knowledge and understanding of biomedical and clinical science essential for the unsupervised practice of medicine, with emphasis on patient management in ambulatory settings. Step 3 provides a final assessment of physicians assuming independent responsibility for delivering general medical care.” Step 3 is taken following graduation and during internship/residency training.

Further information can be obtained from the USMLE Bulletin of Information published by the National Board of Medical Examiners, and is available, along with application forms and information, at http://www.usmle.org.

Guidelines for Exam Administration

<< Back to Policies Related to Evaluation

Following are general guidelines for exams administered in the undergraduate medical curriculum. Additional requirements may be posed by the individual course director.

Expectations for students
Take the exam during the originally scheduled time, excepting extenuating circumstances. Students are required to take all examinations at the specified time. A student may be excused from this rule for extenuating circumstances at the discretion of the Associate Dean for Student Affairs. Extenuating circumstances are normally defined as sudden personal illness. Doctor appointments of a routine nature or vacation time are not considered to be extenuating circumstances for which students can be exempted from the regularly scheduled exam date. Such occasions will be promptly reported to the Associate Dean for Student Affairs. In the event of inability to attend a scheduled examination due to sudden illness the student is required to inform the course director prior to the examination and to be evaluated by the Student Health Service. In the event that the student cannot reach the relevant course director, the student should contact the Associate Dean for Student Affairs.

Students are expected to be punctual and should be assembled in the designated exam area before the official start time of the exam. Tardiness will not be excused except in extenuating circumstances. For purposes of the exam, “tardiness” will be defined by the course director or exam proctor.

- Not share study materials, exchange information, collaborate or communicate with others during the exam.
- Place all personal items in designated area. (Cell phones must be turned off and pagers set on pulse.
- Hand their registration card, laminated sheet and pen to the proctor prior to leaving the room.

**Special accommodations**

Any student needing accommodation for exams should review the school’s Students with Disability Policy in advance of exams. Students needing accommodations should meet with the Associate Dean for Student Affairs in advance of exams to discuss his or her request. The Associate Dean for Student Affairs will inform course directors of approved exam accommodations.
Expectations for faculty

- Exams should be proctored by the course director or a designee appointed by the course director comfortable with proctoring and exam administration guidelines. Exams will not be proctored by Office of Medical Education/Office of Medical Student Education Staff. NBME subject exams are proctored by the Office of Student Affairs.

- Administration should be fair to all students.

- If the faculty member answers a substantive question or clarifies an issue, the same should be communicated to ALL students, including those in separate rooms or at different times.

- Reasonable adjustments should be offered to students who require special accommodations, including a separate testing room or additional time. Course directors are notified of these students through the Associate Dean for Student Affairs.

- If a student behaves inappropriately, the course director should notify the Associate Dean for Student Affairs immediately (see below for examples of inappropriate behaviors).

- All requirements of students should be communicated to all students PRIOR to the start of the exam.

Cheating

The following examples are intended to be representative of behaviors that constitute cheating in the context of an exam. This is not intended to be an all-inclusive list.

- Looking at or copying from another student's test.

- Collaborating with another student during the test without authorization.

- Using lecture notes or textbooks during an exam without authorization.
• Possessing crib notes during an exam.

• Using signals/signs to obtain answers from others.

• Utilizing a calculator, cell/smart phone, smart watch, computer, or any other device or learning aid without authorization. This includes storing, receiving, and/or accessing course matter stored on such devices.

• Obtaining assistance in answering questions on a take-home exam without authorization.

• Obtaining advance copies of exams or quizzes by any means.

• Having someone else take an exam in your place.

• Feigning illness or submitting misleading statements to avoid taking an exam at the scheduled time.

• Changing an answer on a graded test and claiming the question response was incorrectly marked wrong.

Preclerkship Narrative Assessment Policy

<< Back to Policies Related to Evaluation

Background

Narrative assessment can be used as a tool to provide meaningful insights about the knowledge, clinical competence, and professional development of our students. Through this policy we aim to systematically provide students in the pre-clinical phase of the curriculum with feedback on their performance on the following Competency-Based Learning Objectives (CBLOs):
- Interpersonal and Communication Skills 3 (ICS-3) – Communicate effectively with members, including both physician and non-physician professionals, of the health care team

- Professionalism 1 (PROF-1) – Maintain a professionally appropriate demeanor, exhibit high standards of professional integrity, and demonstrate an awareness of potential conflicts of interest

- Professionalism 4 (PROF-4) – Work collaboratively and effectively in interprofessional teams

- Practice-Based Learning and Improvement 1 (PBLI-1) – Demonstrate the skills needed for lifelong learning including the ability to identify and address personal strengths and weaknesses to incorporate formative feedback, and to self-assess knowledge and performance to develop a self-improvement plan

- Practice-Based Learning and Improvement 3 (PBLI-3) – Participate in the education of peers and other members of the health care team

**Assessment criteria**

*Narrative assessment must be provided in preclinical courses in which students work in small groups of 12 or less for at least 3 separate mandatory sessions. For activities in which a given instructor supervises more than one small group they will provide narrative feedback when they can observe each individual small group for a minimum of 30 minutes (taken together, across all small group sessions).*

Narrative assessment can be provided in courses that do not meet these criteria, provided that the instructor demonstrates the nature of the interaction allows for meaningful feedback regarding the indicated CBLOs.
The profession of medicine requires the utmost commitment of time and energy to patient care and research activities. While the development of this commitment begins in the preclinical years, it is further practiced and developed during the clinical clerkship.

The clinical clerkship year at Washington University School of Medicine comprises 48 weeks of required core clinical experiences. All students on the clinical clerkships have a scheduled 2-week winter recess break, a 3-day spring break and a 2-week break between the end of the third-year clinical clerkships and the start of fourth-year
elective rotations (or free time prior to graduation for MSTP students). During every clinical clerkship, each student is expected to participate fully in all activities of the clerkship up until the designated end time of the clerkship or the start time of a holiday break. This regularly requires participation beyond formal weekday hours to include evening and nighttime call and clinical responsibilities on weekends.

If a student is ill or has a personal emergency, (s)he should notify the clerkship course master's office and the resident supervising his/her clinical team the morning of the absence. If the absence extends beyond two consecutive days, the student should also notify the Office of Student Affairs.

It is recognized that a student may, on a very occasional basis, desire to be excused from clinical activities for professional or significant personal events. For the third year, the Curriculum Evaluation Committee agreed upon the following guidelines regarding the maximum number of days of excused absences (including illness) from clerkships: Students may miss up to 5 days on a 12-week clerkship, 3 days on a 4- or 6-week clerkship, and 1 day for a 2-week clerkship without making up the missed time. Students must recognize that clerkship teaching, learning and evaluation are dependent on the student's presence and participation in every aspect of the clerkship. While students will not be graded down only because of an excused absence, time spent away from the clerkship may decrease learning and impede effective evaluation; students are encouraged to make up missed work on rotations in which this can result in meaningful learning and should discuss this option with the clerkship director. It is the responsibility of the student to directly contact the clinical clerkship course director in writing (by letter or e-mail) to obtain permission for any planned absences well in advance of the planned absence.

At the discretion of the course director, any student who misses portions of the clinical clerkship experiences due to planned and/or unplanned absences that exceed the maximum time may be required to utilize winter recess, spring break or free time at the end of the third year clinical clerkships to complete the 48 weeks of mandatory clinical clerkships.
Absence Policy for MSTP Students on Clinical Clerkships

MSTP students are allowed to miss up to three days of any four-week clerkship, and up to nine days of any 12-week clerkship for any reason including interviews. This is a substantially more flexible policy than we have towards the M.D. students, in which we limit the number of days off to three in a four-week period, and five in a twelve-week period. We recognize that for some MSTP students entering competitive specialties with limited interview dates it may be necessary for them to plan far enough ahead in their training to schedule a month for either a very light elective or a free month to allow appropriate flexibility for interviews. The committee also agreed that the MSTP students should be encouraged to:

1. talk with Dr. Kathryn Diemer early for assistance in residency planning;

2. seriously consider coming out of lab a month earlier to allow flexibility for interviewing; and

3. delaying graduation by one year to increase flexibility. When absences are necessary on a clerkship, advanced discussion with the clerkship director will better allow placement on a team to allow maximum educational value. We believe this policy strikes an appropriate balance between increased flexibility for the MSTP students and assuring a meaningful educational experience on the core clerkships.
Absence Policy for MD Students on Fourth-Year Electives

The profession of medicine requires the utmost commitment of time and energy to patient care and research activities. While the development of this commitment begins in the preclinical years, it is further practiced and developed during the clinical clerkship and elective years.

The elective year at Washington University School of Medicine encompasses a 44-week time block and requires students take a minimum of 36 weeks of elective experiences. All students have a scheduled two-week winter recess and a three-day spring break during the academic year. During each elective, each student is expected to participate fully in all activities of the elective up until the designated end time of the elective or the start time of a holiday break. This could require participation beyond formal weekday hours to include evening and nighttime call and clinical responsibilities on weekends.

If a student is ill or has a personal emergency, (s)he should notify the elective course master's office and the resident supervising his/her clinical team the morning of the absence. If the absence extends beyond two consecutive days, the student should also notify the Office of Student Affairs.

It is recognized that a student may, on a very occasional basis, desire to be excused from clinical activities for professional absences or significant personal events. For the fourth year, the Curriculum Evaluation Committee agreed upon the following guidelines regarding the maximum number of days of excused absences (including illness) from electives: During interview season, students will be allowed to miss up to five days in a four-week rotation; any additional days off would require approval by the
Associate Dean for Medical Student Education and the elective course director. Days off in excess of three days are to be used for residency interviews.

The rest of the elective year follows the third-year absence policy: Students may miss up to five days on a twelve-week rotation, three days on a four-week rotation, and one day for a two-week rotation without making up the missed time. Students must recognize that elective teaching, learning and evaluation are dependent on the student’s presence and participation in every aspect of the elective. While students will not be graded down because of an excused absence alone, time spent away from the elective may decrease learning and impede effective evaluation. Because of these meaningful learning experiences, students are encouraged to make up missed work on rotations and should discuss this option with the course master. It is the responsibility of the student to directly contact the course director in writing (by letter or e-mail) to obtain permission for any planned absences well in advance of the planned absence.

At the discretion of the course director, any student who misses portions of the elective experience due to planned and/or unplanned absences that exceed the maximum time may be required to utilize winter recess, spring break or free time to complete the elective.

The required fourth-year Capstone course has a separate absence policy. Please refer to the course syllabus for details.

Leave of Absence Policy

<< Back to Policies Related to Absences and Leaves
I. A student may request a leave of absence for academic or personal reasons by submitting a statement in writing to the Office of Student Affairs. Such a statement should include indication of the beginning and anticipated ending dates and a brief statement of the reason (academic or personal). Requests for leave of absence must be approved by the Associate Dean for Student Affairs. Leaves of absence shall be granted for no more than one year, but in unusual cases may be renewed by the CAPES for additional years after discussion with the Associate Dean for Student Affairs. Students requiring a personal leave of absence for medical reasons must submit a supporting letter from the Director of the Student Health Service. A written statement of medical clearance will be required before the student may return from such a leave.

II. If there is a reasonable basis for believing that the continued presence of the student on campus or in clinical rotations poses a substantial threat to the student, to patients or to the rights of others to engage in their normal University functions and activities. The following procedure applies:

A. The Chancellor or his designate may impose an involuntary leave of absence when there is evidence that a student has committed an offense under these rules or the University's Judicial Code and there is evidence that the continued presence of the student on the University campus or as a participant in a clinical rotation poses a substantial threat to himself or herself, to patients or to the rights of others to continue their normal University function and activities.

B. Imposition of the involuntary leave of absence may result in denial of access to the campus, prohibition of class attendance and/or prohibition of participation in clinical rotations.

C. If an involuntary leave of absence is imposed, the suspending authority shall prepare a written notice of the imposition and shall have the notice mailed certified or personally presented to the student. The written notice shall include a brief statement of the reasons therefore, and a brief statement of the procedures provided for resolving cases of involuntary leave of absence under these rules.
D. The student shall be given an opportunity to appear personally before the suspending authority within five (5) business days from the date of service of the notice of imposition of the involuntary leave of absence. If the student asks to appear personally before the suspending authority, only the following issues shall be considered:

1. Whether the suspending authority’s information concerning the student’s conduct is reliable; and
2. Whether under all the circumstances, there is a reasonable basis for believing that the continued presence of the student on campus or in clinical rotations poses a substantial threat to the student, to patients or to the rights of others to engage in their normal University functions and activities.

E. Within one week of the date of imposition of the involuntary leave of absence, the suspending authority shall either file a statement of charges against the student with the University Judicial Board, and shall have the statement or charges served, by mail or personal service, upon the student and the dean of the school or college or director of the program in which the student is enrolled or initiate proceedings under these rules to convene a Disciplinary Committee.

F. A temporary suspension shall end when

1. rescinded by the suspending authority, or
2. upon the failure of the suspending authority to promptly file a statement of charges with the University Judicial Board or a Disciplinary Committee, or
3. when the case is heard and decided by the University Judicial Board, or the Disciplinary Committee.

Return of students from involuntary leave of absence requires clearance of both the Director of the Student Health Service and the Associate Dean for Student
III. Students receiving financial aid should be advised that at the end of sixty (60) days or more leave of absence, the grace period for loan repayment during a leave of absence may be exhausted. In such cases there will be an obligation for the student to start payments. According to the Federal rules under which loans are made, the use of a grace period during a leave of absence will generally mean that the schedule for loan repayment may be changed. Students who are receiving financial assistance should consult with the Financial Aid Office to determine the implications of a Leave of Absence for their financial aid.

IV. A student returning from a leave of absence of one year duration or less will maintain the same tuition rate. Students returning after more than one year leave of absence will assume the tuition rate of the class they are rejoining. Appeals of this policy should be submitted in writing to the registrar. Please refer to the section on Registration, Payment of Financial Obligations, Withdrawal and Refund Policy regarding policies on the effect of a leave of absence on tuition and other financially related matters.

Policy on Student Status and Benefits During Research Years or Leave of Absence

<< Back to Policies Related to Absences and Leaves

MD/PhD
Student status is maintained while in the research phase of the MD/PhD program. Students are registered in the graduate school during the research years. Both student health and disability coverage are provided by the Division of Biology and Biomedical Sciences.

MA/MD

Student status is maintained while in the research phase of the MA/MD program. Students are registered in the graduate school during the research year. Both student health and disability coverage are provided.

Five-Year MD Program

Research year here

Student status is maintained throughout the approved research year. In exceptional circumstances, a second research year may be permitted. The student may receive a stipend, but may not be considered an employee of the university. Students are registered in the School of Medicine. Both disability and student health coverage are required and are payable by the student. Outside funding often covers such fees.

Research year away

Student status is maintained throughout the approved research year. Students are registered in the School of Medicine. Both disability and student health coverage are optional with proof of like coverage. The cost of either elected coverage is payable by the student. Outside funding often allows these costs.

Leave of absence

Leave of absence year here

Student status is not maintained during the leave of absence though benefits of
student health coverage and disability insurance are optional throughout an approved leave. Costs are payable by the MD program students. MD/MA and MD/PhD students may request support for these costs from the Division of Biology and Biomedical Sciences if funds are available. The Office of Financial Aid should be consulted for information regarding loan repayment and grace periods when on a leave of absence.

**Leave of absence year away**

Same as Leave of Absence Year Here.

A student returning from a leave of absence of one year duration or less will maintain the same tuition rate. Students returning after more than one year leave of absence will assume the tuition rate of the class they are rejoining. Appeals of this policy should be submitted in writing to the registrar.

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**Other Policies — MD Program**

- Guiding Principles of Professionalism
- Technical Standards Statement
- Dress Code
- Duty Hour Policy for Medical Students
- Payments and Withdrawal & Refunds Policy
Guiding Principles of Professionalism

A. Preamble

Medicine is one of the oldest of the learned professions. A professional is one who is in command of a specialized body of knowledge and skills, and is given specific rights not typically allowed to the public. Along with those rights, the professional has specific responsibilities or duties not generally expected of the public.

The singularity of medicine is that it deals with human health. Patients are potentially at their most vulnerable when establishing a relationship with a physician. That the patient’s relationship with his/her physician involves a dependency that encompasses life and death adds further to the uniqueness of this relationship.

The label of professional is not a right but must be earned. The special contract physicians have with society has professionalism as its foundation. Professionalism consists of fundamentally important qualities including altruism, compassion and empathy, respect for patients and health care workers, commitment to ongoing excellence, honesty, trustworthiness, integrity, accountability, recognition of limits, collaboration, and duty to society.

Professional development is an on-going process at all levels of training and practice. The purpose of this document is to outline those elements of professionalism expected of our medical students. It is not meant to be all encompassing, providing exact guidelines for all possible situations. Rather, four broad categories of professional behaviors are described below, with specific principles cited for each in bold print, and examples provided for some of the principles in regular text. While this document was developed with medical students in mind, it is generally applicable to all medical professionals.
B. Professional responsibility

1. Students have a responsibility to actively participate in their education and to work to improve the educational environment for future students.

2. Students should have a willingness to pursue life-long, self-directed learning, which is an essential attribute of any professional.

3. Students should act responsibly in their personal and academic lives with regard to meeting deadlines, financial obligations and other comparable responsibilities.

4. Preparation for class and during clinical rotations sets a good example for peers, maximizes every student’s learning opportunity, and demonstrates respect for the teachers and peers.
   1. Respecting one's peers in a classroom or in the hospital setting includes behaviors such as arriving on time, exhibiting respectful body language, listening attentively, turning off cell phones and allowing all present to engage in discussion.

5. Students should report to the appropriate supervisor potentially serious errors that others have committed.

6. Students should contribute to their community.
   1. Students are encouraged to participate in the first- and second-year teaching groups.
   2. These provide a service to the larger St. Louis community, while teaching students how to communicate with people of diverse backgrounds.
   3. Students are encouraged to serve at the Saturday Neighborhood Health Clinic and other community service and teaching activities.

7. Students should be aware of the larger social and economic context in which disease occurs, and take advantage of opportunities to deepen their knowledge about this topic.
C. Competence and self-improvement

1. In order to function at the expected level, students should attend to their own physical and emotional health.
   
   1. The experience of being a medical student can be physically and emotionally challenging. Students need to be able to identify when they are overwhelmed to the point where they may not be able to function appropriately. Students are encouraged to seek educational assistance and/or the emotional support of others in these instances.

2. Recognizing and admitting errors in patient care are key to being a good physician.
   
   1. Students should view mistakes as part of learning. Assuming responsibility for mistakes is critical for professional development.
   
   2. Developing productive strategies for dealing with mistakes and non-confrontational ways of correcting them is essential.

3. Feedback, advice and criticism from residents, fellows and faculty fosters personal and professional development, and should be taken in the context of mentoring.
   
   1. Students should assume that opinions of their faculty/residents/fellows that may seem unclear are usually solidly founded, and accept feedback regarding their performance openly and maturely from individuals more experienced than they.
   
   2. Students should provide suggestions and examples for improving the mentoring environment by forthrightly evaluating their instructors.

4. Students should identify and correct errors in patient care as soon as possible or notify those who can correct it.

5. Students should balance personal and professional interests.
   
   1. Students should not over-commit.
2. Students should communicate schedule conflicts to course directors, lecturers, and/or house staff.

D. Respect for others and professional relationships

1. Students should conduct themselves with manners and consideration of all others, and be respectful of others’ time.

2. While individual effort is important in developing a medical knowledge base, much of what students learn in medical school will depend on a collaborative effort with their peers.
   1. From the first day of medical school, students should encourage each other and collaborate with their peers when appropriate in the learning environments of lectures, small group discussions, and lab sessions. In doing so, they are laying the foundation for the truly collaborative nature of medicine.
   2. During the clinical years, students should understand that their peers are a valuable resource. Likewise, a student should assist peers in patient care responsibilities.
   3. In all cases, students should respect the work and learning opportunities of their classmates and they should share educational opportunities with their peers. Professional behaviors include listening to other’s presentations, and encouraging others’ opportunities to present, ask/answer questions, admit patients, participate in surgical cases/procedures, or perform duties.

3. Respect for the ethnic and cultural diversity of classmates provides for a more nurturing environment for all.
   1. Students should be aware that their classmates come from a wide variety of religious and ethnic backgrounds and that they will have differing lifestyles and viewpoints. This diversity is an important resource in our community, contributing to personal and professional growth of all.
   2. Students should be sensitive to the importance of these issues and should
seek opportunities to enhance appreciation of multiple cultures through
dialog, educational opportunities, etc.

4. Students should be supportive of peers during difficult times in their personal
and professional lives.

   1. Students must appreciate that their peers may have issues in their personal
   or professional lives (e.g. family, medical, academic, or administrative
   problems) that may affect their interactions with others. In these
   circumstances, students should make every attempt to be sympathetic and
   to offer their support to those students.

5. Participation and teamwork enhances the educational experience.

   1. The learning process is a partnership between students and faculty.
   Students should actively participate in this partnership by providing
   feedback to professors by way of evaluations and surveys.

   2. Contributing to the overall functioning of the team maximizes both learning
   and patient care in the clinical setting.

6. Understanding the appropriate venues for feedback to house
   staff/fellows/faculty is critical to successfully resolving conflicts.

   1. Students should be aware of the hierarchy of the team, and appropriate
   mechanisms for handling disagreement with faculty/residents/fellows.
   Conflicts can be translated into productive outcomes if handled
   appropriately.

   2. www.universitycompliance.wustl.edu/codeofconduct

7. Maintaining a professional relationship with teachers (including
   faculty/residents/fellows and TAs) is important, especially during times when
   these teachers are in a position to grade or evaluate the student.

   1. Students should avoid behaviors that could potentially be construed as
   attempting to influence the faculty, for example running personal errands.

   2. The University has specific codes and regulations regarding romantic
relationships between a student and a teacher, including faculty/resident/fellows (www.wustl.edu/policies/consent.html). Students engaged in such relationships should review these codes and avoid any situation that can cause potential conflict of interest in the academic setting.

8. Patients should be treated as individuals in the context of their family, culture and community. Personal bias should be subordinated when possible to further the therapeutic relationship.
   1. Use of offensive language or gestures is unacceptable.
   2. At times, some religious beliefs will require the use of alternative care approaches.
   3. Students, like practicing physicians, should not refuse to participate in the care of a patient with a communicable disease unless this represents a meaningful threat to the student’s own health. In contrast, a student who is verbally or physically threatened by a patient may ask to be excused from care of that patient.

9. Students should treat hospital staff with appreciation and respect as they are vital members of the health care team.

E. Honesty and integrity

1. Student work should be original.
   1. Only authorized resources should be used during examinations, quizzes or graded course work. WUSM has a zero tolerance policy for plagiarism. [link to University’s definition]
   2. When students are aware that a classmate has submitted work that is not their own (cheated), they should discuss this situation with the Course Master and/or the Associate Dean for Student Affairs.

2. Students must respect patients’ rights and maintain confidentiality, in accordance with HIPAA guidelines.
1. Students should be ever aware that patients are ill and have the right to refuse care, particularly when poorly provided.

2. Patient information should only be discussed with appropriate people at appropriate times.

3. Patient records should not be photocopied carelessly or removed from appropriate areas.

4. Patient information should be disposed of appropriately to prevent careless transmission of patient information.

3. Students should clearly communicate their abilities and level of training to patients.

   1. If a student does not know the answer to a patient’s question, it is his/her responsibility to admit this lack of knowledge.

   2. Even if other members of the health care team introduce students to patients as “doctor,” the student should never do so as it leads to a false perception of expertise on the patient’s part.

   3. Students should always be truthful with the house staff and other medical staff in terms of patient care and never compromise patient care as a consequence of personal gain.

4. Students should not participate in any aspect of patient care if under the influence of a substance that may compromise his/her judgment or otherwise cause the patient harm. Likewise, students should report any member of the health care team who may be participating in patient care while under the influence of a judgment-impairing substance.

5. Any student who is impaired by physical or psychological illness should excuse him/herself from patient care responsibilities, and should also respect recommendations to do so from colleagues or supervisors.

6. Although students are often tired or under stress, they should attempt to maintain an appropriate level of composure at all times.
7. Students should be appropriately attired for all patient care duties.

8. Students should carefully consider their participation in benefits provided by pharmaceutical companies or other medically-related businesses.

9. Students should respect the laws of federal, state and local governments in both professional and private life.

Washington University School of Medicine Professionalism Concern Form

Please see Appendix B in the “Rules Governing Review of Student Performance” booklet.

Technical Standards Statement

Graduates of Washington University with a Doctor of Medicine degree are expected to have broad competence in the basic skills that underlie the general practice of medicine and surgery. All graduates must be able to take a history, examine a person, synthesize the findings into a diagnosis and plan of evaluation and treatment independently. Thus, medical students must possess the requisite sensory, motor, communicative and cognitive capabilities to accomplish these requirements in a reliable manner in order to be competent and safe medical practitioners.
Dress Code

While Washington University School of Medicine does not have a written dress code, it is expected that all students will dress in attire that is appropriate for a professional.

Appropriate attire in the clinical setting is especially important, not only because the student will be part of the team representing the medical profession to patients, but also because the student will be representing the School of Medicine.

Appropriate attire for male students on the clinical services includes man-tailored shirt and tie, trousers or slacks and closed toe shoes. Appropriate attire for female students includes a dress, a blouse, tailored shirt or sweater, slacks or skirt, and closed-toe shoes. Both men and women should wear a short white jacket with the appropriate identification card clearly visible.

Duty Hour Policy for Medical Students

* This policy applies to fourth-year students as well.

Clerkship directors and directors of other clinical rotations are responsible for monitoring and ensuring that duty hours are adjusted as necessary. Duty hours are defined as all clinical and academic activities related to medical student education.
including patient care (both inpatient and outpatient), administrative duties (completion of paperwork, dictation of charts, etc.), the provision for transfer of patient care (check-in, check-out, etc.), time spent in-house while on call, and scheduled academic activities (i.e., required academic conferences). Time spent reading, doing write ups, etc, after leaving the hospital (or after having been told you can leave) does not count toward duty hours. Student duty hours are set taking into account the effects of fatigue and sleep deprivation on learning and patient care.

- Students must not be scheduled for more than 80 clinical duty hours during a seven-day week, averaged over a four-week period.
- Students must have a minimum average of four 24-hour periods off over four weeks.
- Students must not be on overnight call more frequently than every third night.
- Students cannot be on call for more than 24 successive hours, with an added period of up to 4 hours for continuity, educational debriefing, and didactic activities. No new patients should be assigned to students after the 24-hour call limit.
- All WUSM third- and fourth-year students will have all official Washington University holidays off, regardless of whether the students’ team is on-call or post-call the day of the holiday. On the work day directly preceding the holiday, students will be dismissed by 5 p.m., and will not be assigned call duties, or regular clinical duties, until the day following the holiday at the time set forth by the clerkship director, chief resident, or fourth-year elective course master.
- Students are strongly encouraged to discuss issues pertaining to days off with the resident at the beginning of the clerkship, or fourth-year elective, and to contact the respective clerkship director, elective course master, or resident, in writing (by letter or email) to obtain permission for any planned absences well in advance of the planned absence.
- Individual clerkship directors and directors of clinical rotations may choose to implement duty hour guidelines that are more restrictive than the above.
However, duty hours may not exceed the above regulations.

- If you encounter a duty hour violation, please discuss first with the clerkship director or elective coursemaster. If the issue is not resolved to satisfaction, you may approach Deans Michael Awad, Lisa Moscoso, or Alison Whelan.

Payments and Withdrawal & Refunds Policy

The University billing system provides a central financial account against which most student expenses incurred at the University will be posted, including but not limited to tuition, housing charges, parking, library fines, etc. This policy, when referring to tuition and other charges, includes any and all charges posted to this account.

All payments of tuition and other University charges are due and payable on the dates specified in the published calendars of the programs in the School of Medicine. Failure of a student to register when required, and pay tuition and other charges incurred on or before the date specified in the published calendar, will result in a late fee of $50 to be added to the amount due. The late fee will be imposed seven days after the due date if full payment has not been received. Tuition and other charges are usually payable twice a year, at the start of the academic year, and again at the middle of the academic year, as listed on the schedule on the academic calendar.

In addition to the $50 late fee, any payment due from the student and not paid by the specified date will accrue interest at the current market rate in effect on the first business day of the month in which the payment is due. This fee will be imposed on
any accounts not paid in full within 30 days of the due date. Any amount not paid when due (plus accrued interest thereon) must be paid in full within three months of the due date to avoid potential suspension from classes.

If a student fails to make payments within three months of the original due date, the School will not release the student’s academic record, grade reports or transcript, pending settlement of the unpaid account. A student who has not satisfied all of his/her delinquent financial obligations to Washington University (tuition, University housing, parking, etc.) one month before the end of the academic year will not be allowed to progress to the next academic year, nor can they be issued a diploma.

Federal financial aid funds for the next academic year cannot be disbursed until all prior year balances are paid in full.

Students who rely on financial aid funds to meet their obligations should submit their applications for processing according to application deadlines published by the Office of Financial Aid. Deadlines allow for receipt of financial aid funds by payment due dates if applications are filed by the deadline. The Office of Student Financial Aid will assist students with loan applications and financial planning upon request.

A student who withdraws or takes a leave of absence from the School will receive a pro rata refund of tuition and appropriate fees. The refund will be based on the ratio of the class days enrolled (from the first day of classes to the termination date) to the total number of class days in the term for which tuition and fees were paid. It is understood that the date on which a student formally notifies the Registrar’s Office in writing of the decision to withdraw or take a leave of absence from the School of Medicine shall be regarded as the termination date, with no retroactive clause to be accepted. A prospective date will be accepted, however. If tuition and fees were paid entirely or in part by financial aid from the School, the refund will be applied first to the total repayment of the accounts from which financial aid was drawn, with any remaining refund balance given to the student. Financial aid received in excess of the costs of tuition and fees must be refunded by the student to the School on the same pro rata basis as calculated for the tuition refund outlined above – per “Return of Title
IV Federal guidelines. Any questions about these policies may be directed to either the Office of the Registrar or Financial Aid.

Applied Health Behavior Research Policies

Standards for Satisfactory Academic Progress for Financial Aid Eligibility

For additional policies, please visit the Applied Health Behavior Research website.

Audiology and Communication Sciences Policies

Standards for Satisfactory Academic Progress for Financial Aid Eligibility

For additional policies, please visit the Program in Audiology and Communication Sciences website.
Biology and Biomedical Sciences Policies

For additional policies, please visit the Division of Biology and Biomedical Sciences website.

Biomedical Engineering Policies

For additional policies, please visit the Biomedical Engineering website.

Biostatistics Policies

Standards for Satisfactory Academic Progress for Financial Aid Eligibility

For additional policies, please visit the Division of Biostatistics website.

Clinical Investigation Policies
Standards for Satisfactory Academic Progress for Financial Aid Eligibility

For additional policies, please visit the Clinical Research Training Center website.

Doctor of Philosophy Policies

For additional policies, please visit the Division of Biology and Biomedical Sciences website.

Genetic Epidemiology Policies

Standards for Satisfactory Academic Progress for Financial Aid Eligibility

For additional policies, please visit the Genetic Epidemiology website.

Occupational Therapy Policies

Standards for Satisfactory Academic Progress for Financial Aid Eligibility
Physical Therapy Policies

Standards for Satisfactory Academic Progress for Financial Aid Eligibility

For additional policies, please visit the Program in Physical Therapy website.

Population Health Sciences Policies

Standards for Satisfactory Academic Progress for Financial Aid Eligibility

For additional policies, please visit the Master of Population Health Sciences website.

Public Health

For additional policies, please visit the Master of Public Health website.
People

Washington University Medical Center is one of the nation's biggest academic medical centers and among the largest employers in the St. Louis metropolitan area.

2015-2016 By the Numbers

Total Students: 1,348

- MD, MD/PhD, MA/MD: 598
- Applied Health Behavior: 13
- Audiology and Communication Sciences: 71
- Clinical Investigation: 92
- Genetic Epidemiology: 39
- Occupational Therapy: 276
- Physical Therapy: 241
- Population Health Sciences: 18
- Faculty: 1,983

Non-faculty Assistants and Others: 144

Staff: 7,004

Total Employees: 9,204

Affiliated Private Practice Faculty: 1,389
Residents: 805

Clinical Fellows: 302

Leadership

Please visit the About section for Officers of the School of Medicine and other leadership groups of the school and university.

Faculty

The All Faculty listing in the Bulletin of the School of Medicine is drawn from the Washington University Human Resources Management System (HRMS) and provides academic appointments and education details. To update or change a faculty member’s Bulletin listing, please contact the HRMS representative for your department, division or program.

For faculty contact information, please visit the Washington University online directory.

Search

by Last Name

Elliot Efrem Abbey, MD
Professor of Clinical Medicine (primary appointment)
MD New York University 1975
Camille N. Abboud, MD  Professor of Medicine (primary appointment)
MD American University of Beirut 1974
BS American University of Beirut 1970

Basem Abdeen  Instructor in Clinical Medicine (primary appointment)

Khaled M Abdel-Hamid  Instructor in Clinical Medicine (primary appointment)

Shabaana Abdul Khader, PHD  Associate Professor of Molecular Microbiology (primary appointment)

Basem Ablordeppey, M PH, MD  Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Emergency Medicine in Medicine

M PH University of Pittsburgh 2007
MD University of Pittsburgh 2007

Grazia Abou Ezzi, MS, PHD, MS  Instructor in Medicine (primary appointment)
MS University of Paris 2009
BS Holy Spirit Univ of Kaslik 2006
PHD University of Nice 2013
MS University of Nice 2008

Christopher Abraham, MS, MD  Assistant Professor of Radiation Oncology (Pending Executive Faculty Approval) (primary appointment)
MS Washington Univ in St. Louis 2011
BS Medical College Georgia 2005
MD Saint Louis University 2006

Philip Mulayara Abraham  Instructor in Pediatrics (primary appointment)

Marc Bruce Abrams, DDE  Instructor in Clinical Otolaryngology (primary appointment)

BA University of MO Kansas City 1968
DDENT University of MO Kansas City 1972

Barry K Abramson, MD  Instructor in Clinical Medicine (primary appointment)

BA Johns Hopkins University 1981
MD University of Miami 1985

Yousef Abu-Amer, MS  Professor of Orthopaedic Surgery (primary appointment)

Professor of Cell Biology and Physiology

BS Hebrew University 1985
MS Hebrew University 1987

Nada A Abumrad, PHD  Robert C Atkins Professor of Obesity Research in Medicine (primary appointment)

Professor of Cell Biology and Physiology

BS American University of Beirut 1972
PHD State University of New York 1978

Aninda Bhat Acharya, MD  Instructor in Clinical Neurology (primary appointment)

MD1 University of Kansas 1996
BS University of Kansas 1992
MD University of Kansas 1996
Samuel I Achilefu, PHD
Michel M Ter-Pogossian Professor of Radiology (primary appointment)
Professor of Biochemistry and Molecular Biophysics
PHD University of Nancy I 1991

Susan E Adams, PHD, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
BS University of Kansas 1977
PHD University of Kansas Medical 1984
BA University of Kansas 1977
MD Washington Univ in St. Louis 1991

Susan R Adams, MD
Instructor in Clinical Medicine (primary appointment)
BA Carleton College 1985
MD University of Missouri 1989

William S Adams
Associate Professor of Clinical Pediatrics (primary appointment)

Muyibat A Adelani
Assistant Professor of Orthopaedic Surgery (primary appointment)

Foluso O Ademuyiwa, M PH, MBBS
Assistant Professor of Medicine (primary appointment)
M PH Johns Hopkins University 2001
MBBS University of Ibadan 1999

Douglas R Adkins
Professor of Medicine (primary appointment)
BS Wright State University 1982

Benard C Adler, MD
Prof Emeritus Of Clinical Otolaryngology (primary appointment)
BS Washington Univ in St. Louis 1937
MD Washington Univ in St. Louis 1937

Azadeh Afshari, MS, DDENT
Instructor in Clinical Otolaryngology (primary appointment)
BS West Virginia University 2004
MS Univ of Texas Med Sch Houston 2013
DDENT Univ of Texas Med Sch Houston 2014

Rebecca L Aft, PHD, MD
Professor of Surgery (General Surgery) (primary appointment)
PHD Univ of Wisconsin Madison 1983
BS Univ of Wisconsin Madison 1978
MD Washington Univ in St. Louis 1992

Sirajuddin Agha
Assistant Professor of Anesthesiology (primary appointment)

Randy Agolia, MD
Instructor in Clinical Pediatrics (primary appointment)
MD St. Louis University Group of 1995

Arpana Agrawal, PHD
Associate Professor of Psychiatry (primary appointment)
PHD Virginia Comm University 2004

Philip Patrick Ahern, PHD
Instructor in Pathology and Immunology (primary appointment)
PHD Oxford University 2010

Aqeeb Ahmad
Instructor in Clinical Psychiatry (primary appointment)

Fahd Aqeeb Ahmad, MD
Assistant Professor of Pediatrics (primary appointment)
MD University of MO Columbia 2006

Homaa Ahmad, MD
Assistant Professor of Medicine (primary appointment)
MD Johns Hopkns University Medc 2003
BA Johns Hopkins University 1999

Nawal Mona Ahmed
Instructor in Clinical Otolaryngology (DDS) (primary appointment)

Gail G Ahumada, MD, MA
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BA Stanford University 1961
MD University of California 1972
MA Stanford University 1962

Walter John Akers, DVM, PHD
Assistant Professor of Radiology (primary appointment)
DVM University of MO Columbia 2001
BS University of MO Columbia 2004
PHD University of MO Columbia 2005
Abdulla Akfaly, MD Instructor in Clinical Medicine (primary appointment)
MD Aleppo University 1991
Olaguoke Kelechi Akinwande, MD Assistant Professor of Radiology (primary appointment)
Assistant Professor of Surgery (General Surgery)
MD Ross University 2009
Gustav Akk, PHD Assistant Professor of Anesthesiology (primary appointment)
BS Moscow State University 1991
PHD State Univ of NY Buffalo 1997
Natalia S Akopyants Instructor in Molecular Microbiology (primary appointment)
Ghadah Abdulaziz Al Ismaill Instructor in Medicine (primary appointment)
Ziyad Al-Aly Assistant Professor of Medicine (primary appointment)
Etihad S. Al-Falahi Instructor in Clinical Pediatrics (primary appointment)
Ream Al-Hasani, PHD Instructor in Anesthesiology (primary appointment)
PHD University of Surrey 2009
Muhammad Taher Al-Lozi, MD Professor of Neurology (primary appointment)
MD University of Panjab 1980
Bassam Albarcha Instructor in Clinical Medicine (primary appointment)
Suzanne G Albrecht Instructor in Clinical Pediatrics (primary appointment)
Amber Salter Albright, PHD, M PH Assistant Professor of Biostatistics (primary appointment)
Assistant Professor of Neurology
PHD University of Alabama-Birmingham 2015
M PH University of North Texas Heal 2005
Alexander William Aleem, MD Assistant Professor of Orthopaedic Surgery (Pending Executive Faculty Approval) (primary appointment)
MD Washington Univ in St. Louis 2010
BS Johns Hopkins University 2006
Jorge M Alegre, MD Instructor in Clinical Medicine (primary appointment)
MD School Not Listed 1965
Jennifer Marie Alexander-Brett, MD, PHD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
MD Washington Univ in St. Louis 2007
PHD Washington Univ in St. Louis 2007
BS University of Nebraska 1999
Tarek Alhamad, MD, MS Assistant Professor of Medicine (primary appointment)
MD Damascus U. Medical School 2006
MS Pennsylvania State University 2013
Alaa Ali Instructor in Medicine (primary appointment)
Muhammad A Ali, MD Instructor in Clinical Medicine (primary appointment)
MD School Not Listed 1985
Kari Leigh Allen, MA, PHD Assistant Professor of Anatomy (primary appointment)
Assistant Professor of Anthropology (Courtesy)
MA New Mexico St University 2008
PHD Duke University 2014
Paul M Allen, PHD, MS Robert L. Kroc Professor of Pathology and Immunology (primary appointment)
Hongyu An, PHD, MS  
Associate Professor of Radiology  (primary appointment)  
PHD Washington Univ in St. Louis 2001  
BS Tianjin University 1993  
MS Washington Univ in St. Louis 1999  
Ping An  
Assistant Professor of Genetics  (primary appointment)  
Jagruti Shah Anadkat, MD  
Assistant Professor of Pediatrics  (primary appointment)  
BS Ohio State University 2000  
MD Northeastern University 2005  
Milan J. Anadkat, MD  
Associate Professor of Medicine (Dermatology)  (primary appointment)  
MD Ohio University 2001  
BS University of Akron 1997  
Dhanalakshmi Subramanian Anbukumar, PHD  
Instructor in Medicine  (primary appointment)  
PHD Saint Louis University 2010  
BA Saint Louis University 2003  
Beau Mark Ances, MS, PHD, MD  
Associate Professor of Neurology  (primary appointment)  
Associate Professor of Biomedical Engineering  
Associate Professor of Radiology  
MS London School of Economics 1994  
BS University of Pennsylvania 1993  
PHD University of Pennsylvania 2000  
MD University of Pennsylvania 2001  
Kristen Minette Andersen  
Instructor in Clinical Pediatrics  (primary appointment)  
Adam Lee Anderson, MD  
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MD University of Illinois Chicago 2010  
Dale J Anderson, MD  
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MD Washington Univ in St. Louis 1978  
Neil William Anderson, MD  
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MD University of Wisconsin-Madiso 2009  
BS1 University of Wisconsin-Madiso 2005  
Richard H Anderson  
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Scott J Anderson, MD, PHD  
Instructor in Clinical Medicine  (primary appointment)  
BA University of California 1975  
MD Duke University 1982  
PHD Duke University 1981  
Usha P Andley, MS  
Professor of Ophthalmology and Visual Sciences  (primary appointment)  
Assistant Professor of Biochemistry and Molecular Biophysics  
BS Delhi University 1970  
MS Delhi University 1972  
Dorothy A Andriole  
Associate Professor of Surgery (General Surgery)  (primary appointment)  
Assistant Dean for Student Affairs and Medical Education  
BA New York University 1976  
Gerald L Andriole, MD  
Robert Killian Royce, M.D. Distinguished Professor of Urologic Surgery  (primary appointment)  
MD Jefferson Medical College 1978  
BS Pennsylvania State University 1976  
Dana E Ankney, MD  
Instructor in Clinical Pediatrics  (primary appointment)
Andrey P Anokhin, PHD, MS Associate Professor of Psychiatry (primary appointment)

George Ansstas, MD Assistant Professor of Medicine (primary appointment)

Muhammad Jaffer Ansari Assistant Professor of Clinical Medicine (primary appointment)

E. James Anthony, MD, MS, PHD Prof Emeritus Of Psychiatry (child Psych) (primary appointment)

Lucinda L. Antonacci-Fulton, MS Academic Rank held in Genetics (primary appointment)

Amal F. Antoun Instructor in Clinical Pediatrics (primary appointment)

Shafkat Anwar, MD Assistant Professor of Pediatrics (primary appointment)

Anthony John Apicelli III, PHD, MD Assistant Professor of Radiation Oncology (primary appointment)

John K Appelbaum, MD Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)

Rajendra Apte, PHD, MD Paul A. Cibis Distinguished Professor of Ophthalmology and Visual Sciences (primary appointment)

Gabriel C Araujo Instructor in Clinical Neurology (primary appointment)

Scott J Arbaugh, MD Instructor in Clinical Psychiatry (primary appointment)
MD Saint Louis University 1985
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Professor of Cell Biology and Physiology
BS Boston University 1972
MD Rush University 1976
Ana Marie Arbelaez Perez Associate Professor of Pediatrics (primary appointment)
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MD School Not Listed 1974
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MD Washington Univ in St. Louis 2003
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BA University of Notre Dame 1964
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MHA Ohio State University 2004
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BS Northwestern University 1996
Neva P Arribas, MD, AA Assoc Prof Emeritus Of Clin Ophthal & VIs Sci (primary appointment)
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AA School Not Listed 1949
Jennifer L. Arter Assistant Professor of Clinical Pediatrics (primary appointment)
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MS University of Chicago 2005
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Saira M Asadullah, MD Instructor in Clinical Medicine (primary appointment)
MD Aga Khan University 1992
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BA Brown University 1989
MPH Saint Louis University 2006
MD University of Texas Southwest 1994
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MD New York University 1984
MS New York University 1980
BS Georgetown University 1977
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BA Brown University 1989
MPH Saint Louis University 2006
MD University of Texas Southwest 1994
Richaencrypt, MD, MS, Professor of Medicine (primary appointment)
MD New York University 1984
MS New York University 1980
BS Georgetown University 1977
Leonard B Bacharier, MD, Professor of Pediatrics (primary appointment)
BA Brown University 1989
MPH Saint Louis University 2006
MD University of Texas Southwest 1994

Kyongtae T Bae, ME, PHD, Adjunct Associate Professor of Radiology (primary appointment)
ME University of Iowa 1983
PHD University of Pennsylvania 1988
Jacques Ulrich Baenziger, MD, Professor Emeritus of Biochemistry and Molecular Biophysics (primary appointment)
Prof Emeritus of Biochem & Molecular Biophysics (primary appointment)
MD Washington Univ in St. Louis 1975
BA New College of Florida 1969
Jill M Baer, MD, Assistant Professor of Clinical Pediatrics (primary appointment)
BS University of Kentucky 1972
MD University of Kentucky 1975
Maria Quintos Baggsstrom, MD, Associate Professor of Medicine (primary appointment)
BA Williams College 1991
MD University of Texas Houston 1996
Kathy Baglan, Instructor in Clinical Radiation Oncology (primary appointment)
Om Parkash Bahl, Assistant Professor of Clinical Medicine (primary appointment)
Donald M Bailey, Adjunct Instructor in Medicine (primary appointment)
Jeffrey Allen Bailey, MD, M PA, Adjunct Assistant Professor of Surgery (General Surgery) (primary appointment)
MD Saint Louis University 1996
M PA Golden Gate University 1986
Sean B Bailey, MD, MS, Instructor in Clinical Otolaryngology (primary appointment)
MD Tulane University 1987
MS Tulane University 1988
BS Tulane University 1981
Thomas C Bailey, MD, Professor of Medicine (primary appointment)
BA William Jewell College 1980
MD Washington Univ in St. Louis 1984
Gregory Eden Baker, MD, Instructor in Clinical Medicine (primary appointment)
MD Mayo Clinic 2001
Jonathan C Baker, MD, Assistant Professor of Radiology (primary appointment)
MD Washington Univ in St. Louis 2004
BS Saint Louis University 2000
Parul Bakhshi, Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Surgery (Public Health Sciences)

Dustin M Baldridge, MD, Instructor in Pediatrics (primary appointment)
MD Baylor University 2011

Megan Tierney Baldridge, MD, PHD, Assistant Professor of Medicine (primary appointment)
Assistant Professor of Molecular Microbiology
MD Baylor College of Medicine 2011
PHD Baylor College of Medicine 2009

Dennis M Balfe, MD, Professor of Radiology (primary appointment)
MD Medical College of Wisconsin 1975
BS Santa Clara University 1968

Fred J Balis, MS, MD, Assistant Professor of Clinical Medicine (primary appointment)
MS Cornell University 1985
MD Washington Univ in St. Louis 1989
BS University of Vermont 1981

Clarence William Balke, MD, Professor of Medicine (primary appointment)
BS Haverford College 1975
MD Temple University 1981

Robert H Baloh, MD, PHD, Adjunct Assistant Professor of Neurology (primary appointment)
MD Washington Univ in St. Louis 2001
BS Brown University 1995
PHD Washington Univ in St. Louis 2005
MD1 Washington Univ in St. Louis 2001

Keki Rohonton Balsara, MD, Assistant Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
BS1 University of Pennsylvania 1998
MD University of Pennsylvania 2003

Sirine A. Baltagi, Assistant Professor of Pediatrics (primary appointment)

David T Balzer, MD, Professor of Pediatrics (primary appointment)
MD Saint Louis University 1985
BS University of MO Columbia 1981

Sonya Bamba, MD, Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
MD Saint Louis University 2007

David Ban, MD, Associate Professor of Clinical Medicine (primary appointment)
BA Kalamazoo College 1976
MD University of Oregon 1980

James William Banks, MD, Instructor in Clinical Medicine (primary appointment)
MD Marshall University 1984

Dhruv Bansal, MD, Instructor in Medicine (primary appointment)
MD University of New Mexico 2011

Michael Roman Banton, MD, Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)
MD Saint Louis University 1985

Jianxin Bao, PHD, Adjunct Associate Professor of Otolaryngology (primary appointment)
PHD University of Florida 1992

Abraham Barake, Associate Professor of Clinical Medicine (primary appointment)
BS University of Maryland 1976
Vadim Baram Instructor in Clinical Psychiatry (primary appointment)

Thomas J Baranski, PHD, MD Associate Professor of Medicine (primary appointment)
Associate Professor of Developmental Biology
BS Univ of Wisconsin Madison 1985
PHD Washington Univ in St. Louis 1992
MD Washington Univ in St. Louis 1992
Peggy Barco, MED Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Medicine
MED Washington Univ in St. Louis 1987

Angela L Bard, MD Associate Professor of Clinical Pediatrics (primary appointment)
MD Indiana University Bloomington 1981
BS Indiana University Bloomington 1976
Rachel Hannah Bardowell Assistant Professor of Medicine (primary appointment)

Philip M Barger, MD Associate Professor of Medicine (primary appointment)
MD Case Western Reserve Univ 1989

Wayne Morris Barnes, PHD Associate Professor of Biochemistry and Molecular Biophysics (primary appointment)
BA University of CA Riverside 1969
PHD Univ of Wisconsin Madison 1974

Alan Roy Barnette Adjunct Instructor in Pediatrics (primary appointment)

Joaquin Barnoya, MS, MD Associate Professor of Surgery (General Surgery) (primary appointment)

Mary Barden Associate Professor of Medicine
MS Harvard University 2001
MD Universidad de San Carlos 1998

Robert L Barrack, MD Charles F and Joanne Knight Distinguished Professor of Orthopaedic Surgery (primary appointment)
MD Vanderbilt University 1980

Michael James Barratt, PHD Instructor in Pathology and Immunology (primary appointment)
PHD KINGS COLLEGE LONDON 1994

Ernie-Paul Barrette, MA Associate Professor of Medicine (primary appointment)
BS University of Rhode Island 1982
MA Harvard University 1984

Melissa Anne Barrow, PHD Instructor in Pathology and Immunology (primary appointment)
PHD University of Queensland 2003

Perry J Bartels, DDENT Instructor in Clinical Otolaryngology (primary appointment)
DDENT Marquette University 1991
BA Ripon College 1986

Thomas Joseph Bartholet, MD Instructor in Clinical Medicine (primary appointment)
MD1 Brown University 1994
BS Georgetown University 1990
MD Dartmouth College 1992

Nancy Lee Bartlett, MS, MD Koman Professor of Medical Oncology in Medicine (primary appointment)
MS Mass Inst of Technology (MIT) 1979
MD Washington Univ in St. Louis 1986
BS Stanford University 1978

Robert W Barton Assistant Professor of Clinical Medicine (primary appointment)
Ruteja A. Barve, MS, PHD 
Instructor in Genetics (primary appointment)

Donald R Bassman, MD 
Instructor in Clinical Orthopaedic Surgery (primary appointment)

Steven Bassnett, PHD 
Professor of Ophthalmology and Visual Sciences (primary appointment)

Natalie Christine Battle, MD 
Instructor in Medicine (primary appointment)

Amy Lynn Bauernfeind, PHD, M PHIL 
Assistant Professor of Anatomy (primary appointment)

M. Carolyn Baum, MA, PHD 
Professor of Occupational Therapy (primary appointment)

Margaret Elizabeth Baum, MD 
Instructor in Clinical Obstetrics and Gynecology (primary appointment)

Aimee M Baumann-Dudenhoeffer, MD 
Instructor in Pediatrics (primary appointment)
Susan L Baumer, MD  
Associate Professor of Clinical Pediatrics (primary appointment)  
MD University of Pennsylvania 1975  

Frederick D Bauschard, MD  
Assistant Professor of Clinical Medicine (Dermatology) (primary appointment)  
MD University of Pittsburgh 1968  

Michael D Bavlsik  
Assistant Professor of Clinical Medicine (primary appointment)  

Christie A. Bayer, MD  
Instructor in Clinical Pediatrics (primary appointment)  
MD University of MO Columbia 1990  
BA Saint Louis University 1986  

Susan Joy Bayliss, MD  
Professor of Medicine (Dermatology) (primary appointment)  
Professor of Pediatrics  
BA University of Texas Austin 1970  
MD University of Texas Galveston 1974  

Ronald Beach  
Instructor in Clinical Psychiatry (primary appointment)  

Wandy L. Beatty, PHD  
Assistant Professor of Molecular Microbiology (primary appointment)  
BS Montana State University 1989  
PHD Univ of Wisconsin Madison 1994  

Michael William Bebbington  
Professor of Obstetrics and Gynecology (Pending Executive Faculty Approval) (primary appointment)  

Paul Douglas Becherer, OD  
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)  
BA Southern Illinois University 1971  
OD School Not Listed 1975  

Julia M. Becker, MD  
Instructor in Clinical Pediatrics (primary appointment)  
MD University of Missouri 1997  

Robert L Becker, MD  
Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)  
MD Washington Univ in St. Louis 1969  
BA Cornell University 1965  

Stanley C Becker, PHD, MD, MA  
Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)  
BA Washington Univ in St. Louis 1948  
PHD Washington Univ in St. Louis 1951  
MD University of Chicago 1955  
MA Washington Univ in St. Louis 1950  

William L Becker, MD, MA  
Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)  
BA Earlham College 1982  
MD Washington Univ in St. Louis 1987  
MA Washington Univ in St. Louis 1987  

Bahaa Ahmad Bedair, MD  
Instructor in Medicine (primary appointment)  
MD Washington Univ in St. Louis 2013  

Jeffrey John Bednarski, MD, PHD  
Assistant Professor of Pediatrics (primary appointment)  
BS Duke University 1995  
MD Davenport University 2003  
PHD Davenport University 2003  

Earl C Beeks Jr, MD  
Associate Professor of Clinical Pediatrics (primary appointment)  
MD University of Missouri 1981
Saba Beg, MD Instructor in Medicine (primary appointment)
MD Government Medical College 2004
Avraham Beigelman, MD Associate Professor of Pediatrics (primary appointment)
MD Hebrew University 2000
James E Belcher, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS University of Texas Austin 1972
MD Washington Univ in St. Louis 1976
Andrew Curry Belden, PHD Assistant Professor of Psychiatry (primary appointment)
BS University of MO Columbia 2000
PHD Saint Louis University 2006
Joe E Belew, MD Associate Professor of Clinical Obstetrics and Gynecology (primary appointment)
BA Central Methodist College 1953
MD Saint Louis University 1957
Richard C Bell Instructor in Clinical Medicine (Dermatology) (primary appointment)
BA Northwestern University 1984
C. Elliott Bell Jr Instructor in Clinical Medicine (primary appointment)
Arbi Ben Abdallah, PHD Assistant Professor of Anesthesiology (primary appointment)
PHD Washington Univ in St. Louis 2011
William Waite Benedict Instructor in Clinical Medicine (primary appointment)
Bruno Antonio Benitez Viloria Instructor in Medicine (primary appointment)
Kenneth J Bennett, MD Associate Professor of Clinical Surgery (General Surgery) (primary appointment)
MD Tulane University 1965
Walter F Benoist, MD Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1972
BA University of Pennsylvania 1968
Max Prely Benzaquen Instructor in Clinical Neurology (primary appointment)
Tammie Lee Smith Benzinger, MD, PHD Associate Professor of Radiology (primary appointment)
MD University of Chicago 2000
BA Williams College 1993
PHD University of Chicago 1998
George Richard Benzinger III, MD Associate Professor of Anesthesiology (primary appointment)
MD University of Chicago 2000
Kathleen Mary Berchelmann, MD Assistant Professor of Pediatrics (primary appointment)
BS Amherst College 1998
MD University of Connecticut 2003
Louise E Berdan Instructor in Clinical Pediatrics (primary appointment)
Gregg Jonathan Berdy, MD Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Duke University 1979
MD Saint Louis University 1983
Susan Berdy, MD Assistant Professor of Clinical Medicine (primary appointment)
BA Brown University 1980
MD Saint Louis University 1984
Mikhail Y Berezin, PHD, MS Assistant Professor of Radiology (primary appointment)
PHD Moscow Institute of Oil & Gas 1991
MS Moscow Institute of Oil & Gas 1987
Christine R. Berg, MS, BSOT, PHD Associate Professor of Occupational Therapy (primary appointment)

Associate Professor of Neurology
MS Boston University 1980
BSOT Tufts University 1976
PHD Washington Univ in St. Louis 1999
Daniel Ralph Berg, MD Assistant Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 2000

Douglas E Berg, PHD Alumni Prof Emeritus of Molecular Microbiology (primary appointment)
BS Cornell University 1964
PHD University of Washington 1969

Martin Bergmann Assoc Prof Emeritus Of Clin Surg (Cardio Surg) (primary appointment)
BA Washington Univ in St. Louis 1942

Michael A Berk, MD Professor of Clinical Medicine (primary appointment)
BA Northwestern University 1974
MD Indiana University Bloomington 1979

Lynda Cheryl Berkowitz, MS Instructor in Otolaryngology (primary appointment)
Instructor in Audiology and Communication Sciences
BS University of Illinois 1981
MS Washington Univ in St. Louis 1983

John Rutledge Bermingham Jr, PHD Associate Professor of Genetics (primary appointment)
BS Yale University 2016
PHD University of Colorado Boulder 2016

Cory Thomas Bernadt, PHD, MD Assistant Professor of Pathology and Immunology (primary appointment)
PHD University of Nebraska 2004
MD University of Nebraska 2006
BS Nebraska Wesleyan University 1998

Carlos Bernal-Mizrachi, MD Associate Professor of Medicine (primary appointment)
Associate Professor of Cell Biology and Physiology
MD Universidad del Valle Med Sch 1990

Lisa Marie Bernhard, MD Instructor in Obstetrics and Gynecology (Pending Dean's Approval) (primary appointment)
MD Louisiana St University 1985
BA Vanderbilt University 1981

Paul M Bernier, ODA Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BS Indiana State University 1983
OD University of Missouri 1987

Aaron M Bernstein, MD Assistant Professor of Clinical Medicine (primary appointment)
MD University of Chicago 1952
BA Washington Univ in St. Louis 1948

Keith A Bernstein, MD Instructor in Clinical Medicine (primary appointment)
MD University of Missouri 1987
BA University of MO Kansas City 1987

Marc Jordan Bernstein, MD Associate Professor of Clinical Medicine (primary appointment)
BA Haverford College 1988
MD Washington Univ in St. Louis 1992

**Douglas R Berson, MD** *Instructor in Clinical Medicine* (primary appointment)

BA Lehigh University 1981
MD University of Pennsylvania 1983

**Mary Ellen Bertrand, MD** *Associate Professor of Neurology* (primary appointment)

*Associate Professor of Pediatrics*

BS McKendree College 1987
MD Southern Illinois University 1993

**Stephen M Beverley, PHD** *Marvin A Brennecke Professor of Molecular Microbiology* (primary appointment)

*Head of the Department of Molecular Microbiology*

PHD University of California 1979
BS California Institute Technolo 1973

**Sanjeev Bhalla, MD** *Professor of Radiology* (primary appointment)

MD Columbia College of Phy & Surg 1994
BS Yale University 1990

**Pavan Kumar Bhamidipati, MD** *Instructor in Clinical Medicine* (primary appointment)

MD Guntur Medical College 2007

**Anita R. Bhandiwad, MD** *Assistant Professor of Medicine* (primary appointment)

MD Northwestern University 1998

**Mythili C. Bharadwaj** *Instructor in Clinical Medicine* (primary appointment)

UNKNOWN University of Madras 1988

**Shobha Bhaskar, MBBS** *Assistant Professor of Pediatrics* (primary appointment)

MBBS Bangalore University 1994

**Priya Narayana Bhat, MS, MD** *Assistant Professor of Pediatrics* (primary appointment)

MS University of AL Hunstsville 2000
BS University of AL Hunstsville 1999
MD University of South Alabama 2004

**Savita Bhat, MS** *Instructor in Clinical Psychiatry* (primary appointment)

MS1 School Not Listed 1989
MS St Xavier's College 1980

**Deepta Bhattacharya, PHD** *Assistant Professor of Pathology and Immunology* (primary appointment)

BS Indiana University Bloomington 1996
PHD University of CA Berkeley 2001

**Rakhee Kapadia Bhayani, MD** *Associate Professor of Medicine* (primary appointment)

MD Washington Univ in St. Louis 1999

**Sam B Bhayani, MD** *Professor of Surgery (Urologic Surgery)* (primary appointment)

BS Cornell University 1992
MD Washington Univ in St. Louis 1996

**Anjali Maruti Bhorade, MD** *Associate Professor of Ophthalmology and Visual Sciences* (primary appointment)

*Associate Professor of Occupational Therapy*

MD University of Chicago 1999

**Stanley I Biel, MD** *Instructor in Clinical Medicine* (primary appointment)

BA Rockford College 1974
MD University of Illinois 1978

**Frank Joseph Bier, OD** *Adjunct Instructor in Ophthalmology and Visual Sciences* (primary appointment)
Andrew J Bierhals, MPH, MD
Associate Professor of Radiology (primary appointment)

MPH University of Pittsburgh 1996
MD University of Pittsburgh 2000
BS University of Pittsburgh 1993

Joelle Biernacki, MD
Instructor in Radiology (primary appointment)

MD University of MO Kansas City 1989
BA University of MO Kansas City 1988

Laura J Bierut
Alumni Endowed Professor of Psychiatry (primary appointment)

BA Harvard University 1982

Scott W Biest
Associate Professor of Obstetrics and Gynecology (primary appointment)

Ronald C Bilchik, MD
Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)

MD University of MO Kansas City 1989
BA University of MO Kansas City 1988

Joseph John Billadello, MD
Associate Professor of Medicine (primary appointment)

MD Georgetown University 1978

Lawrence J Billy
Instructor in Clinical Surgery (General Surgery) (primary appointment)

BA Youngstown St University 1962

Ellen F Binder, MD
Professor of Medicine (primary appointment)

Professor of Occupational Therapy

MD Washington Univ in St. Louis 1981
BA Davenport University 1977

Aaron Birenbaum, MD
Assistant Professor of Clinical Medicine (primary appointment)

MD Washington Univ in St. Louis 1948

William D Birenbaum, MD
Instructor in Clinical Medicine (primary appointment)

MD University of Missouri 1983
BA Washington Univ in St. Louis 1978

Clifford Allen Birge, MD
Assistant Professor of Clinical Medicine (primary appointment)

BA Amherst College 1956
MD Washington Univ in St. Louis 1961

Stanley J Birge, MD
Associate Professor of Medicine (primary appointment)

BA Amherst College 1959
MD Washington Univ in St. Louis 1963

Thomas M Birkkenmeier, MD
Assistant Professor of Medicine (primary appointment)

BA Washington Univ in St. Louis 1978
MD Washington Univ in St. Louis 1982

Mark Gerald Birkmann
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)

BA University of Missouri 1988

Jean E Birmingham
Associate Professor of Clinical Pediatrics (primary appointment)

Elisa H Birnbaum, MD
Professor of Surgery (General Surgery) (primary appointment)

MD University of Illinois 1985
BS Univ of Wisconsin Madison 1981

Alan J Birtwistle
Assistant Professor of Clinical Neurology (primary appointment)

Kumar Sanjeev Bishnupuri, MS
Instructor in Medicine (primary appointment)
BS Tilka Manjhi Bhagalpur Univ 1988
MS Banaras Hindu University 1992
Monica E. Bishop Associate Professor of Psychiatry (primary appointment)

Joseph T Black, MD Professor of Clinical Neurology (primary appointment)
MD School Not Listed 1965
BA University of Rochester 1961
Kevin J. Black, MD Professor of Psychiatry (primary appointment)
Professor of Radiology
Professor of Neurology
Professor of Neuroscience
MD Duke University 1990
BS Brigham Young University 1986

Lynn Bennett Blackburn, MA, PHD Assistant Professor of Clinical Neurology (primary appointment)
MA Indiana University Bloomington 1970
BS Univ of Wisconsin Madison 1968
PHD Indiana University Bloomington 1972
Huldah C Blamoville Associate Professor of Clinical Pediatrics (primary appointment)
Valerie Blanc, PHD Instructor in Medicine (primary appointment)

Melvin S Blanchard, BBA, MD Professor of Medicine (primary appointment)
Director of Residency Program, Department of Internal Medicine
BBA Trevecca Nazarene College 1987
MD University of Tennessee 1994

Merilda O Blanco-Guzman, MD Instructor in Medicine (primary appointment)
MD PUCMM FACULTAT DE CIENCIAS DEL 2004

Marghuretta Dakota Bland, MS Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Neurology
Assistant Professor of Occupational Therapy
MS Washington Univ in St. Louis 2008
BS Canisius College 2004

Elizabeth Joy Blaney, MD Assistant Professor of Medicine (primary appointment)
MD Ohio State University 2007
BA Eastern Michigan University 2003
Kevin J Blanton Instructor in Clinical Pediatrics (primary appointment)

Jeffrey Alan Blatnik, MD Assistant Professor of Surgery (General Surgery) (primary appointment)
MD Case Western Reserve Univ 2007

Terra Rupert Blatnik, MD Assistant Professor of Orthopaedic Surgery (primary appointment)
MD Case Western Reserve Univ 2007
BS Allegheny College 2003

Andrew N Blatt, MA, MD Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Duke University 1987
MA Washington Univ in St. Louis 1991
MD Washington Univ in St. Louis 1992

Joshua Andrew Blatter, M PH, MD Assistant Professor of Pediatrics (primary appointment)
M PH University of Pittsburgh 2014
MD University of Pittsburgh 2008
Pablo M Blazquez Gamez, PHD Assistant Professor of Otolaryngology (primary appointment)  
PHD University of Seville 1998  
Kevin Jay Blinder, MD Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)  
MD University of MO Kansas City 1985  
Morey A Blinder, MD Professor of Medicine (primary appointment)  
Professor of Pathology and Immunology  
MD Saint Louis University 1981  
BS University of Notre Dame 1977  
Adam J. Bloom, PHD Assistant Professor of Psychiatry (primary appointment)  
Assistant Professor of Anesthesiology  
PHD Washington Univ in St. Louis 2006  
Gordon R Bloomberg Prof Emeritus of Pediatrics (primary appointment)  
BA University of Illinois 1955  
BS University of Illinois 1955  
Jeffrey D Bloss Adjunct Associate Professor of Obstetrics and Gynecology (primary appointment)  
Donald Allen Blum Assistant Professor of Clinical Medicine (primary appointment)  
Kendall Jay Blumer, PHD Professor of Cell Biology and Physiology (primary appointment)  
BA Rice University 1977  
PHD Duke University 1986  
Trina Blythe, MD Assistant Professor of Clinical Pediatrics (primary appointment)  
BA Harvard Radcliffe 1992  
MD Albany Medical College 1996  
James C Bobrow, MD Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)  
BA Yale University 1966  
MD Johns Hopkins University Medcic 1970  
Grant Bochicchio, MD, M PH Professor of Surgery (General Surgery) (primary appointment)  
MD Pennsylvania State University 1993  
M PH University of Pittsburgh 1989  
Imre Bodo Adjunct Instructor in Medicine (primary appointment)  
Ljiljana Bogunovic, MD Assistant Professor of Orthopaedic Surgery (primary appointment)  
MD Cornell University 2009  
George M Bohigian, MD Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)  
MD Saint Louis University 1965  
Barbara Ann Bohne, PHD Prof Emeritus of Otolaryngology (primary appointment)  
PHD Washington Univ in St. Louis 1971  
Donald David Bohnenkamp, MD Assistant Professor of Psychiatry (primary appointment)  
BS Saint Louis University 2003  
MD Univ of Nebraska Med Center 2007  
Irving Boime, PHD, MS Professor of Developmental Biology (primary appointment)  
Professor of Reproductive Biology in Obstetrics and Gynecology  
PHD Washington Univ in St. Louis 1970  
MS Purdue University 1966  
BS St Louis College of Pharmacy 1964  
Richard Gerald Bolanos Instructor in Clinical Obstetrics and Gynecology (primary appointment)  
Joshua P Boldt Instructor in Clinical Pediatrics (primary appointment)
Indra Bole  Instructor in Medicine (primary appointment)
BS University of Maryland 2008

Michael Bolger  Instructor in Clinical Medicine (primary appointment)

Isaac Boniuk  Professor Emeritus of Clinical Ophthalmology and Visual Sciences (primary appointment)
Prof Emeritus of Clin Ophthalmol & Vis Scien (primary appointment)
BS Dalhousie University 1958

James Scott Bonner, MD  Instructor in Clinical Neurology (primary appointment)
MD University of Missouri 1980
BA Drury College 1976

Azad Bonni, MD, PhD  Edison Professor of Neurobiology (primary appointment)
Head of the Department of Neuroscience
MD Queen's University 1986
PHD Harvard University 1996

Matthew James Bonzelet, MD  Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 2009

Adrianus C Boon, PhD, MS  Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
Assistant Professor of Molecular Microbiology
PHD Erasmus University Rotterdam 2003
MS University of Amsterdam 1997

Ingrid B Borecki, PhD, MS  Adjunct Professor of Genetics (primary appointment)
PHD University of Hawaii 1981
MS University of Hawaii 1980
BS University of Illinois 1977

Bernita Born-Wolf, OD, BN  Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD University of MO St Louis 1987
BN Saint Louis University 1978

Benjamin A Borowsky  Professor of Clinical Medicine (primary appointment)

Jonathan D Bortz  Instructor in Clinical Medicine (primary appointment)

Walter R Bosch, PHS, MS, BE  Associate Professor of Radiation Oncology (primary appointment)
PHS Washington Univ in St. Louis 1990
MS Washington Univ in St. Louis 1983
BE Washington Univ in St. Louis 1980

Ron Bose, PhD  Associate Professor of Medicine (primary appointment)
Associate Professor of Cell Biology and Physiology
PHD Cornell University 1998
PHD1 Cornell University 1998

Matthew S Bosner, MD  Assistant Professor of Clinical Medicine (primary appointment)
BS Muhlenberg College 1979
MD University of Texas Austin 1983

Paul J Botelho, MD  Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
MD Boston University 1992
BA Holy Cross College 1988

Kathryn L Botney  Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA Washington Univ in St. Louis 1980
Kelly N Botteron, MD
Professor of Psychiatry (Child Psychiatry) (primary appointment)
Professor of Radiology
BA University of Kansas 1984
MD University of Kansas Medical 1988

Laila M Bottros, MD
Assistant Professor of Anesthesiology (primary appointment)
MD Ain Shams University 1977
Michael M Bottros
Assistant Professor of Anesthesiology (primary appointment)

Lawrence V Boveri, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD University of Missouri 1988

Bryan R Bowen, OD
Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD University of MO St Louis 2001
BS University of MO Columbia 1994

William G Bowen, MD
Associate Professor of Clinical Medicine (primary appointment)
BS Davidson College 1970
MD University of North Carolina 1974

Jessica Naomi Bowers
Instructor in Clinical Obstetrics and Gynecology (primary appointment)

Angela N Bowman, PhD
Assistant Professor of Developmental Biology (primary appointment)
BA University of Pennsylvania 2006
PHD Stanford University 2012

Gregory R. Bowman, PhD
Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)
BS Cornell University 2006
PHD Stanford University 2010

Lyndsey Jean Bowman, PhD
Adjunct Instructor in Medicine (primary appointment)
PHD St Louis College of Pharmacy 2005

Martin I Boyer, MS
Carol B and Jerome T Loeb Professor of Orthopaedic Surgery (primary appointment)
MS University of Toronto 1993

Susan Kathleen Boyer, MD
Instructor in Clinical Psychiatry (primary appointment)
BA Rockhurst College 1988
MD University of Missouri 1993

Walter A Boyle III, MD
Professor of Anesthesiology (primary appointment)
Assistant Professor of Developmental Biology
Professor of Surgery (General Surgery)
MD University of CA San Francisco 1977

Jeffrey D Bradley, MD
S. Lee Kling Professor of Radiation Oncology (primary appointment)
BA Drury College 1989
MD University of Arkansas 1993

Joseph P Bradley, MD
Assistant Professor of Otolaryngology (primary appointment)
MD University of Kansas Medical 2008
BS Washington Univ in St. Louis 2003

Richard V Bradley, MD
Assoc Prof Emeritus Of Clin Surg (Gen Surg) (primary appointment)
Assoc Prof Emeritus Of Clin Surgery (gen Surg) (primary appointment)
BS Pennsylvania State University 1945
MD Washington Univ in St. Louis 1952

Robert J Bradshaw, MD
Instructor in Clinical Pediatrics (primary appointment)
BA Emory University 1976
BS Emory University 1976
Robert Harry Brady, MD
Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)

MD Tufts University 1995
BS University of Notre Dame 1988

Sabina A Braithwaite
Associate Professor of Emergency Medicine In Medicine (Pending Executive Faculty Approval) (primary appointment)

Celeste Capers Brancato
Assistant Professor of Pediatrics (primary appointment)

Keith E Brandt, MD
William G. Hamm Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)

MD Univ Texas Health Science Ctr 1983
BS Texas A&M University 1979

Gregory Harris Branham, MD
Professor of Otolaryngology (primary appointment)

BS University of South Carolina 1979
MD University of South Carolina 1983

Anoop k Brar, PHD
Instructor in Surgery (Cardiothoracic Surgery) (Pending Dean's Approval) (primary appointment)

PHD University of Edinburgh 1983
BS University of Edinburgh 1979

Richard D. Braffington Jr, MD
Professor of Medicine (primary appointment)

BA Harvard University 1974
MD Duke University 1980

Rebekah Arletta Braslow, MD
Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)

BS Stanford University 1981
MD Yale University 1987

Alan C Braverman, MD
Alumni Endowed Professor of Cardiovascular Disease in Medicine (primary appointment)

MD University of Missouri 1985

Peter Anthony Brawer, MA
Instructor in Clinical Psychiatry (primary appointment)

MA Loyola College 1999
BS University of Scranton 1997

Andrea Lynn Bredemeyer, PHD
Instructor in Medicine (primary appointment)

PHD Washington Univ in St. Louis 2006
BA Colby College 1999

Sean Michael Breit, MD
Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)

MD Ohio State University 2002

Daniel C Brennan, MD
Professor of Medicine (primary appointment)

Alan A and Edith L Wolff Distinguished Professor

MD University of Iowa 1985
BS Cornell College 1981

Audrey Brenot, PHD
Instructor in Medicine (primary appointment)

PHD University of Paris 2001
BS University of Paris 1996

Tamara L. Brent, PHD
Professor of Molecular Microbiology (primary appointment)

Alumni Endowed Professor of Molecular Microbiology

PHD Johns Hopkns University Medic 1991
MD Johns Hopkins University Medic 1991
BA Johns Hopkins University 1983

**Thomas J. Brett**, Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
Assistant Professor of Biochemistry and Molecular Biophysics
BS North Dakota State University 1992

**G. Larry Bretthorst**, MS, Associate Professor of Radiology (primary appointment)
MS University of MO St Louis 1980

**Paul C Bridgman**, MS, PHD, Professor of Neuroscience (primary appointment)
Associate Professor of Biomedical Engineering
MS University of CA San Diego 1976
BA University of San Diego 1974
PHD Purdue University 1980

**Keith Happ Bridwell**, Albert Key Distinguished Professor of Orthopaedic Surgery (primary appointment)
Professor of Neurological Surgery
BA Washington Univ in St. Louis 1973

**Matthew Brinkmeier**, MD, Instructor in Medicine (primary appointment)
MD Washington Univ in St. Louis 2007

**David L Brody**, MD, PHD, Professor of Neurology (primary appointment)
Associate Professor of Biomedical Engineering (Courtesy)
BA Stanford University 1992
MD Johns Hopkins University 2000
PHD Johns Hopkins University 2000

**Steven L Brody**, MD, Dorothy R and Hubert C Moog Professor of Pulmonary Diseases in Medicine (primary appointment)
Professor of Radiology
MD University of Michigan 1980

**Thomas J Broekelmann**, MS, Instructor in Cell Biology and Physiology (primary appointment)
MS University of MO St Louis 1982
BA University of MO St Louis 1977

**Larry G Brokering**, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)

**Igor Brondz**, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD School Not Listed 1978

**Rita Thomas Brookheart**, Instructor in Medicine (primary appointment)
Instructor in Pediatrics
BA Sweet Briar College 2003

**Christopher B. Brooks**, Associate Professor of Emergency Medicine in Medicine (primary appointment)

**Frank Brooks**, PHD, Instructor in Radiology (primary appointment)
PHD Washington Univ in St. Louis 2008

**Robert Henry Brophy IV**, MS, MD, Associate Professor of Orthopaedic Surgery (primary appointment)
BS Stanford University 1994
MS Stanford University 1995
MD Washington Univ in St. Louis 2001
BA Stanford University 1994
Angela L Brown, MD Associate Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1992

David L. Brown, MD Professor of Medicine (primary appointment)
BA University of Texas Austin 1977
MD Baylor University 1982

Lawrence R Brown, MD Assistant Professor of Emergency Medicine in Medicine (primary appointment)
BS Univ of Wisconsin Madison 1982
MD Washington Univ in St. Louis 1990

Marc Richard Brown, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BA University of Missouri 1974
OD School Not Listed 1980

Marybeth Brown, PhD, MA Adjunct Associate Professor of Physical Therapy (primary appointment)
PHD University of Southern Calif 1984
BS Russell Sage College 1967
MA University of Southern Calif 1974

Robert J Brown, MD Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD Washington Univ in St. Louis 1983
BS St Peters College 1977

Sarah Michelle Brown Assistant Professor of Pediatrics (primary appointment)

Assistant Professor of Pathology and Immunology
Instructor in Anesthesiology

Yolette V Brown, MD Assistant Professor of Clinical Pediatrics (primary appointment)
BS City University of New York 1973
MD Washington Univ in St. Louis 1982

Seth J Brownridge, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1982
BA Washington Univ in St. Louis 1978

Bernard H Brownstein, PHD Assoc Prof Emeritus of Anesthesiology (primary appointment)
PHD University of California 1968
BA Occidental College 1961

George John Broze Jr, MD Professor of Medicine (primary appointment)
Professor of Cell Biology and Physiology
Professor of Pathology and Immunology
MD University of Washington 1972

Robert M Bruce, MD Professor of Clinical Medicine (primary appointment)
MD University of Minnesota 1968
BS University of Minnesota 1968
BA Washington Univ in St. Louis 1964

Steven E. Bruce, PHD Visiting Assistant Professor of Psychiatry (primary appointment)
BA Virginia Tech 1992
PHD Virginia Comm University 1998

Michael Raymond Bruchas, PHD Associate Professor of Anesthesiology (primary appointment)
Associate Professor of Neuroscience
Janice E Brunstrom-Hernandez, Adjunct Associate Professor of Neurology (primary appointment)

Elizabeth M Brunt, MD, Emeritus of Pathology & Immunol (primary appointment)

MD University of Texas Galveston 1981

BS Georgetown University 1974

L. Michael Brunt, MD, Professor of Surgery (General Surgery) (primary appointment)

MD Johns Hopkins University Medec 1980

BA University of Mississippi 1976

Kathleen S Brunts, MD, Instructor in Clinical Medicine (primary appointment)

MD Saint Louis University 1981

BS Western Michigan University 1977

Bruce L Bryan, MD, BE,Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)

MD School Not Listed

BE Purdue University 1973

Robert Charles Bucelli, PHD, MD, Assistant Professor of Neurology (primary appointment)

PHD State Univ of NY Buffalo 2007

BS Canisius College 2001

MD State Univ of NY Buffalo 2007

Tony Wayne Buchanan, MA, PHD, Adjunct Asst Professor of Psychiatry (primary appointment)

MA University of Oklahoma 1998

PHD University of Oklahoma 2000

BA Southern Nazarene University 1995

Craig Alan Buchman, MD, Lindburg Professor of Otolaryngology (primary appointment)

Head of the Department of Otolaryngology

BA University of Georgia 1986

MD University of Florida 1990

Kathleen K Bucholz, PHD, MS, Professor of Psychiatry (primary appointment)

PHD Yale University 1986

BA Yale University 1972

MS Yale University 1976

MS1 Yale University 1982

Jacob M Buchowski, MD, MS, Professor of Orthopaedic Surgery (primary appointment)

Professor of Neurological Surgery

BS Yale University 1996

MD Johns Hopkins University 2000

MS Yale University 1996

Donald William Buck, MD, Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)

BS Indiana University Bloomington 2002

MD Johns Hopkins University 2006

Stanley Buck, MD, Instructor in Clinical Medicine (primary appointment)

MD Washington Univ in St. Louis 1977

BS Princeton University 1973

Kathryn Ann Bucklen, MD, Assistant Professor of Pediatrics (primary appointment)

MD Wake Forest University 2001

Virginia D Buckles, PHD, MS, Professor of Neurology (primary appointment)

PHD Univ of Wisconsin Madison 1981
Sara Anne Buckman, MD, PHARMD
Assistant Professor of Surgery (General Surgery) (primary appointment)
MD Univ of Wisconsin Madison 2008
PHARMD Univ of Wisconsin Madison 1999
Tara M. Budetti
Instructor in Clinical Pediatrics (primary appointment)
Philip J Budge
Assistant Professor of Medicine (primary appointment)
John B Buettner, MD
Instructor in Clinical Surgery (General Surgery) (primary appointment)
MD Washington Univ in St. Louis 1967
Lorena Buffa, MD
Instructor in Clinical Pediatrics (primary appointment)
MD University of MO Columbia 1998
Richard S Buller
Associate Professor of Pediatrics (primary appointment)
BS Michigan Tech University 1972
Rebecca Kay Bullivan, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
BS Eastern Illinois University 1988
MD University of Illinois 1992
Arnold D Bullock, MD
Professor of Surgery (Urologic Surgery) (primary appointment)
Alan A and Edith L Wolff Distinguished Professor
MD Johns Hopkins University 1987
BS Xavier University Lousiana 1983
Michelle A. Burack, PHD, MD
Adjunct Instructor in Neurology (primary appointment)
PHD University of Virginia 2000
MD Washington Univ in St. Louis 2002
BS Duke University 1990
Max H Burgdorf, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1974
BA Washington Univ in St. Louis 1970
Peter M Burgers, PHD, MS
Marvin A. Brennecke Professor of Biological Chemistry (primary appointment)
PHD Leiden University 1977
MS Leiden University 1972
Dean B Burgess, MD
Professor Emeritus of Clinical Ophthalmology and Visual Sciences (primary appointment)
Prof Emeritus of Clin Ophthalmol & Vis Sci (primary appointment)
MD University of California 1967
BA Occidental College 1963
Andreas H Burkhalter, MS, PHD
Professor of Neuroscience (primary appointment)
Associate Professor of Biomedical Engineering
Associate Professor of Neurobiology in Neurological Surgery
MS University of Zurich 1973
PHD University of Zurich 1977
Allen Cole Burks, MD
Instructor in Medicine (primary appointment)
MD Saint Louis University 2007
BS University of Central Arkansas 2002
Tamara Lavon Burlis
Associate Professor of Physical Therapy (primary appointment)
Associate Director for Clinical Education in Physical Therapy
Assistant Director of Professional Curriculum in Physical Therapy
Associate Professor of Medicine
BA Wartburg College 1988
BS Washington Univ in St. Louis 1988

Scott H Burner, MD
Associate Professor of Emergency Medicine in Medicine (primary appointment)
MD Medical University of Sth Car 1978

Carey-Ann Dawn Burnham, PHD
Associate Professor of Pathology and Immunology (primary appointment)

Associate Professor of Pediatrics
Associate Professor of Molecular Microbiology
BS University of Alberta 2002
PHD University of Alberta 2007

Candice Marie Burns
Instructor in Pediatrics (primary appointment)
BS Lee College 2004

Garrett C Burris, MD
Associate Professor of Clinical Neurology (primary appointment)

Associate Professor of Clinical Pediatrics
BS School Not Listed 1964
MD Saint Louis University 1968

Robert Burstein, MD
Prof Emeritus Of Clinical Ob & Gyn (primary appointment)
MD Washington Univ in St. Louis 1948

Harold Burton, PHD
Professor of Neuroscience (primary appointment)

Professor of Radiology
Professor of Biomedical Engineering
Professor of Cell Biology and Physiology
PHD Univ of Wisconsin Madison 1968
BA University of Michigan 1964

Donald F Busiek, MD
Instructor in Clinical Medicine (primary appointment)
BS Saint Louis University 1974
MD University of Missouri 1983

Joan Rachel Butcher
Instructor in Clinical Psychiatry (primary appointment)

Melvin J Butler
Instructor in Clinical Medicine (primary appointment)

Derek E Byers, MD
Associate Professor of Medicine (primary appointment)
BS University of Oklahoma 1993
MD University of Texas Southwest 2001

Meredith S Byers, MD
Assistant Professor of Radiology (primary appointment)
BA University of Texas Austin 1993
MD University of Texas Southwest 1997

James Byrd, MD
Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)
MD School Not Listed 1991
BS Southeast Missouri St Univers 1987

Jonathan Nicholas Byrd, MD
Instructor in Clinical Medicine (primary appointment)
BS1 Tulane University 2007
MD Washington Univ in St. Louis 2011

Minji Byun, PHD
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
PHD Washington Univ in St. Louis 2009
BS Pohang Univ of Science & Tech 2002

Galileu Cabral
Associate Professor of Clinical Medicine (primary appointment)
Kelley S. Caddel, MD
Instructor in Clinical Pediatrics (primary appointment)
BA Indiana University Bloomington 1998
MD George Washington University 2008

William Todd Cade, PHD, MS
Professor of Physical Therapy (primary appointment)

Professor of Medicine
Associate Director of Postdoctoral Fellowships in Physical Therapy
PHD University of Maryland 2002
MS University of Miami 1994

Alison Gale Cahill, MD
Associate Professor of Obstetrics and Gynecology (primary appointment)
MD University of Connecticut 2002

Bin Cai, PHD
Instructor in Radiation Oncology (primary appointment)
PHD Ohio University 2011

Nigel John Cairns, PHD
Professor of Neurology (primary appointment)
Professor of Pathology and Immunology
PHD University of London 1995

Cheryl Ann Caldwell, DPT, MHS
Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
BS University of Colorado Boulder 1976
DPT Washington Univ in St. Louis 2002
MHS Washington Univ in St. Louis 1988

Archna Calfee, MD
Instructor in Clinical Pediatrics (primary appointment)
BA Case Western Reserve Univ 1997
MD Washington Univ in St. Louis 2001

Ryan Patrick Calfee, MD
Associate Professor of Orthopaedic Surgery (primary appointment)
BS University of Virginia 1997
MD Washington Univ in St. Louis 2001

Joshua W. Calhoun, MD
Instructor in Clinical Psychiatry (Child) (primary appointment)
MD University of Connecticut 1982
BS Yale University 1978

David J Callahan
Assistant Professor of Clinical Neurology (primary appointment)
Assistant in Clinical Pediatrics

Wilma J. Calvert, PHD, BN
Adjunct Instructor in Psychiatry (primary appointment)
PHD University of Missouri 2002
BN Oral Roberts University 1981

Alejandra Camacho-Soto
Instructor in Neurology (Pending Dean's Approval) (primary appointment)
BA Georgetown University 2005

Greta Camel, MD
Asst Prof Emeritus Of Medicine (primary appointment)
MD Univ of Wisconsin Madison 1949

John William Campbell, MD
Professor of Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1973
MD Washington Univ in St. Louis 1977

Kirstin Lee Campbell, MD
Assistant Professor of Pediatrics (primary appointment)
MD Washington Univ in St. Louis 2006
BA Johns Hopkins University 2002

Meghan Clark Campbell
Assistant Professor of Neurology (primary appointment)
Assistant Professor of Radiology
BS University of Illinois 1999
Jian Li Campian, PHD, MS, MD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Neurological Surgery
PHD University of Louisville 2003
MS Peking Union Medical College 2000
MD Tianjin Medical University 1997
Samuel A Canaan Jr, MD, MA Asst Prof Emeritus of Clin Ophthal & Vis Sci (primary appointment)
MD Meharry Med College 1954
BA University of Iowa 1942
MA Columbia University 1948
Joseph Edward Cangas Assistant Professor of Clinical Pediatrics (primary appointment)
Maria J Canizares Instructor in Clinical Medicine (Dermatology) (primary appointment)
BA Saint Louis University 1996
Rosemary L Cannistraro, MD Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1992
Charles E Canter, MD Professor of Pediatrics (primary appointment)
BS Brown University 1974
BS1 Brown University 1976
MD Saint Louis University 1979
Russell C. Cantrell, MD Instructor in Clinical Neurology (primary appointment)
BS School Not Listed 1985
MD University of Tennessee 1989
Dengfeng Cao, MD Associate Professor of Pathology and Immunology (primary appointment)
MD Peking Union Medical College 1996
Yuqing Cao Associate Professor of Anesthesiology (primary appointment)
Michael G Caparon Jr, PHD Professor of Molecular Microbiology (primary appointment)
PHD University of Iowa 1985
BS Michigan State University 1981
David Anthony Caplin, MD Instructor in Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)
MD University of Cincinnati 1975
BA Kenyon College 1971
Douglas A Carano, DDENT Instructor in Clinical Otolaryngology (DDS) (primary appointment)
DDENT University of Iowa 1984
BS University of Iowa 1981
Rebecca Goodwin Carey Adjunct Instructor in Medicine (primary appointment)
John R Carlile, MD Assistant Professor of Clinical Pediatrics (primary appointment)
BS University of Kansas 1972
MD University of Kansas Medical 1975
M. Richard Carlin Assoc Prof Emer Of Clin Surg (Urologic Surg) (primary appointment)
BA Dartmouth College 1943
Abigail L Carlson, MD Instructor in Medicine (primary appointment)
MD Johns Hopkins University 2010
Kim Alan Carmichael, MD Associate Professor of Medicine (primary appointment)
MD Virginia College 1978
Michael J. Carney, MD Instructor in Clinical Pediatrics (primary appointment)
BS University of Notre Dame 1987
MD University of MO Columbia 1991
Robert Michael Carney, PHD Professor of Psychiatry (primary appointment)
Christopher Robert Carpenter, MD
Associate Professor of Emergency Medicine in Medicine (primary appointment)
MD Wayne State University 1994

Danielle Marie Ho Carpenter, MD
Assistant Professor of Pathology and Immunology (primary appointment)
MD Saint Louis University 2009
BS Saint Louis University 2002

David A Carpenter, MD
Professor of Neurology (primary appointment)
BS Amherst College 1979
MD Washington Univ in St. Louis 1983

David B Carr, MD
Professor of Medicine (primary appointment)

Alan A and Edith L Wolff Distinguished Professor of Geriatric Medicine

Javier A Carrero-Brewer, PHD, MA
Assistant Professor of Pathology and Immunology (primary appointment)
PHD Washington Univ in St. Louis 2005
MA University of Puerto Rico 2000
BS Emory University 1996

Scott Carrizales, MD
Assistant Professor of Medicine (Dermatology) (primary appointment)
MD Uniformed Serv U of Health Sciences 1996
Kenneth R Carson Assistant Professor of Medicine (primary appointment)

Alexandre Carter, PHD, MD
Assistant Professor of Neurology (primary appointment)
Assistant Professor of Occupational Therapy
PHD Harvard University 2003
MD Harvard University 2003

Ebony Boyce Carter, MS, MD
Assistant Professor of Obstetrics and Gynecology (primary appointment)

Assistant Professor of Surgery (Public Health Sciences)

Arthur L Casey, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD University of Missouri 1977

Amanda Fishback Cashen, MD
Associate Professor of Medicine (primary appointment)
BS1 Yale University 1995
BS Yale University 1995
MD Washington Univ in St. Louis 1999

Anil Govind Cashikar, MS
Assistant Professor of Cell Biology and Physiology (primary appointment)
MS Madurai Kamaraj University 1991
BS Bangalore University 1989
Rubilinda Q Casino, MD Instructor in Clinical Pediatrics (primary appointment)
MD University of Santo Tomas 1979
BS University of Santo Tomas 1979
Timothy James Casper Instructor in Pediatrics (primary appointment)
BS University of Dayton 2005
Carmen F Castellano Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BA University of MO St Louis 1977
BS Illinois College of Optometry 1980
Chesney Dawn Castleberry, MD Assistant Professor of Pediatrics (primary appointment)
MD University Texas San Antonio 2005
Mario Castro, MD, M PH Professor of Medicine (primary appointment)
Professor of Radiology
Professor of Pediatrics
Alan A and Edith L Wolff Distinguished Professor
MD University of Missouri 1988
BA University of MO Kansas City 1988
M PH Saint Louis University 1998
Valeria Cavalli Associate Professor of Neuroscience (primary appointment)
Laura Francesca Cavallone Assoc Professor of Anesthesiology (primary appointment)
Patricia A Cavazos-Rehg, PHD Associate Professor of Psychiatry (primary appointment)
BA University Texas San Antonio 1998
PHD State University of New York 2004
Lilibeth Maria Cayabyab-Loe Assistant Professor of Clinical Medicine (primary appointment)
Marina Cella, MD Associate Professor of Pathology and Immunology (primary appointment)
MD University of Genova 1989
Chad Phadung Chadaratana, MD Instructor in Clinical Otolaryngology (primary appointment)
MD School Not Listed 1964
Murali M Chakinala, MD Associate Professor of Medicine (primary appointment)
BS Duke University 1990
MD Vanderbilt University 1994
Grant A Challen, PHD Assistant Professor of Medicine (primary appointment)
PHD University of Queensland 2006
Aaron Mark Chamberlain, B MUS Assistant Professor of Orthopaedic Surgery (primary appointment)
B MUS University of Utah 2002
Kari Terece Chambers Instructor in Medicine (primary appointment)
BS Truman State University 2000
Tattamangalam P Chandrika Associate Professor of Clinical Pediatrics (primary appointment)
Chih-Hao Chang, MS, PHD, MS Instructor in Pathology and Immunology (primary appointment)
MS National Taiwan University 2015
BS National Taiwan University 2015
PHD Oxford University 2015
MS Oxford University 2015
Kae Pyng Chang, MD Instructor in Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1991
MD University of Missouri 1995
Shih Chung Chang, MD, MBA
Assoc Prof Emeritus of Ob & Gyn (primary appointment)
MD School Not Listed 1968
MBA Washington Univ in St. Louis 1994
Su-Hsin Chang, MA
Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
MA Mass Inst of Technology (MIT) 2004
BA National Chengchi University 1995
Monica Chang-Panesso, MD
Instructor in Medicine (primary appointment)
MD Texas Tech University 2009
Earl S Changar, OD
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD School Not Listed 1957
William T Chao, MD
Instructor in Clinical Pediatrics (primary appointment)
BS University of Illinois 1975
MD University of Illinois 1979
Ajay Rama Chapa, MS
Instructor in Radiology (primary appointment)
BS Bradley University 2001
MS CHICAGO MEDICAL SCHOOL 2001
Will C Chapman, MD
Eugene M. Bricker Professor of Surgery (General Surgery) (primary appointment)
MD University of South Carolina 1984
BA University of North Carolina 1980
Douglas Char
Professor of Emergency Medicine in Medicine (primary appointment)
BS Boston College 1983
Mina Charepoo
Instructor in Psychiatry (Pending Dean's Approval) (primary appointment)
Siroth Charnond
Instructor in Clinical Medicine (primary appointment)
Lewis Robert Chase, MD
Professor of Medicine (primary appointment)
BA Princeton University 1960
MD Harvard University 1964
Alexander Chi Chen, MD
Associate Professor of Medicine (primary appointment)
Associate Professor of Surgery (Cardiothoracic Surgery)
MD University of MO Kansas City 2001
Chien-Huan Chen, PHD, MD
Associate Professor of Medicine (primary appointment)
PHD Johns Hopkns University Medic 1999
MD National Taiwan University 1993
David Yuan-Sou Chen, MD, PHD
Instructor in Medicine (primary appointment)
BS University of Michigan 2003
MD Washington Univ in St. Louis 2012
PHD Washington Univ in St. Louis 2012
Delphine L. Chen, AB
Associate Professor of Radiology (primary appointment)
Associate Professor of Medicine
MD1 Washington Univ in St. Louis 1999
BA Harvard Radcliff 1995
AB Harvard Radcliff 1995
Edward C. Chen, MD
Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 2005
Feng Chen, PHD
Associate Professor of Medicine (primary appointment)
Associate Professor of Cell Biology and Physiology
BS Fudan University 1991
PHD University of Utah 1998
Jenny Chen
Instructor in Ophthalmology and Visual Sciences (primary appointment)

Li-Shiun Chen, M PH, PHS, MD
Assistant Professor of Psychiatry (primary appointment)
M PH John Hopkins University 1995
PHS Johns Hopkins University 1998
MD National Taiwan University 1993

Ling Chen, MPH, PhD
Assistant Professor of Biostatistics (primary appointment)
Assistant Professor of Medicine
BS Beijing Medical University 1996
MPH University South Carolina 2003
PHD University of MO Columbia 2009

Michael B Chen
Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
Phyllis Chen, MD
Instructor in Clinical Medicine (primary appointment)
MD Northwestern University Med 1992

Qing Chen, MD, MS
Instructor in Clinical Medicine (primary appointment)
MD Nanjing Medical University 1983
UNKNOWN School Not Listed 1983
MS Nanjing Medical University 1988

Shiming Chen, PhD
Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Developmental Biology
BS Beijing University 1981
PHD State University of New York 1992

Yasheng Chen, PhD
Assistant Professor of Neurology (primary appointment)
BA Tianjin University 1993
PHD Washington Univ in St. Louis 2002

Ying Chen, PhD, MD
Assistant Professor of Medicine (primary appointment)
PHD Vanderbilt University 2004
MD Shanghai Medical University 1996

Zhoufeng Chen
Professor of Anesthesiology (primary appointment)
Professor of Psychiatry
Professor of Developmental Biology

Ziwei Chen, PhD, MS, MBBS
Assistant Professor of Anesthesiology (primary appointment)
PHD Peking University 2001
MS Dalian Medical University 1998
MBBS Dalian Medical University 1995

Glenn S Cheng, MD
Instructor in Clinical Pediatrics (primary appointment)
MD University Texas San Antonio 1988
BS University of Texas Austin 1984

Steven Chih Nung Cheng
Associate Professor of Medicine (primary appointment)
Praveen R Chenna, MBBS
Assistant Professor of Medicine (primary appointment)
BS Washington Univ in St. Louis 1998
MBBS Sri Ramachandra Medical Colleg 2005

Mathew Amprayil Cherian, MBBS
Instructor in Medicine (primary appointment)
MBBS Christian Medical College 2000

Rebecca D Chernock
Assistant Professor of Pathology and Immunology (primary appointment)
Assistant Professor of Otolaryngology
BS Brown University 1999

James M Cheverud
Prof Emeritus of Anatomy (primary appointment)
BA Northwestern University 1975

**Milan G Chheda, MD** Assistant Professor of Medicine (primary appointment)

**Assistant Professor of Neurology**

MD Albert Einstein College of Med 2002

**John Jeonhwan Chi, MS, MD** Assistant Professor of Otolaryngology (primary appointment)

BS Columbia University 2001

MS City College 2003

MD SUNY DOWNSTATE MED BROOKLYN 2007

**Luqi Chi, MD** Associate Professor of Neurology (primary appointment)

MD Huabei Medical College for Coa 1984

**Wak S Chia, MD** Instructor in Clinical Pediatrics (primary appointment)

MD School Not Listed 1974

John N Chiapel Instructor in Clinical Otolaryngology (primary appointment)

**Rebecca Joy Chibnall, AA, MD** Assistant Professor of Medicine (Dermatology) (primary appointment)

AA Washington Univ in St. Louis 2007

MD University of California 2012

**Michael R Chicoine, MD** Professor of Neurological Surgery (primary appointment)

August A. Busch, Jr. Distinguished Professor

MD University of California 1990

**Jonathan C Chiles, MD** Assistant Professor of Pediatrics (primary appointment)

MD University of MO Kansas City 2004

BA University of MO Kansas City 2004

**Kelly Lynne Chilson, MD** Associate Professor of Anesthesiology (primary appointment)

MD University of MO St Louis 1999

**Sri Sankar Chinta** Instructor in Pediatrics (primary appointment)

MS1 Washington University 2015

**Andrew Chirchirillo, PHD** Instructor in Clinical Psychiatry (Child) (primary appointment)

BA Illinois State University 1973

PHD University of MO St Louis 1981

Phillip Ruben Chisholm Instructor in Clinical Medicine (primary appointment)

**Ronald J Chod** Adjunct Associate Professor of Obstetrics and Gynecology (primary appointment)

BA University of Texas Austin 1978

**Jaebok Choi, MS, PHD, BE** Assistant Professor of Medicine (primary appointment)

MS Univ of Nebraska at Omaha 2001

PHD Baylor University 2006

BE Kyung Pook National University 1996

Kyunghoe Choi Associate Professor of Pathology and Immunology (primary appointment)

**Richard A Chole, MD, PHD** Professor of Otolaryngology (primary appointment)

Professor of Developmental Biology

Professor of Audiology and Communication Sciences

MD University of Southern Calif 1969

PHD University of Minnesota 1977

**Hyemi Chong, MD** Instructor in Medicine (primary appointment)

BA Yale University 2003

MD University of Texas Southwest 2011

**Courtney Darcey Chrisler, MD** Instructor in Medicine (primary appointment)

BS Northwestern University 2003
MD Washington Univ in St. Louis 2007
Camaryn E Chrisman Robbins, MD, MPH Assistant Professor of Obstetrics and Gynecology (primary appointment)
MD Wake Forest University 2004
M PH University of Michigan 1998
Matthew Christopher, MD, PHD Instructor in Medicine (primary appointment)
MD Washington Univ in St. Louis 2010
PHD Washington Univ in St. Louis 2010
BA Saint Louis University 1993
Christine M Chu Assistant Professor of Obstetrics and Gynecology (primary appointment)
Wenhua Chu, MS, PHD Instructor in Radiology (primary appointment)
BS Quigdao Ocean Univ 1982
MS Academia Sinica China 1985
PHD Academia Sinica China 1988
Philip Chu Pak-Yul Instructor in Clinical Medicine (primary appointment)
Duck Sung Chun, MD Instructor in Clinical Medicine (primary appointment)
MD Seoul National University
Jeffrey Peter Ciaramita Instructor in Clinical Medicine (primary appointment)
Theodore J Cicero, MS, PHD John P Feighner Professor of Psychiatry (primary appointment)
Vice Chairman for Research, Department of Psychiatry
Professor of Neuroscience
MS Purdue University 1966
BS Villanova University 1964
PHD Purdue University 1969
Thomas Michael Ciesielski, MD Instructor in Medicine (primary appointment)
MD Oregon Health Science Univers 2010
Vincenza Cifarelli, PHD, MS Instructor in Medicine (primary appointment)
PHD University of Pittsburgh 2011
MS Universitá de Modena e Reggio 2005
Matthew Aaron Ciorba, MD Assistant Professor of Medicine (primary appointment)
MD University of Iowa 2001
Cara Alessandra Cipriano, MD Assistant Professor of Orthopaedic Surgery (primary appointment)
MD University of Pennsylvania 2007
BS Williams College 2003
John R. Cirrito, PHD Associate Professor of Neurology (primary appointment)
BA Boston College 1998
PHD Washington Univ in St. Louis 2004
Geoffrey Cislo, MD Assistant Professor of Medicine (primary appointment)
MD University of Michigan 1996
Roberto Civitelli, MDSydney M and Stella H Schoenberg Professor of Medicine (primary appointment)
Professor of Orthopaedic Surgery
Professor of Cell Biology and Physiology
BS University of Siena 1980
MD University of Siena 1980
Amy Lynn Clark, DOST Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
DOST Kirksville College of Osteopat 2009
BA Saint Louis University 2004
Billie Ruth Clark, PHD
Professor of Physical Therapy (primary appointment)
Professor of Neurology
BS Saint Louis University 1974
PHD Saint Louis University 1988
Christine M Clark
Adjunct Instructor in Audiology and Communication Sciences (primary appointment)
BA Fontbonne College 1979
William W. Clark
Professor of Otolaryngology (primary appointment)
Professor of Education
Director of the Program in Audiology and Communication Sciences
Professor of Audiology and Communication Sciences
Martin J Clarke, MA, MS, PHD
Assistant Professor of Psychiatry (primary appointment)
MA Fielding Institute 2005
MS National Louis University 1997
BS Saint Louis University 1981
PHD Fielding Institute 2011
William W Clendenin, MD
Assistant Professor of Clinical Psychiatry (primary appointment)
MD University of Tennessee 1963
David B Clifford
Melba and Forest Seay Professor of Clinical Neuropharmacology in Neurology (primary appointment)
Professor of Medicine
Paul F Cliften, MS, PHD
Associate Professor of Genetics (primary appointment)
MS Utah St University 1995
BS Utah St University 1992
PHD University of California 1999
Dorothy Jean Cline, MD
Instructor in Clinical Medicine (Dermatology) (primary appointment)
BA University of Missouri 1973
MD Saint Louis University 1977
John C Clohisy, MD
Daniel C. and Betty B. Viehmann Distinguished Professor of Orthopaedic Surgery (primary appointment)
MD Northwestern University 1989
C. Robert Cloninger, MD
Wallace Renard Professor of Psychiatry (primary appointment)
Professor of Psychiatry
Professor of Psychological & Brain Sciences
Professor of Genetics
BA University of Texas Austin 1966
MD Washington Univ in St. Louis 1983
James Close, MD
Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1984
Andrew Stephen Cluster, MD
Instructor in Pediatrics (primary appointment)
BS University of Maryland 2006
MD University of Texas Southwest 2010
William Edward Clutter, MD
Associate Professor of Medicine (primary appointment)
Associate Director of the House Staff Training Program, Department of Internal Medicine
BS Ohio State University 1972
MD Ohio State University 1975
Lawrence A Coben, MD
Assoc Prof Emeritus Of Neurology (primary appointment)
MD Case Western Reserve Univ 1954
Heidi Atwell Coco, DOST
Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
BS Truman State University 2000
DOST Kirksville College of Osteopat 2005
John E. Codd, MD
Professor of Clinical Surgery (Cardiothoracic Surgery) (primary appointment)
BA Gonzaga University 1954
MD Saint Louis University 1963
Andrew Richard Coggan, MS, PHD
Adjunct Assistant Professor of Radiology (primary appointment)
MS Ball State University 1983
PHD University of Texas Austin 1986
BS Ball State University 1981
Albert Murray Cohen, MD
Assistant Professor of Anesthesiology (primary appointment)
MD Baylor University 1977
Barak Alon Cohen
Professor of Genetics (primary appointment)
Alvin Goldfarb Distinguished Professor of Computational Biology
BA Gonzaga University 1954
MD Saint Louis University 1963
BS Truman State University 2000
DOST Kirksville College of Osteopat 2005
Andrew Richard Coggan, MS, PHD
Adjunct Assistant Professor of Radiology (primary appointment)
BS Ball State University 1983
PHD University of Texas Austin 1986
BS Ball State University 1981
Albert Murray Cohen, MD
Assistant Professor of Anesthesiology (primary appointment)
MD Baylor University 1977
Barak Alon Cohen
Professor of Genetics (primary appointment)
Alvin Goldfarb Distinguished Professor of Computational Biology
BS Cornell University 1992
Bruce H Cohen, MD
Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Harvard University 1976
MD Johns Hopkins University 1980
Darryl S Cohen, DOST
Assistant Professor of Clinical Pediatrics (primary appointment)
DOST School Not Listed 1981
BA University of North Texas 1976
Gene C Cohen
Instructor in Clinical Otolaryngology (DDS) (primary appointment)
BS University of Missouri 1971
Shari J Cohen
Assistant Professor of Clinical Medicine (primary appointment)
Sheldon C Cohen, DDENT
Instructor in Clinical Otolaryngology (primary appointment)
BS Washington Univ in St. Louis 1973
DDENT Southern Illinois University 1976
William Mark Cohen, MS, DDENT
Instructor in Clinical Otolaryngology (DMD) (primary appointment)
MS University of North Carolina 1991
DDENT Washington Univ in St. Louis 1988
Zachary Robert Cohen, MD
Assistant Professor of Anesthesiology (Pending Executive Faculty Approval) (primary appointment)
MD University of Illinois 2010
Barbara A Cohlan, MD
Professor of Pediatrics (primary appointment)
BA University of Michigan 1974
MD New York University 1978
Brian G Cohn, MD
Assistant Professor of Emergency Medicine in Medicine (primary appointment)
MD University of Alabama 2003
Susan R Colbert-Threats, MD
Assistant Professor of Clinical Medicine (primary appointment)
BS Northwestern University 1986
MD University of Illinois 1991
Graham A Colditz, MBBS, DRPH
Niess-Gain Professor of Surgery (General Surgery) (primary appointment)
Professor of Medicine
Deputy Director for the Institute of Public Health  
BS University of Queensland 1977  
MBBS University of Queensland 1979  
DRPH Harvard University 1986  
Danita L Cole Instructor in Clinical Medicine (primary appointment)  
F. Sessions Cole, MD Park J White, M.D. Professor of Pediatrics (primary appointment)  
Vice Chair of the Department of Pediatrics  
Professor of Cell Biology and Physiology  
Assistant Vice Chancellor for Children’s Health, Washington University School of Medicine  
MD Yale University 1973  
BA Amherst College 1969  
John C. Cole, MD, PHD Instructor in Clinical Pediatrics (primary appointment)  
BA Washington Univ in St. Louis 1995  
MD Washington Univ in St. Louis 2003  
PHD Washington Univ in St. Louis 2003  
Patricia L Cole, MA, MD Associate Professor of Clinical Medicine (primary appointment)  
BA Mount Holyoke College 1972  
MA Brown University 1975  
MD Harvard University 1981  
Roger Barto Cole, MS, MD, PHD Instructor in Clinical Medicine (primary appointment)  
MS Yale University 2001  
MD Washington Univ in St. Louis 2008  
PHD Yale University 2004  
BS Rice University 1997  
Sarah F Cole Instructor in Clinical Medicine (primary appointment)  
Lloyd W Coleman, MS, PHD Instructor in Medicine (primary appointment)  
MS Iowa State University 1976  
PHD Iowa State University 1984  
BS Northeast Missouri St Univrsty 1973  
Laura Ann Colletti-Mann Associate Professor of Medicine (primary appointment)  
Lora Pearlman Collier Instructor in Clinical Pediatrics (primary appointment)  
Brian Tyler Collins, MD Associate Professor of Pathology and Immunology (primary appointment)  
MD University of MO Columbia 1988  
Vicente M Colon-Alcaraz, MD Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)  
BA University of Puerto Rico 1978  
MD School Not Listed 1982  
Marco Colonna Robert Rock Belliveau MD Professor of Pathology and Professor of Medicine  
Berdale S. Colorado, MS, DOST Assistant Professor of Orthopaedic Surgery (primary appointment)  
Assistant Professor of Neurology  
MS Des Moines Universtiy 2009  
DOST Des Moines Universtiy 2009  
BS University of Iowa 2004  
Nicholas J Colosi, MD Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)  
MD Saint Louis University 1968  
BA La Salle University 1964
Kim David Colter, MS, MD
Instructor in Clinical Medicine (primary appointment)
MS University of CA Berkeley 1974
MD Washington Univ in St. Louis 1978
BS MO S&T (formerly UofMO Rolla) 1973

Eric S Colton, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS University of CA Irvine 1987
MD Saint Louis University 1996

Bryanne Noel Colvin
Instructor of Pediatrics (Pending Dean's Approval) (primary appointment)

Arthur Hamilton Combs, MD
Associate Professor of Clinical Medicine (primary appointment)
MD New York Medical College 1975

Paul Kevin Commean
Assistant Professor of Radiology (primary appointment)
Assistant Professor of Physical Therapy
BS Georgia Tech 1982

Susan Conger
Instructor in Clinical Pediatrics (primary appointment)

David M Conner, MD
Instructor in Clinical Psychiatry (primary appointment)
MD University of Oklahoma 1983

Shayna N Conner, MD
Assistant Professor of Obstetrics and Gynecology (primary appointment)
MD University of MO Columbia 2008
BA George Washington University 2003

Anne Maureen Connolly, MD
Professor of Neurology (primary appointment)
Professor of Pediatrics
MD Indiana University Bloomington 1984
BS Saint Mary's College 1980

John Michael Conoyer, MD
Instructor in Clinical Otolaryngology (primary appointment)
BS Southeast Missouri St Univers 1971
MD Vanderbilt University 1975

Donald Franklin Conrad
Assistant Professor of Genetics (primary appointment)
Assistant Professor of Pathology and Immunology

Glenn C Conroy, M PHIL, PHD
Professor of Anatomy (primary appointment)
Professor of Anthropology
M PHIL Yale University 1972
PHD Yale University 1974
BA University of CA Berkeley 1970

John Nicholas Constantino
Blanche F Ittleson Professor of Psychiatry (Child Psychiatry) (primary appointment)
Professor of Pediatrics
BA Cornell University 1984

Thomas E Conturo
Associate Professor of Radiology (primary appointment)
Adjunct Associate Professor of Physics

Charles Richard Conway, MD
Professor of Psychiatry (primary appointment)
MD University of Missouri Columbi 1995

H. Groves Cooke III, MS, DDENT
Instructor in Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)
MS George Washington University 1975
BA De Paul University 1967
DDENT Washington Univ in St. Louis 1971

Daniel Horatio Cooper, MD
Assistant Professor of Medicine (primary appointment)
MD Loyola University Chicago 2003
John A Cooper, PHD
Professor of Cell Biology and Physiology
Head of the Department of Biochemistry
Professor of Biochemistry and Molecular Biophysics
BS Brown University 1977
PHD Johns Hopkins University 1983
Matthew Cooper, PHD
Instructor in Medicine (primary appointment)
PHD University of Surrey 2008
BS University of Surrey 2004
Megan A Cooper, PHD, MD
Assistant Professor of Pediatrics (primary appointment)
Assistant Professor of Pathology and Immunology
BA College of Wooster 1995
PHD Ohio State University 2002
MD Ohio State University 2004
Nathan Richard Copeland, MD
Instructor in Medicine (primary appointment)
MD University of Arizona 2012
BS University of Arizona 2006
Douglas E Coplen, MD
Associate Professor of Surgery (Urologic Surgery) (primary appointment)
BA Wabash College 1981
MD Indiana University Bloomington 1985
Maurizio Corbetta, MD
Norman J. Stupp Professor of Neurology (primary appointment)
Professor of Radiology
Associate Professor of Psychological & Brain Sciences
Professor of Neuroscience
MD University of Pavia 1985
Joseph C. Corbo, MD, PHD, AB
Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Genetics
Associate Professor of Ophthalmology and Visual Sciences
MD University of California 1999
PHD University of California 1997
BS Stanford University 1990
AB Stanford University 1990
Suzanne Marie Cornbleet, MA, DPT
Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
MA Washington Univ in St. Louis 1987
BS University of Colorado Boulder 1975
DPT Washington Univ in St. Louis 2003
Lynn Anne Cornelius, MD, BN
Winfred A and Emma R Showman Professor of Dermatology in Medicine (primary appointment)
MD University of Missouri 1984
BN University of Delaware 1977
Juan C Corvalan, MD
Asst Prof Emeritus Of Clinical Psychiatry (primary appointment)
MD School Not Listed 1965
BA School Not Listed 1957
Pamela Ann Coslick-Fada, OD
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD University of Missouri 1987
Ferdinand Louis Coste III, DOST Assistant Professor of Pediatrics (primary appointment)
DOST NY Coll of Osteopathic Med 2004
BS Cornell University 1998

John Bernard Costello, MD Instructor in Clinical Medicine (primary appointment)
BA Saint Louis University 1974
MD Saint Louis University 1977

Linda B Cottler, PHD, M PH Adjunct Professor of Psychiatry (primary appointment)
Adjunct Professor of Anthropology
BA Emmanuel College 1977
PHD Washington Univ in St. Louis 1987
M PH Boston University 1980

Catherine E Cottrell, PHD Assistant Professor of Pathology and Immunology (primary appointment)
Assistant Professor of Genetics
BS Ohio State University 2001
PHD Ohio State University 2007

Steven Michael Couch, MD Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
MD University of MO Kansas City 2006

Carrie Christine Coughlin, MD Assistant Professor of Medicine (Dermatology) (primary appointment)
Assistant Professor of Pediatrics
MD Washington Univ in St. Louis 2010
BA Yale University 2005

Martha Laurin Council, MD Assistant Professor of Medicine (Dermatology) (primary appointment)
BS Louisiana St University 2000
MD Washington Univ in St. Louis 2004

Constance Stone Courtois, MD Assistant Professor of Radiology (primary appointment)
BS Wofford College 1980
MD Medical University of Sth Car 1985

Andrea Michele Coverstone, MD Instructor in Pediatrics (primary appointment)
MD Saint Louis University 2009

Douglas Floyd Covey, MA Professor of Pharmacology in Developmental Biology (primary appointment)
Professor of Anesthesiology
Professor of Psychiatry
BS Loyola College 1967
MA Johns Hopkins University 1969

Sudha Mahajan Cowsik, MS, PHD Instructor in Biochemistry and Molecular Biophysics (primary appointment)
MS Panjab University 1970
PHD Institute of Medical Science 1976
BS Panjab University 1969

James L Cox, MD Evarts A. Graham Professor Emeritus of Surgery (Cardiothoracic Surgery) (primary appointment)
Evarts A. Graham Prof Emer of Surg (Card Surg) (primary appointment)
BS University of Mississippi 1964
MD1 University of Tennessee 1967
MD University of Tennessee 1967
UNKNOWN Duke University 1978
Thomas E Cox, MD Professor of Anesthesiology (primary appointment)
BA Johns Hopkins University 1981
MD University of Virginia 1985
Daniel W Coyne, MD Professor of Medicine (primary appointment)
MD Case Western Reserve Univ 1983
BA Saint Louis University 1979
Mary Michaeleen Cradock Assistant Professor of Clinical Pediatrics (primary appointment)
Clarissa S. Craft Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
Johnetta M Craig, MBA Instructor in Clinical Medicine (primary appointment)
BS University of Missouri 1980
MBA University of Pennsylvania 1994
James P Crane, MD Associate Vice Chancellor for Clinical Affairs (primary appointment)
Chief Executive Officer-Faculty Practice Plan
Professor of Obstetrics and Gynecology
Professor of Radiology
Associate Professor of Genetics
MD Indiana University Bloomington 1970
BS Indiana University Bloomington 1966
John Bruce Crane Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
John Jeffrey Cras, MD, MS Assistant Professor of Medicine (primary appointment)
MD Georgetown University 2003
MS Georgetown University 1998
BS Loyola College 1994
Charles Crecelius, MD, PHD Assistant Professor of Clinical Medicine (primary appointment)
BA Carleton University 1976
MD Saint Louis University 1984
PHD Saint Louis University 1984
Sharon Cresci, MD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Genetics
MD New York University 1986
BS State Univ of NY Binghamton 1982
Stephen R Crespin, MD Associate Professor of Clinical Medicine (primary appointment)
MD Harvard University 1965
Jeffrey S Crippin, MD Professor of Medicine (primary appointment)
BS University of Notre Dame 1980
MD University of Kansas 1984
Robert D Crist Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Lucia del Pilar Cristancho Pimiento Assistant Professor of Psychiatry (primary appointment)
Susan R Criswell Associate Professor of Neurology (primary appointment)
Michael Crittenden Associate Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Andrew Cronyn, MD Instructor in Clinical Pediatrics (primary appointment)
MD Albert Einstein College of Med 1996
BA Princeton University 1987
Seth Daniel Crosby, MD Assistant Professor of Genetics (primary appointment)
MD University of Texas San Antonio 1989
BS University of California 1984
Betty Cross, MD Instructor in Clinical Pediatrics (primary appointment)
BS University of Kansas 1979
MD University of Kansas 1983
Dorothy Anne Cross, MD Professor of Neurology (primary appointment)
MD University of Alabama 1980
Dewitte T Cross III, MD Professor of Radiology (primary appointment)
Professor of Neurological Surgery
BA Vanderbilt University 1975
MD University of Alabama 1980
Erika C Crouch, MD, PHD Professor of Pathology and Immunology (primary appointment)
MD University of Washington 1979
PHD University of Washington 1978
Jack L Croughan, MD Associate Professor of Clinical Psychiatry (primary appointment)
BA University of Kansas 1964
MD University of Kansas Medical 1968
Michael G Crowley Instructor in Radiology (primary appointment)
Beth Elaine Crowner, MS, DPT, BS PT, M PP Associate Professor of Physical Therapy (primary appointment)
Division Director of Clinical Practice in Physical Therapy
Associate Professor of Neurology
MS Washington Univ in St. Louis 1989
DPT Washington Univ in St. Louis 2007
BS PT Washington Univ in St. Louis 1989
M PP University of MO St Louis 1997
Carlos Cruchaga Associate Professor of Psychiatry (primary appointment)
Associate Professor of Neurology
Nicole Cruz Instructor in Clinical Neurology (primary appointment)
Paulina Cruz Bravo, MD Instructor in Medicine (primary appointment)
MD Universidad Automoma de Madrid 2009
Philip E Cryer, MD Professor Emeritus of Medicine (primary appointment)
Prof Emeritus of Medicine (primary appointment)
Adjunct Professor of Medicine
BA Northwestern University 1962
MD Northwestern University Med 1965
Phillip S. Cuculich, MD Associate Professor of Medicine (primary appointment)
MD Vanderbilt University 2001
Susan Margaret Culican, PHD, MD Associate Professor of Ophthalmology and Visual Sciences (primary appointment)
BA Washington Univ in St. Louis 1990
PHD Washington Univ in St. Louis 1998
MD Washington Univ in St. Louis 1998
Kevin M Cullison Instructor in Emergency Medicine in Medicine (Pending Dean's Approval) (primary appointment)
Joseph P Culver, PHD Professor of Radiology (primary appointment)
Professor of Physics (Courtesy)
PHD University of Pennsylvania 1997
BA Whitman College 1985

Robert Culverhouse, PHD, MA
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Biostatistics
PHD Washington Univ in St. Louis 1998
MA University of CA Berkeley 1987
BA Vanderbilt University 1983

Clayton Cummings, BSBA, MD
Instructor in Pediatrics (primary appointment)
BSBA University of MO Columbia 1996
MD University of MO Columbia 2000

Lenise Andrea Cummings-Vaughn, MS, MD
Assistant Professor of Medicine (primary appointment)
MS San Francisco St University 1998
BS Williams College 1995
MD Saint Louis University 2005

Brian P. Cupps, PHD
Associate Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
PHD Texas A&M University 1994

David Rex Curfman, MD
Instructor in Clinical Neurology (primary appointment)
BS Purdue University 2007
MD Case Western Reserve Univ 2011

David T Curiel, MD, PHD
Distinguished Professor of Radiation Oncology (primary appointment)

Professor of Medicine
Professor of Obstetrics and Gynecology
MD Emory University 1982
BA West Georgia College 1978
PHD University of Groningen 2000

Philip L Custer, MD
Professor of Ophthalmology and Visual Sciences (primary appointment)
BS Vanderbilt University 1974
MD Vanderbilt University 1978

Robert B Cusworth, MD
Instructor in Clinical Medicine (primary appointment)
MD University of Rochester 1974

Amy Cyr, MD
Assistant Professor of Surgery (General Surgery) (primary appointment)
BA Creighton University 1997
MD Univ of Nebraska Med Center 2002

Sylvia Lin Czuppon
Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery

Ralph G Dacey Jr, MD
Henry G and Edith R Schwartz Professor of Neurological Surgery (primary appointment)
Head of the Department of Neurological Surgery
BA Harvard University 1970
MD University of Virginia 1974

Sonika M Dahiya, MD
Assistant Professor of Pathology and Immunology (primary appointment)
MD Kasturba Medical College 2000

Aarti Sudhir Dalal, DOST
Instructor in Pediatrics (primary appointment)
DOST Rowan College 2007
BA Boston University 2002

Ann Marie Dale, PHD
Associate Professor of Medicine (primary appointment)
Associate Professor of Occupational Therapy
BS University of MO Columbia 1983
PHD Saint Louis University 2009
Jeanenne M Dallas Instructor in Occupational Therapy (primary appointment)
Instructor in Neurology
BS University of Central Arkansas 1979
Mackenzie Daly, MDAssistant Professor of Radiation Oncology (primary appointment)
MD University of MO Kansas City 2005
Tracey M. Daly Instructor in Clinical Pediatrics (primary appointment)
Ralph James Damiano Jr, MDEvarts Ambrose Graham Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
BA Dartmouth College 1976
MD Duke University 1980
Sarah Marie Dance, MD Instructor in Anesthesiology (primary appointment)
MD Univ of Nebraska Med Center 2009
William H Danforth, MD Professor of Medicine (primary appointment)
Vice Chairman and Chancellor Emeritus
BA Princeton University 1947
MD Harvard University 1951
Erik D. Daniels, MD Instructor in Clinical Medicine (primary appointment)
MD Howard University 1989
John S Daniels, MA, MD Associate Professor of Clinical Medicine (primary appointment)
MA University of Arkansas 1974
BA Washington Univ in St. Louis 1970
MD University of Arkansas 1974
Peter G Danis Instructor in Clinical Medicine (primary appointment)
Rand E Dankner, MD Associate Professor of Clinical Medicine (primary appointment)
BA University of Pennsylvania 1974
MD Baylor University 1978
Maria Cristina Dans, MD Assistant Professor of Medicine (primary appointment)
BA Princeton University 1989
MD Washington Univ in St. Louis 1999
Gautam Dantas Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Biomedical Engineering
Associate Professor of Molecular Microbiology
BS Macalester College 2000
Michael E Danter Assistant Professor of Clinical Pediatrics (primary appointment)
Bhajan Shewaldas Dara, MD Instructor in Clinical Medicine (primary appointment)
MD Sindh Medical College 1987
Michael D Darcy, MD Professor of Radiology (primary appointment)
Associate Professor of Surgery (General Surgery)
MD Ohio State University 1979
Rachel S Darken, MD, PHD Associate Professor of Neurology (primary appointment)
MD Cornell University 2004
PHD Cornell University 2003
BA University of Texas Austin 1996
Lakshman Darsi, MBBS Assistant Professor of Medicine (primary appointment)
MBBS Guntur Medical College 1985
Koushik Kumar Das, MD Assistant Professor of Medicine (primary appointment)  
MD Columbia University 2016  
Sundeep Das Instructor in Clinical Medicine (primary appointment)  
Jessica L Dashner, MS Instructor in Occupational Therapy (primary appointment)  
Instructor in Neurology  
BS McKendree College 2000  
MS Washington Univ in St. Louis 2002  
Alejandro M Datuin, MD, AA Assistant Professor of Clinical Psychiatry (On Staff at Malcolm Bliss Mental Health Center) (primary appointment)  
MD University of Santo Tomas 1956  
AA University of Santo Tomas 1951  
Yasmeen Daud, MD Associate Professor of Pediatrics (primary appointment)  
MD University of MO Kansas City 2000  
Carlos Colton Daughaday Professor of Medicine (primary appointment)  
Bakul Dave, MD Assistant Professor of Anesthesiology (primary appointment)  
MD1 University of Toledo 1997  
MD BJ Medical College 1984  
David L Davidson Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)  
John D Davidson, MD Professor of Clinical Medicine (primary appointment)  
MD Washington Univ in St. Louis 1952  
Lisa S. Davidson, MS, PHD Associate Professor of Otolaryngology (primary appointment)  
BS East Tennessee State Universi 1985  
MS Washington Univ in St. Louis 1987  
PHD Washington Univ in St. Louis 2003  
Nicholas O Davidson, MBBS Professor of Medicine (primary appointment)  
BS Emory University 2002  
PHD Emory University 2009  
MD Vanderbilt University 2011  
Andrea Jill Davis, MD, MSN Instructor in Clinical Medicine (primary appointment)  
MD St George's University 2004  
MSN Arizona State University 2000  
BS Randolph Macon College 1997  
John C Davis, MD Associate Professor of Clinical Pediatrics (primary appointment)  
MD University of Michigan 1980
Kasey L. Davis, PHD, MS
Instructor in Clinical Pediatrics (primary appointment)
PHD University of Indianapolis 2007
BS McKendree College 2002
MS University of Indianapolis 2004

Mary A Davis, MD
Assistant Professor Emeritus of Clinical Psychiatry (primary appointment)
Asst Prof Emeritus of Clinical Psychiatry (primary appointment)
BA Ohio State University 1947
MD Washington Univ in St. Louis 1952

Ray S Davis, MD
Professor of Clinical Pediatrics (primary appointment)
MD University of Louisville 1978

Sheldon L Davis
Assistant Professor of Clinical Otolaryngology (primary appointment)

Thomas Edward Davis
Instructor in Clinical Medicine (primary appointment)

Thomas Keefe Davis, MD
Assistant Professor of Pediatrics (primary appointment)
MD St. George's University 2004

Gene Layton Davis Jr, MBA, MD
Assistant Professor of Clinical Radiology (primary appointment)
BA University of Virginia 1968
MBA Webster University 1991
MD University of Virginia 1972

Jeffrey G Dawson, MD
Professor of Pediatrics (primary appointment)
BA Northwestern University 1982
MD University of Louisville 1982

Brian Keith Day, MD, PHD
Assistant Professor of Neurology (primary appointment)
MD University of Kentucky 2007
PHD University of Kentucky 2005
BS Harvard University 1997

Caroline Elizabeth Day, M PH
Instructor in Clinical Medicine (primary appointment)
M PH San Diego St University 2005
BS University of Colorado Boulder 1990

Gregory Scott Day, MS, MD
Instructor in Neurology (primary appointment)
MS Queen's University 2006
MD Queen's University 2009
BS Queen's University 2003

Gabriela De Bruin
Assistant Professor of Neurology (primary appointment)

Thomas M De Fer, MD
Professor of Medicine (primary appointment)
MD University of Missouri 1989

Lisa De Las Fuentes, MD
Associate Professor of Medicine (primary appointment)

Anne V Dean
Instructor in Clinical Medicine (primary appointment)

Jon Todd Dean, MD
Instructor in Clinical Psychiatry (primary appointment)
BA University of Texas Austin 1982
MD University of Texas Austin 1987

Brian J. DeBosch, PHD, MD
Assistant Professor of Pediatrics (primary appointment)
Assistant Professor of Cell Biology and Physiology
PHD Washington Univ in St. Louis 2008
MD Washington Univ in St. Louis 2008
BS University of Michigan 2001

James Allen Declue, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Illinois College of Optometry 1949

Jane E. Defalco, MS, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MS Rutgers University 1978
MD Case Western Reserve Univ 1984
BA Rutgers University 1977

Melissa DeFoe, MD Instructor in Medicine (primary appointment)
MD Univ of Texas Med Sch Houston 2013

Ryan Michael DeGeeter, DPT Instructor in Physical Therapy (primary appointment)

Instructor in Orthopedic Surgery
BS Ball State University 2007
DPT Washington Univ in St. Louis 2010

John James Deguire, MD Instructor in Ophthalmology and Visual Sciences (primary appointment)
BA Washington Univ in St. Louis 1983
MD University of Illinois 1988

Farrokh Dehdashti Professor of Radiology (primary appointment)

Louis P Dehner, MD Professor of Pathology and Immunology (primary appointment)

Professor of Pathology in Pediatrics
MD Washington Univ in St. Louis 1966
BA Washington Univ in St. Louis 1962

Angeline Diane DeiSanti, MD Assistant Professor of Medicine (primary appointment)
MD University of MO Columbia 2003
BS University of MO Columbia 1998

Jennifer A. Delaney, MD Instructor in Clinical Medicine (primary appointment)
BA Georgetown University 1992
MD Washington Univ in St. Louis 1997

James Albert Delmez, MD Professor of Medicine (primary appointment)
MD University of Rochester 1973
BA Washington Univ in St. Louis 1969

Rowena Bayudan Delos Santos Assistant Professor of Medicine (primary appointment)
BS Creighton University 2000

Bethany L Dement, MD Instructor in Medicine (primary appointment)
MD Southeast Missouri St Univers 2001

Jennifer Lee Demertzis, MD Associate Professor of Radiology (primary appointment)
MD Emory University 2003
BS University of Notre Dame 1999

Maureen Elaine Dempsey Instructor in Clinical Pediatrics (primary appointment)

David G. DeNardo, PHD Assistant Professor of Medicine (primary appointment)

Assistant Professor of Pathology and Immunology
BS Willamette University 1999
PHD Baylor University 2005

Panyue Deng Assistant Professor of Cell Biology and Physiology (primary appointment)

Andrea Denny Instructor in Neurology (Pending Dean’s Approval) (primary appointment)
Leanne Michelle DePalma, MD\text{Instructor in Pediatrics} (primary appointment)
MD University of Louisville 2008
BS University of Notre Dame 2004
Amber Zimmer Deptola\text{Instructor in Medicine} (primary appointment)
Alana C Desai\text{Assistant Professor of Surgery (Urologic Surgery)} (primary appointment)
BS Marquette University 1997
Sunny Desai\text{Instructor in Clinical Medicine} (primary appointment)
Gerry Deschamps, MD\text{Instructor in Clinical Pediatrics} (primary appointment)
MD University of Missouri 1983
BA Washington Univ in St. Louis 1976
Teresa Deshields, PHD, MS\text{Associate Professor of Clinical Medicine} (primary appointment)
PHD University of Georgia 1985
BA Meredith College 1981
MS University of Georgia 1983
George J Despotis\text{Associate Professor of Pathology and Immunology} (primary appointment)
Associate Professor of Anesthesiology
BA Greenville College 1981
Vladimir Novak Despotovic, MD\text{Assistant Professor of Medicine} (primary appointment)
MD Michigan State University 2004
Robert H Deusinger, PHD, MS\text{Assoc Prof Emeritus of Physical Therapy} (primary appointment)
PHD University of Iowa 1981
MS University of Massachusetts 1968
BS Slippery Rock University 1967
Susan S. Deusinger, PHD, MA\text{Prof Emeritus of Physical Therapy} (primary appointment)
PHD Washington Univ in St. Louis 1987
MA Washington Univ in St. Louis 1980
BS University of Kansas 1969
Michelle R Devera, MD\text{Instructor in Clinical Obstetrics and Gynecology} (primary appointment)
BA Washington Univ in St. Louis 1985
MD Washington Univ in St. Louis 1993
Venkata Rao Devineni, MD\text{Associate Professor of Clinical Radiation Oncology} (primary appointment)
MD Osmania Medical College 1973
Paul Dewald, MD\text{Assistant Professor of Clinical Psychiatry} (primary appointment)
MD University of Rochester 1945
BA Swarthmore College 1942
Todd Alan DeWees, PHD, MSSP\text{Assistant Professor of Radiation Oncology} (primary appointment)
PHD University of MO Columbia 2009
MSSP Arizona State University 2003
BA Dana College 2001
Neelendu Dey, MD\text{Assistant Professor of Medicine} (primary appointment)
MD Yale University 2005
BS Harvard University 2000
Plaridel C Deza, MD\text{Assistant Professor of Clinical Psychiatry} (On Staff at Malcolm Bliss Mental Health Center) (primary appointment)
MD University of Santo Tomas 1956
Amar Dhand, PHD, MD\text{Adjunct Assistant Professor of Neurology} (primary appointment)
BS Dartmouth College 2001
Rajat Dhar
Associate Professor of Neurology (primary appointment)
MD Harvard University 2008

Vikas Ramnath Dharnidharka, MD
Professor of Pediatrics (primary appointment)
UNKNOWN St Xavier's College 1982
MD Topiwala National Med College 1991

Marc I Diamond, MD
Adjunct Professor of Neurology (primary appointment)
MD University of San Francisco 1993

Michael Diamond, MD
Professor of Medicine (primary appointment)
Professor of Molecular Microbiology
Professor of Pathology and Immunology

Herbert S Gasser Professor
BA Columbia College 1985
MD Harvard University 1994

Aaron DiAntonio, M PHIL
Professor of Developmental Biology (primary appointment)

Alan A and Edith L Wolff Professor of Developmental Biology
M PHIL Cambridge University 1989
BA Harvard University 1988

Judith A Dibble, MD
Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1986

Donald V. Dichsen, MD
Instructor in Clinical Pediatrics (primary appointment)
MD University of Nebraska 1964
BA School Not Listed 1961

Jeffrey M Dicke, MD
Professor of Obstetrics and Gynecology (primary appointment)
MD Ohio State University 1978
BA University of Toledo 1975

Shelby Marie Dickison, MD
Assistant Professor of Obstetrics and Gynecology (primary appointment)
MD University of MO Columbia 2011
BS University of MO St Louis 2004

Lizbeth H Didriksen
Assistant Professor of Clinical Pediatrics (primary appointment)

Brian K Dieckgraefe, PHD
Associate Professor of Medicine (primary appointment)
PHD Washington Univ in St. Louis 1987
BA University of Kansas 1982

Paul E Diehl, OD
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Illinois College of Optometry 1959

Kathryn M Diemer, MD
Associate Professor of Medicine (primary appointment)
Assistant Dean for Career Counseling
BA University of Missouri 1984
MD University of Missouri 1985

James A Diestelhorst, MD
Instructor in Clinical Medicine (primary appointment)
BS Southern Illinois University 1964
MD University of Missouri 1967

Russell B Dieterich, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA Knox College 1965
MD University of Illinois 1970

Dennis J. Dietzen, PHD
Professor of Pediatrics (primary appointment)
Professor of Pathology and Immunology
Krikor T Dikranian, PHD, MD
Professor of Anatomy (primary appointment)

Patrick A Dillon
Associate Professor of Surgery (Pediatric Surgery) (primary appointment)
Associate Professor of Pediatrics

Mary C Dinauer, MD, PHD
Professor of Pediatrics (primary appointment)
Professor of Pathology and Immunology

Tulay F Dincer, MD
Assistant Professor of Clinical Pediatrics (primary appointment)

Li Ding, PHD
Associate Professor of Medicine (primary appointment)

John F Dipersio, MD, PHD
Virginia E and Sam J Golman Professor of Medicine (primary appointment)
Professor of Pediatrics
Professor of Pathology and Immunology

Michael N Diringer, MA, MD
Professor of Neurology (primary appointment)
Professor of Anesthesiology
Professor of Occupational Therapy
Professor of Neurological Surgery

Richard M Divalerio
Instructor in Clinical Medicine (primary appointment)

Abhinav Diwan
Associate Professor of Medicine (primary appointment)

Sergej Djuranovic, PHD
Assistant Professor of Cell Biology and Physiology (primary appointment)

Igor Dmitriev
Assistant Professor of Radiation Oncology (primary appointment)

Matthew Barrett Dobbs, MD
Dr Asa C and Mrs Dorothy W Jones Professorship in Orthopaedic Surgery (primary appointment)

Deborah E Dobson, PHD
Associate Professor of Molecular Microbiology (primary appointment)

Martin A Docherty, MD
Assistant Professor of Emergency Medicine in Medicine (primary appointment)
Allan Doctor, Professor of Pediatrics (primary appointment)  
BS Edinburgh University 1978  
MD Saint Louis University 1983  
Associate Professor of Biochemistry and Molecular Biophysics  
Jonathan Noel Dodd, Instructor in Clinical Neurology (primary appointment)  
Karen W Dodson, PHD, Instructor in Molecular Microbiology (primary appointment)  
PHD Washington Univ in St. Louis 1990  
BA University of Missouri 1983  
William Edwin Dodson, MD, Professor Emeritus of Neurology (primary appointment)  
MD Duke University 1967  
Roland Ellwood Dolle, Associate Professor of Biochemistry and Molecular Biophysics (primary appointment)  
Irl Joseph Don, MD, Associate Professor of Clinical Medicine (primary appointment)  
MD Washington Univ in St. Louis 1972  
Steven Don, Associate Professor of Radiology (primary appointment)  
BA Johns Hopkins University 1981  
James W Donnelly, MD, Instructor in Clinical Medicine (Dermatology) (primary appointment)  
BA Northwestern University 1982  
MD Washington Univ in St. Louis 1986  
Julianne Elizabeth Donnelly, MD, Assistant Professor of Anesthesiology (primary appointment)  
Assistant Professor of Surgery (Cardiothoracic Surgery)  
MD University of Kansas 2009  
Joseph M Dooley Jr, MD, Associate Professor of Clinical Neurology (primary appointment)  
BS Saint Louis University 1954  
MD Saint Louis University 1958  
Balraj Doray, Assistant Professor of Medicine (primary appointment)  
BS Southern Illinois University 1993  
Alla Dorfman, MD, Instructor in Clinical Pediatrics (primary appointment)  
MD Cheruovtsy State School of Med 1986  
Gerald W. Dorn II, Philip and Sima K Needleman Professor of Medicine (primary appointment)  
Ian G Dorward, Assistant Professor of Neurological Surgery (primary appointment)  
Nico U. Dosenbach, MD, PHD, Assistant Professor of Neurology (primary appointment)  
Assistant Professor of Pediatrics  
Assistant Professor of Occupational Therapy  
BA Columbia University 2000  
MD Washington Univ in St. Louis 2008  
PHD Washington Univ in St. Louis 2008  
Catherine J Doty, Instructor in Clinical Pediatrics (primary appointment)  
Charles H Dougherty, Professor of Clinical Pediatrics (primary appointment)  
BA Holy Cross College 1969  
Joseph D Dougherty, PHD, Assistant Professor of Genetics (primary appointment)  
Assistant Professor of Psychiatry  
BS Truman State University 1999  
PHD University of California 2005  
Matthew P Dougherty, Instructor in Clinical Pediatrics (primary appointment)  
Joshua L Dowling, MD, Professor of Neurological Surgery (primary appointment)  
MD Tulane University 1989
BA Yale University 1985
Joan Catherine Downey, M PH, MDAssistant Professor of Pediatrics (primary appointment)
Assistant Dean, College of Arts & Sciences
M PH Harvard University 1985
MD Harvard University 1985
Maria Bernadette Majella Doyle, MDAssociate Professor of Surgery (General Surgery) (primary appointment)
MD Trinity College Dublin 1996
BS Trinity College Dublin 1990
Bettina Drake, M PH, PHDAssociate Professor of Surgery (Public Health Sciences) (primary appointment)
M PH Univ Texas Health Science Ctr 2003
BS Baylor University 2001
PHD University of South Carolina 2006
Andrew J. Drescher, MDAssistant Professor of Otolaryngology (primary appointment)
MD University of Michigan 2002
BS Yale University 1998
Eleanor Lynn Powell Drew, ABAssistant Professor of Surgery (General Surgery) (primary appointment)
AB Brown University 2005
Anne Meredith Drewry, MDAssistant Professor of Anesthesiology (primary appointment)
MD Washington Univ in St. Louis 2006
Robert C Drews, MDPprof Emeritus Of Clinical Ophthalmol & VIs Sci (primary appointment)
BA Washington Univ in St. Louis 1952
MD Washington Univ in St. Louis 1955
UNKNOWN School Not Listed 1992
BA Washington Univ in St. Louis 1952
William H Dribben, MDAssistant Professor of Emergency Medicine in Medicine (primary appointment)
MD University of North Carolina 1990
BA University of North Carolina 1985
Julie Kosto Drobish, MDAssistant Professor of Anesthesiology (Pending Executive Faculty Approval) (primary appointment)
BS Pennsylvania State University 2006
MD Washington Univ in St. Louis 2009
Alexander W Dromerick, MDAjunct Associate Professor of Neurology (primary appointment)
Adjunct Associate Professor of Occupational Therapy
Adjunct Associate Professor of Physical Therapy
BA University of Virginia 1980
MD University of Maryland 1986
Norman Steven Druck, MDAssistant Professor of Clinical Otolaryngology (primary appointment)
BA Washington Univ in St. Louis 1967
MD University of Illinois 1970
Todd Druley, MD, PHDAssistant Professor of Pediatrics (primary appointment)
Assistant Professor of Genetics
Assistant Professor of Developmental Biology
MD University of Illinois Chicago 2002
BS University of Illinois 1994
George Robert Drysdale, PHD, MSProf Emeritus Of Biochemistry & Molec Biophys (primary appointment)
BS School Not Listed 1948
PHD Univ of Wisconsin Madison 1952
MS Univ of Wisconsin Madison 1950
Robert E Drzymala, PHDProf Emeritus of Radiation Oncology (primary appointment)
BS Northern Illinois University 1972
PHD University of Oklahoma 1977
Erik R Dubberke, MPH, MDAssociate Professor of Medicine (primary appointment)
BA Augustana University College 1995
MPH Saint Louis University 2008
MD University of Illinois 1999
James Matthew DuBois, D SC, MA, PHDSteven J Bander Professor of Medical Ethics and Professionalism (primary appointment)
Professor of Psychological & Brain Sciences
D SC University of Vienna 1997
MA University of Rhode Island 1990
PHD Intrnl Academy of Philosophy 1992
BA Franciscan University Stubenv 1989
Nicole Marie Ducharme, DOSTInstructor in Clinical Medicine (primary appointment)
DOST Univ of Health Sciences KC 2003
Robert Kelso DuddyInstructor in Clinical Orthopaedic Surgery (primary appointment)
Carolyn Dufault, PHDInstructor in Medicine (primary appointment)
Assistant Dean for Office of Education
PHD Washington Univ in St. Louis 2009
Maria C Dumadag-Sabio, MDAssistant Professor in Clinical Medicine (primary appointment)
BA University of Missouri 1988
MD University of Missouri 1988
Edward Harry DuMontierInstructor in Clinical Medicine (primary appointment)
William C Dunagan, MD, MSPresident of Medicine (primary appointment)
MD Washington Univ in St. Louis 1983
MS University of Texas Austin 1980
BS University of Texas Austin 1978
James R Duncan, MD, PHDProfessor of Radiology (primary appointment)
MD Washington Univ in St. Louis 1988
BS Davenport University 1982
PHD Washington Univ in St. Louis 1988
Jennifer Gries Duncan, MDAssociate Professor of Pediatrics (primary appointment)
MD University of Chicago 1997
BS Vanderbilt University 1993
Ryan Patrick Duncan, DPT, MSAssistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Neurology
DPT Washington Univ in St. Louis 2012
BS Maryville University 2007
MS Maryville University 2008
Eric James DuncavageAssistant Professor of Pathology and Immunology (primary appointment)
BS Vanderbilt University 1998
Lakshmi Vijaya Dundoo, MS
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MS School Not Listed 1992
BS School Not Listed 1986
UNKNOWN School Not Listed 1992

Gavin P. Dunn
Assistant Professor of Neurological Surgery (primary appointment)
Assistant Professor of Pathology and Immunology

Jennifer M Dunn, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 2000
BS Duke University 1996

Julia Passyn Dunn, MD, MS
Assistant Professor of Medicine (primary appointment)
MD University of South Alabama 2002
MS Vanderbilt University 2010

Kirsten F Dunn, MD
Instructor in Medicine (primary appointment)
MD Saint Louis University 2012

William Michael Dunne Jr, PHD
Adjunct Professor of Pathology and Immunology (primary appointment)
BS Univ of Wisconsin Madison 1975
PHD Univ of Wisconsin Madison 1981

Katherine Dunsky
Assistant Professor of Otolaryngology (Pending Executive Faculty Approval)
(primary appointment)

Michael Joseph Durkin
Instructor in Medicine (primary appointment)
BA Illinois Wesleyan University 2004
M PH1 University of North Carolina 2015

Nicole Marie Durko, DOST
Assistant Professor of Anesthesiology (primary appointment)
DOST Midwestern University 2001
BS St Xavier University 1995

Susan K. Dutcher, PHD
Professor of Genetics (primary appointment)
Professor of Cell Biology and Physiology
Interim Director of the McDonnell Genome Institute

Christopher J. Dy, M PH
Assistant Professor of Orthopaedic Surgery (primary appointment)
M PH University of Miami 2008
BS University of Miami 2004

Tiffany Biason Dy, MD
Instructor in Medicine (primary appointment)
BS University of Miami 2005
MD Univ Texas Health Science Ctr 2009

Joseph W Eades
Assistant Professor of Clinical Surgery (Plastic and Reconstructive Surgery)
(primary appointment)

William Charles Eades Jr
Associate Professor of Medicine (primary appointment)

J. Chris Eagon, MD, MS
Associate Professor of Surgery (General Surgery) (primary appointment)
MD Harvard University 1988
MS University of Utah 1997
BA Williams College 1984

Gammon Marie Earhart, MS, PHD
Professor of Physical Therapy (primary appointment)
Professor of Neuroscience
Professor of Neurology
Associate Director of Movement Science PhD Program in Physical Therapy
Executive Director of the Program in Physical Therapy
MS Beaver College 1996
BS Beaver College 1994
PHD Washington Univ in St. Louis 2000

Dayna S Early, MD Professor of Medicine (primary appointment)
BA University of Missouri 1986
MD University of Missouri 1990

Adam C. Eaton, MD Assistant Professor of Clinical Pediatrics (primary appointment)
BS University of Illinois 1992
MD Washington Univ in St. Louis 1997

Royal J Eaton, MD Instructor in Clinical Medicine (primary appointment)
BA University of Missouri 1960
MD University of Missouri 1964

Stephen Ray Eaton, MD Assistant Professor of Surgery (General Surgery) (primary appointment)
BS1 Southern Illinois University 1997
MS1 Southern Illinois University 2000
MD Ross University 2005

Lori L Eberhart Instructor in Clinical Pediatrics (primary appointment)

Timothy J Eberlein, MD, MA Bixby Professor of Surgery (General Surgery) (primary appointment)
Head of the Department of Surgery
Director of The Alvin J. Siteman Cancer Center
Professor of Pathology and Immunology
Spencer T. and Ann W. Olin Distinguished Professor
MD University of Pittsburgh 1977
MA Harvard University 1996
BS University of Pittsburgh 1973

Charles S Eby Professor of Pathology and Immunology (primary appointment)
Professor of Medicine
BS Duke University 1977

Shaina Rose Eckhouse, MD Assistant Professor of Surgery (General Surgery) (Pending Executive Faculty Approval) (primary appointment)
MD Univ Texas Health Sci San Anto 2008

Brian T. Edelson, MD, PHD Assistant Professor of Pathology and Immunology (primary appointment)
UNKNOWN Brown University 1995
MD Washington Univ in St. Louis 2004
PHD Washington Univ in St. Louis 1995

Julia D Edgar Adjunct Instructor of Otolaryngology (primary appointment)

Robert W Edmonds, MD Assistant Professor Emeritus of Clinical Pediatrics (primary appointment)
Asst Prof Emeritus of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1960
BA University of Missouri 1956

Charmaine E. Edwards Instructor in Clinical Medicine (primary appointment)
BS Alcorn State University 1987

Dorothy F Edwards, PHD Adjunct Associate Professor of Occupational Therapy
Adjunct Associate Professor of Neurology
PHD Washington Univ in St. Louis 1980
James Earl Edwards, MD Assistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)
MD University of Tennessee 1962
BA University of Tennessee 1959

John R. Edwards, PHD Assistant Professor of Medicine (primary appointment)
PHD Columbia University 2003

Stilianos Efstratiadis Assistant Professor of Clinical Medicine (primary appointment)

Takeshi Egawa, PHD, MD Assistant Professor of Pathology and Immunology (primary appointment)
PHD Osaka University 2002
MD Osaka University 1994

Adam Thomas Eggebrecht, PHD, MS Instructor in Radiology (primary appointment)
PHD Washington Univ in St. Louis 2009
MS Washington Univ in St. Louis 2005

Russell E Eggebrecht, MD Associate Professor of Clinical Medicine (primary appointment)
BS University of Illinois 1967
MD Washington Univ in St. Louis 1971

Pirooz Eghtesady, MD, MS, D SC Professor of Surgery (Cardiothoracic Surgery) (primary appointment)

Professor of Pediatrics
MD University of CA Los Angeles 1993
MS University of CA Los Angeles 1987
BS University of CA Los Angeles 1987
D SC University of CA Los Angeles 1993

Tamara Kay Ehlert, MD Instructor in Clinical Otolaryngology (primary appointment)
BA Northwestern University 1979
MD Univ of Wisconsin Madison 1983

Ali A Ehsani, MD Professor of Medicine (primary appointment)
MD Tehran University 1965

Zamir Eidelman Associate Professor of Clinical Medicine (primary appointment)

John Robert Eigenbrodt, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD University of Missouri 1988
BS Southern Ill Univ Edwardsville 1985

Arthur Z Eisen, MS, MD Professor of Medicine (Dermatology) (primary appointment)
MS Brown University 1953
BA State Univ of NY Buffalo 1951
MD University of Pennsylvania 1957

Seth A Eisen, MD, MS Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1966
MS Harvard University 1989
BA Reed College 1963

David Louis Eisenberg, MD, M PH Associate Professor of Obstetrics and Gynecology (primary appointment)
BS University of Pittsburgh 1999
MD University of Alabama 2003
M PH Northwestern University 2009

Lawrence N Eisenman, MD, PHD Associate Professor of Neurology (primary appointment)
Sarah Ann Eisenstein, PHD  
Assistant Professor of Psychiatry  
Primary appointment

Assistant Professor of Radiology

PHD University of Georgia 2008

Linda G Eissenberg, PHD  
Assistant Professor of Medicine  
Primary appointment

BA University of Tennessee 1977

PHD University of North Carolina 1982

Josiah O. Ekunno  
Instructor in Clinical Obstetrics and Gynecology  
Primary appointment

BS School Not Listed 1965

Lamice R. El-Kholy  
Instructor in Clinical Medicine  
Primary appointment

UNKNOWN School Not Listed 1982

Samir Khattab El-Mofty, MS, PHD  
Professor of Oral Pathology  
Primary appointment

Professor of Pathology and Immunology

Professor of Otolaryngology

UNKNOWN School Not Listed 1955

Sven Gustav Eliasson, MD, MLA, PHD  
Prof Emeritus Of Neurology  
Primary appointment

BS University of Lund 1949

MD School Not Listed 1954

MLA Washington Univ in St. Louis 1991

PHD School Not Listed 1952

John Ellena, MD  
Associate Professor of Clinical Medicine  
Primary appointment

MD Southern Illinois University 1983

BS Southern Illinois University 1980

Thomas E Ellenberger, DVM, PHD  
Professor of Biochemistry and Molecular Biophysics  
Primary appointment

Chairman of the Executive Council of the Division of Biology and Biomedical Sciences

DVM Iowa State University 1983

PHD Harvard University 1989

Alysa G. Ellis  
Assistant Professor of Pediatrics  
Primary appointment

BA University of MO Kansas City 2004

Charlene Ann Ellsworth, PHD, MD  
Instructor in Clinical Medicine  
Primary appointment

PHD Mass Inst of Technology (MIT) 2004

MD Washington Univ in St. Louis 2008

Mohamed Elsafi  
Assistant Professor of Clinical Otolaryngology  
Primary appointment

Elliot L Elson, PHD  
Emeritus Professor of Biochemistry and Molecular Biophysics  
Primary appointment

Prof Emeritus of Biochem & Molec Biophysics  
Primary appointment

PHD Stanford University 1966

BA Harvard University 1959

Amged Eltahir, MD  
Instructor in Clinical Medicine  
Primary appointment

MD University of Khartoum 1985

AB1 Saint Louis University 2006

Alexis M Elward, MPH, MD  
Professor of Pediatrics  
Primary appointment

Vice Chair of Quality Improvement and Safety in Pediatrics
MPH Saint Louis University 2006
BA Loyola College 1988
MD University of Maryland 1994

**Jill Elizabeth Elwing, MD** Assistant Professor of Medicine (primary appointment)
BS University of MO Columbia 1996
MD University of MO Columbia 2000

**Amanda R. Emke** Assistant Professor of Pediatrics (primary appointment)
BS St Marys University 1998

**Daniel Emmert, MD** Assistant Professor of Anesthesiology (primary appointment)  
Assistant Professor of Surgery (Cardiothoracic Surgery)
MD Saint Louis University 2005

Nicholas Earl Engelbrecht Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)

**Sarah K England, PHD** Professor of Obstetrics and Gynecology (primary appointment)
Professor of Cell Biology and Physiology
Alan A and Edith L Wolff Professor of Medicine
PHD Medical College of Wisconsin 1993
BA Carleton College 1988

Sean Jason English Assistant Professor of Surgery (General Surgery) (Pending Executive Faculty Approval) (primary appointment)

**Jack R. Engsberg, PHD, MS** Professor of Occupational Therapy (primary appointment)
Professor of Neurological Surgery
Professor of Orthopaedic Surgery
BS Univ of Wisconsin La Crosse 1973
PHD University of Iowa 1985
MS Univ of Wisconsin La Crosse 1978
MS1 Univ of Wisconsin La Crosse 1979

**James Michael Epstein, MD** Instructor in Clinical Medicine (primary appointment)
BS University of Notre Dame 1965
MD Washington Univ in St. Louis 1969

**Jay S Epstein, MS, MD** Professor of Clinical Pediatrics (primary appointment)
BA Emory University 1977
MS Emory University 1978
MD Emory University 1983

**Lawrence W Ernst, OD** Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD University of Missouri 1990

**Christopher R. Erwin, MS, PHD** Associate Professor of Surgery (Pediatric Surgery) (primary appointment)
MS University of CA Davis 1978
PHD University of Iowa 1983
BS University of CA Davis 1976

**Prabagaran Esakky, MS, PHD** Instructor in Obstetrics and Gynecology (primary appointment)
MS Sri Paramakalyani College 1997
BS Sri Paramakalyani College 1995
PHD Natl Inst Resrch Reprod Health 2007

**Juan Escandon, MD** Assistant Professor of Clinical Neurology (primary appointment)
BS School Not Listed 1985
Diane M Eschmann, MD  
Instructor in Clinical Pediatrics (primary appointment)

Gerome V Escota  
Assistant Professor of Medicine (primary appointment)

Jennifer Ess  
Instructor in Clinical Pediatrics (primary appointment)

Laura Ann Esswein, MD  
Instructor in Clinical Pediatrics (primary appointment)

Michele Marie Estabrook, MA, MD  
Professor of Pediatrics (primary appointment)

Kelly Eileen Estes, MD, MPH, MS  
Assistant Professor of Orthopaedic Surgery (Pending Executive Faculty Approval) (primary appointment)

Neil A Ettinger, MD  
Assistant Professor of Clinical Medicine (primary appointment)

Eric Paul Eutsler, MD  
Instructor in Radiology (primary appointment)

Bradley A Evanoff, MD  
Richard A and Elizabeth Henby Sutter Professor of Occupational, Industrial, and Environmental Medicine in Medicine (primary appointment)

Professor of Occupational Therapy

Assistant Dean for Clinical and Translational Research

Eugene Evra, MD  
Instructor in Clinical Neurology (primary appointment)

Gregory A Ewald, MD  
Associate Professor of Medicine (primary appointment)

Renee D Ewing, MD  
Instructor in Clinical Obstetrics and Gynecology (primary appointment)

Elisa Fabbrini, PHD  
Adjunct Assistant Professor of Medicine (primary appointment)

Roberta Faccio, PHD  
Professor of Orthopaedic Surgery (primary appointment)
Professor of Cell Biology and Physiology
PHD University of Bari 2000

Raymond F Fada Jr, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD University of Missouri 1989
BS University of Michigan 1984

Brian T Faddis, MS, PHD Assistant Professor of Otolaryngology (primary appointment)
Assistant Professor of Audiology and Communication Sciences
MS University of California 1989
BS University of California 1982
PHD University of California 1994

Mitch N Faddis, MD Associate Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1993
BS Kansas State University 1985

Nuri Bradford Farber, MD Professor of Psychiatry (primary appointment)
BA Washington Univ in St. Louis 1985
MD Washington Univ in St. Louis 1989

Elliott H Farberman, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MD Saint Louis University 1973
BA University of Rochester 1969

Cathleen Rae Faris, MD Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
BA University of Kansas 1977
MD University of Kansas 1982
Akinrinola Fatokhinstructor in Clinical Medicine (primary appointment)

Justin C. Fay, PHD Associate Professor of Genetics (primary appointment)
PHD University of Chicago 2001

Adam Ross Fedyk Instructor in Clinical of Ophthalmology & Visual Sciences (primary appointment)

Todd A Fehninger, MD, PHD Associate Professor of Medicine (primary appointment)
MD Ohio State University 2002
PHD Ohio State University 2000

James J Fehr III Professor of Anesthesiology (primary appointment)

Professor of Pediatrics
Robert M Feibel Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)

Steven Edward Feit, MD Assistant Professor of Anesthesiology (primary appointment)
MD University of MO Columbia 1982
BA Indiana State University 1978

Mary F Feitosa Associate Professor of Genetics (primary appointment)

John Matthew Felder III Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (Pending Executive Faculty Approval) (primary appointment)

David Feldman, MD Instr Emeritus In Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1943

Mario Federico Feldman, PHD Associate Professor of Molecular Microbiology (primary appointment)
PHD Universidad del Buenos Aires 2004

Richard A. Felkel Jr Instructor in Clinical Pediatrics (primary appointment)

Thomas A Ferguson Professor of Ophthalmology and Visual Sciences (primary appointment)
Associate Professor of Pathology and Immunology  
BA Kent St University 1974  
**Thomas W Ferkol, MD** Professor of Pediatrics (primary appointment)

Professor of Cell Biology and Physiology  
Alexis Hartmann MD Professor of Pediatrics  
MD Ohio State University 1985  
BA Case Western Reserve Univ 1981

**James A Fernandez** Instructor in Clinical Otolaryngology (primary appointment)  
BS University of Notre Dame 1977  
Isabel Fernandez-Holtzman Instructor in Clinical Pediatrics (primary appointment)

**Herman L Ferrell** Instructor in Clinical Medicine (primary appointment)  
BS University of Arkansas 1973

**Beverly J. Field, PHD, B MUS** Associate Professor of Anesthesiology (primary appointment)  
Associate Professor of Psychiatry  
BA University of MO Columbia 1987  
PHD Washington Univ in St. Louis 1993  
B MUS Southern Illinois University 1972

**Melanie Erin Fields, MD** Instructor in Pediatrics (primary appointment)  
BS Tulane University 2003  
MD Univ of Texas Med Sch Houston 2008

**Ryan Courtney Fields, MD** Assistant Professor of Surgery (General Surgery) (primary appointment)  
BS Davenport University 1998  
MD Duke University 2003

**Jeffrey T Fierstein, MD** Assistant Professor of Clinical Otolaryngology (primary appointment)  
MD School Not Listed 1971  
BA Dartmouth College 1968

**Robert S Figenshau, MD** Taylor Family and Ralph V. Claman, M.D. Professor of Surgery (Urologic Surgery) (primary appointment)  
MD University of Minnesota 1987  
BS Macalester College 1981

**Mayte Ideliz Figueroa, MD** Associate Professor of Pediatrics (Pending Executive Faculty Approval) (primary appointment)  
MD Mount Sinai School of Medicine 1992

**Brian N. Finck, PHD** Associate Professor of Medicine (primary appointment)  
BS University of Illinois 1994  
PHD University of Illinois 2000

**Mitchell Evan Fingerman, MD** Assistant Professor of Anesthesiology (primary appointment)  
MD University of Connecticut 2004

**Debra Fink, MS, DDENT** Instructor in Clinical Otolaryngology (DMD) (primary appointment)  
MS University of Scranton 1981  
DDENT Washington Univ in St. Louis 1988  
BA Barnard College 1971

**Kurt W Finklang, OD** Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)  
BS University of Missouri 1977  
OD State University of New York 1981

Charles Coleman Finley Adjunct Research Associate Professor of Otolaryngology (primary appointment)
Gregory K Finn, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1992
BA Hendrix College 1985

Jill B Firszt, MS, PHD
Professor of Otolaryngology (primary appointment)
Professor of Audiology and Communication Sciences
MS University of Illinois 1982
BS University of Illinois 1978
PHD University of Illinois 1998

Lewis Conrad Fischbein, MD
Associate Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1974

Keith C Fischer, MD
Associate Professor of Radiology (primary appointment)
BA Oberlin College 1967
MD Johns Hopkns University Medic 1971

Peter Uwe Fischer, MS
Associate Professor of Medicine (primary appointment)
MS Free University of Berlin 1991

Marsha Nicole Fisher, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD University of Missouri 1992
BA Washington Univ in St. Louis 1988

Emily Faith Fishman, MD
Instructor in Pediatrics (primary appointment)
BS Youngstown St University 2005
MD Northeast Ohio Medical U 2009

Norman Fishman, MD
Assistant Professor of Clinical Medicine (primary appointment)
MD School Not Listed 1974
BA School Not Listed 1970

Anna M Fitz-James, MD, M PH
Assistant Professor of Clinical Pediatrics (primary appointment)
MD George Washington University 1981
M PH School Not Listed 1994
BA University of Massachusetts 1975

Robert T. Fitzgerald, MS
Instructor in Psychiatry (Child) (primary appointment)
BS Abilene Christian University 1998
MS Saint Louis University 2000

Sean C. Fitzmaurice, MD
Instructor in Emergency Medicine in Medicine (primary appointment)
MD Saint Louis University 1995
BS Georgetown University 1989

James Alexander John Fitzpatrick, PHD
Associate Professor of Neuroscience (primary appointment)
Associate Professor of Cell Biology and Physiology
PHD University of Bristol 2003

Susan M Fitzpatrick, PHD
Adjunct Associate Professor of Neuroscience (primary appointment)
Adjunct Associate Professor of Occupational Therapy
BS St Johns University 1978
PHD Cornell University 1984

Ellen E Fitzsimmons-Craft, MS PSYC, PSYD
Instructor in Psychiatry (primary appointment)
MS PSYC University North Carolina 2010
PSYD University North Carolina 2014
BS1 University of Notre Dame 2008

James M Fleckenstein, MD
Associate Professor of Medicine (primary appointment)
MD Saint Louis University 1985
BS Xavier University 1981
Jaquelyn F Fleckenstein, MD Professor of Medicine (primary appointment)
MD Saint Louis University 1985
BA Cornell University 1981

Julian B Fleischman, PHD Assoc Prof Emeritus Of Molecular Microbiology (primary appointment)
BS Yale University 1955
PHD Harvard University 1960

Timothy Peter Fleming Professor of Surgery (General Surgery) (primary appointment)

Edward B Fliesser, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MD Saint Louis University 1978
BA Northwestern University 1974

Julaine Marie Florence, DPT, MS Professor of Neurology (primary appointment)
Professor of Physical Therapy
DPT Washington Univ in St. Louis 2002
MS Washington Univ in St. Louis 1983
BS Washington Univ in St. Louis 1975

Avegail Gascon Flores, MD Assistant Professor of Medicine (primary appointment)
MD University of Pittsburgh 2007

Cynthia Florin, MD Instructor in Clinical Psychiatry (primary appointment)
MD Columbia University 1984
BS Grinnell College 1976

Justin Douglas Floyd, DOST Assistant Professor of Clinical Medicine (primary appointment)
DOST Kirksville College of Osteopat 2000
BS University of Arizona 1996

Gretchen Marie Foltz, MD Assistant Professor of Radiology (primary appointment)
Assistant Professor of Surgery (General Surgery)
MD Medical College of Wisconsin 2007
BS Univ of Wisconsin Milwaukee 2002

Emily Fondahn, MD Assistant Professor of Medicine (primary appointment)
MD Northwestern University 2008

Frank Donald Fontana, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Illinois College of Optometry 1950

Luigi Fontana, MD, PHD Professor of Medicine (primary appointment)
MD University of Verona 1994
PHD University of Padova 2004

Andria L Ford, MD Associate Professor of Neurology (primary appointment)
MD University of Oklahoma 2002
BS Duke University 1998
Shanon Alex Forseter Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Rebecca Hope Foster Instructor in Clinical Pediatrics (primary appointment)
Rosemary Foster, MD Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)
MD Saint Louis University 2013

Kathryn Fowler, MD Assistant Professor of Radiology (primary appointment)
BS University South Carolina 2001
MD Univ of Wisconsin Madison 2005

Glennon Joseph Fox, MD Instructor in Clinical Medicine (primary appointment)
MD University of MO Columbia 1984
Ida K Fox, MD
Associate Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
BS Haverford College 1994
MD University of Rochester 1999

Judy Ann Frain, BN, MSN, PHD
Adjunct Assistant Professor of Medicine (primary appointment)
BN Webster University 2003
MSN Saint Louis University 2004
PHD University of MO St Louis 2013

Myrto Frangos, MD
Instructor in Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1981
MD Saint Louis University 1985

Bennett David Frank, MD, PHD
Instructor in Clinical Neurology (primary appointment)
MD Beaufort Technical College 1988
PHD Beaufort Technical College 1987
BA Washington Univ in St. Louis 1982

Bruce S Frank, MD
Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BS Mass Inst of Technology (MIT) 1972
MD Washington Univ in St. Louis 1976

Victoria J Fraser, MD
Adolphus Busch Professor of Medicine (primary appointment)
Head of the Department of Internal Medicine
BS William Woods College 1978
MD University of MO Columbia 1983

John Lawrence Frater, MD
Associate Professor of Pathology and Immunology (primary appointment)
MD Medical College of Ohio 1996
BS University of Notre Dame 1992

Sharon Glave Frazee
Adjunct Assistant Professor of Pediatrics (primary appointment)

William A Frazier III
Professor of Biochemistry and Molecular Biophysics (primary appointment)
Professor of Cell Biology and Physiology
Professor of Biomedical Engineering
BA Johns Hopkins University 1969

John Murray Fredrickson, MD
Prof Emeritus Of Otolaryngology (primary appointment)
MD University of British Columbia 1957

Kenneth E Freedland
Professor of Psychiatry (primary appointment)
Professor of Psychological & Brain Sciences
BS University of Oregon 1975

Bradley D. Freeman, MD
Professor of Surgery (General Surgery) (primary appointment)
MD Duke University 1988
BS University of Central Florida 1984

James Matthew Freer, MD
Assistant Professor of Medicine (primary appointment)
BS Truman State University 1998
MD University of MO Columbia 2002

Daved H Fremont, PHD
Professor of Pathology and Immunology (primary appointment)
Professor of Biochemistry and Molecular Biophysics
BS Univ of Wisconsin Madison 1986
PHD University of CA San Diego 1993

Anthony Raymond French, PHD
Associate Professor of Pediatrics (primary appointment)
Associate Professor of Pathology and Immunology
Associate Professor of Biomedical Engineering
PHD University of Illinois 1995

Deborah Frenchie, MD
Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1993
BA Washington Univ in St. Louis 1984

Carl Frieden, PHD
Professor of Biochemistry and Molecular Biophysics (primary appointment)
BA Carleton College 1951
PHD Univ of Wisconsin Madison 1955

David Alan Friedman, MD
Assistant Professor of Anesthesiology (primary appointment)
BS University of Kansas 1981
MD University of Kansas 1985

Michael V Friedman
Assistant Professor of Radiology (primary appointment)

Ernst R Friedrich
Prof Emeritus Of Ob & Gyn (primary appointment)
UNKNOWN School Not Listed 1951

Darrin Friesen, MD
Instructor in Clinical Psychiatry (primary appointment)
MD Washington Univ in St. Louis 1996
BA School Not Listed 1990

Stuart Howard Friess, MD
Associate Professor of Pediatrics (primary appointment)
MD Mount Sinai School of Medicine 1999
BS Brown University 1985

Ashley Elizabeth Frith, MD
Assistant Professor of Medicine (primary appointment)
MD University of AR Med Sciences 2008

Stephanie Ann Fritz, MD, MS
Assistant Professor of Pediatrics (primary appointment)
MD Medical College of Wisconsin 2001
MS Washington Univ in St. Louis 2008
BS Univ of Wisconsin Milwaukee 1997

Brian R. Froelke, MD
Assistant Professor of Emergency Medicine in Medicine (primary appointment)
MD University of Cincinnati 2002

Qiang Fu

Robert P. Fucetola, MA, PHD
Professor of Neurology (primary appointment)
Adjunct Professor of Psychological & Brain Sciences
BA Washington Univ in St. Louis 1991
MA Washington Univ in St. Louis 1993
PHD Washington Univ in St. Louis 1997

Anja G. Fuchs, PHD
Assistant Professor of Surgery (General Surgery) (primary appointment)
BS School Not Listed 1994
PHD University of Manchester 2006

Lara A Fuchs
Instructor in Clinical Psychiatry (primary appointment)

Katherine C Fuh, MD
Assistant Professor of Obstetrics and Gynecology (primary appointment)
MD Georgetown University 2005

Brian M Fuller, MD
Assistant Professor of Emergency Medicine in Medicine (primary appointment)
Assistant Professor of Anesthesiology
Assistant Professor of Anesthesiology
MD University of Alabama 2003
BA University of Alabama 1998

Michael Paul Fuller, MD
Associate Professor of Clinical Medicine (primary appointment)
Robert S. Fulton
Academic Rank held in Genetics (primary appointment)
Instructor in Genetics

Suzanne Furesz
Instructor in Clinical Medicine (primary appointment)

Harrison W. Gabel, PHD, AB
Assistant Professor of Neuroscience (primary appointment)
PHD Harvard University 2008
AB Princeton University 2001

H Michael Gach, PHD
Associate Professor of Radiation Oncology (primary appointment)
Associate Professor of Radiology
PHD University of Pittsburgh 1998

Gary Gaddis, PHD, MD
Professor of Emergency Medicine in Medicine (Pending Executive Faculty Approval) (primary appointment)
PHD Indiana State University 1984
MD Indiana University School of Medicine 1986

Michael S Gaffrey, PHD
Assistant Professor of Psychiatry (primary appointment)
PHD University of Wisconsin Milwaukee 2009

Brian F Gage, MD
Professor of Medicine (primary appointment)
MD University of California 1988
BS Stanford University 1984

Carrie S Gaines, OD
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD University of Missouri 1988
BS University of Missouri 1984

Daniel Gaitan, MD
Associate Professor of Clinical Medicine (primary appointment)
BS University of AL Birmingham 1980
MD University of Mississippi 1986

Andrew E Galakatos, MD
Professor of Clinical Obstetrics and Gynecology (primary appointment)
BS St Louis College of Pharmacy 1960
MD University of Missouri 1965

Eric A Galburt, PHD
Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)
PHD University of Washington 2002

Arthur H Gale, MD
Associate Professor of Clinical Medicine (primary appointment)
MD University of Missouri 1959

John P Galgani Jr, MD
Associate Professor of Clinical Pediatrics (primary appointment)
MD Saint Louis University 1982
BS Massachusetts College of Pharmacy 1977

Rafael Galindo, PHD
Assistant Professor of Neurology (primary appointment)
PHD University of New Mexico 2005
BS University of New Mexico 1996

Gilbert Gallardo, MS, PHD
Assistant Professor of Neurology (primary appointment)
MS University of Texas San Antonio 2002
BS University of Texas El Paso 1999
PHD University of Texas Southwest 2008

Roberto Galletto, MS, PHD
Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)
MS University of Genoa 1996
PHD University of Texas Galveston 2002
Maria Virginia Ganninger
Instructor in Clinical Pediatrics (primary appointment)

Lawrence A Gans, MD
Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Columbia University 1972
MD Case Western Reserve Univ 1977

Feng Gao, PHD
Associate Professor of Surgery (Public Health Science) (primary appointment)
Associate Professor of Biostatistics
Associate Professor of Medicine
PHD Emory University 2003

Charles M Gaona, MA
MA Air Force Institute Tech 2005
BA University of Colorado Boulder 1994

Joel Richard Garbow, PHD
Professor of Radiology (primary appointment)
PHD University of CA Berkeley 1983

Jane M. Garbutt, MHS, MBCHB
Professor of Medicine (primary appointment)
Professor of Pediatrics
MHS University of Toronto 1988
MBCHB Bristol University 1977

John A Garcia, MD
Instructor in Clinical Medicine (primary appointment)
BA Carleton College 1985
MD University of Illinois 1990

Jose L Garcia, MS
Assistant Professor of Radiation Oncology (primary appointment)
MS Finch Univ of Health Sciences 1997
BS University of Puerto Rico 1995

Tessa D Gardner, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
MD Harvard University 1972
BS Mass Inst of Technology (MIT) 1968

Nick S. Garg
Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)
Marcie Epstein Garland, MD
Assistant Professor of Psychiatry (primary appointment)
MD University of MO Kansas City 2008
BA University of MO Kansas City 2008

Stephen M Garnett, OD
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Indiana University Bloomington 1980
BS Indiana University Bloomington 1978

Heather Vallhonrat Garrett
Assistant Professor of Radiology (primary appointment)
BA University of Virginia 1996

Jacquelyn B Garrett, MD
Instructor in Clinical Medicine (Dermatology) (primary appointment)
MD Howard University 1985
BS Howard University 1983

Caryn Garriga
Assistant Professor of Clinical Pediatrics (primary appointment)
Francisco J Garriga, MD
Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1970
BS University of Puerto Rico 1966

Charles F Garvin
Instructor in Clinical Radiology (primary appointment)
BA University of MO Columbia 1980
Sarah Kathryn Garwood, MD
Assistant Professor of Pediatrics (primary appointment)
Karen J Garzia, Instructor in Clinical Pediatrics (primary appointment)
Dawn Lee Garzon, Adjunct Instructor in Psychiatry (primary appointment)
Fred W Gaskin, Associate Professor of Clinical Psychiatry (primary appointment)
BS University of Minnesota 1964
Felicitas Z Gatachalian, MD, Instructor in Clinical Medicine (primary appointment)
MD University of Santo Tomas 1970
Joseph H Gatewood, MD, Instructor in Emergency Medicine in Medicine (primary appointment)
MD University of Chicago 1970
BA Swarthmore College 1966
Joseph P. Gaut, PHD, MD, Assistant Professor of Pathology and Immunology (primary appointment)
Assistant Professor of Medicine
BA Washington Univ in St. Louis 1996
PHD Washington Univ in St. Louis 2004
MD Washington Univ in St. Louis 2004
Narasimhan Gautam, MS, PHD, Professor of Anesthesiology (primary appointment)
Professor of Genetics
MS School Not Listed 1979
BS School Not Listed 1977
PHD University of Bombay 1985
Karen Marie Gauvain, MD, Assistant Professor of Pediatrics (primary appointment)
BS University of MO St Louis 1989
MD Saint Louis University 1998
Hiram Alberto Gay, MD, Associate Professor of Radiation Oncology (primary appointment)
BS University of Puerto Rico 1996
MD University of Puerto Rico 2000
William A Gay, Prof Emeritus of Surgery (Cardio Surg) (primary appointment)
William D Gay, LLB, DDENT, Assoc Prof Emeritus of Otolaryngology (primary appointment)
LLB La Salle University 1973
DDENT University of Tennessee 1966
Avihu Gazit, MD, Associate Professor of Pediatrics (primary appointment)
MD Technion - Israel Inst. of Tec 1997
William M Gee, MD, Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1981
BA Cornell College 1977
Stefanie Geisler, MD, Instructor in Neurology (primary appointment)
MD Humboldt University 2001
Richard A Geisman, MD, Instructor in Clinical Medicine (primary appointment)
MD Tulane University 1983
BS Saint Louis University 1979
Richard H Gelberman, MD, Professor of Orthopaedic Surgery (primary appointment)
BA University of North Carolina 1965
MD University of Tennessee 1969
Barbara Geller, MD, Prof Emeritus of Psychiatry (Child Psychiatry) (primary appointment)
BA Barnard College 1960
MD Albert Einstein College of Med 1964
Elliot Field Gellman, MD Professor of Clinical Pediatrics (primary appointment)
MD University of MO Columbia 1961
BA Iowa State University 1957
Andrew E. Gelman, PhD Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Professor of Pathology and Immunology
PHD University of Pennsylvania 2006
BS University of CA Los Angeles 1996
Edward M Geltman, MD Professor of Medicine (primary appointment)
Assistant Professor of Radiology
BS Mass Inst of Technology (MIT) 1967
MD New York University 1971
Ige A George, MBBS Instructor in Medicine (primary appointment)
MBBS Christian Medical College 1998
Preeto George Instructor in Anesthesiology (primary appointment)
Patrick J Geraghty, MD Professor of Surgery (General Surgery) (primary appointment)
BS Northwestern University 1989
MD Northwestern University 1991
Robert W Gereau, PhD Dr Seymour and Rose T Brown Professor of Anesthesiology (primary appointment)
Professor of Neuroscience
PHD Emory University 1995
BS Southwest Misouri St Universi 1991
Chiara G.I. Ghetti, MD Associate Professor of Obstetrics and Gynecology (primary appointment)
MD Indiana University Indianpoli 1997
Armin Ghobadi, MD Assistant Professor of Medicine (primary appointment)
MD Iran Univ of Medical Sciences 2001
N. Rex Ghormley Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
Nupur Ghoshal, PHD, MD Assistant Professor of Neurology (primary appointment)
BA Iowa State University 1995
PHD Northwestern University Med 2001
MD Northwestern University Med 2003
Joseph Giardina, MD Instructor in Radiology (primary appointment)
BA Williams College 2004
MD New York Medical College 2010
Erin A Gibbons Assistant Professor of Anesthesiology (primary appointment)
Matthew John Gibfried, MD Instructor in Clinical Medicine (primary appointment)
MD University of MO Columbia 2003
Stephen James Giddings, MD, PhD Associate Professor of Medicine (primary appointment)
MD University of Rochester 1976
PHD Dartmouth College 1973
BA Dartmouth College 1968
David S Gierada Professor of Radiology (primary appointment)
BS Davenport University 1983
Ralph V Gieselman, MD Professor Emeritus Of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1947
Nicole Marie Gilbert Instructor in Obstetrics and Gynecology (primary appointment)
Susan Gilfillan, PhD Assistant Professor of Pathology and Immunology (primary appointment)
BA University of Denver 1982
PHD Stanford University 1990
William Ewald Gillanders, MD, M Professor of Surgery (General Surgery) (primary appointment)
Vice Chair for Research, Department of Surgery
MD Duke University 1991
BA Williams College 1987
MS1 Medical University of South Carolina 2006
BA1 Williams College 1987
MS Medical Univ South Carolina 2006
Jason R Gillihan, MD Assistant Professor of Anesthesiology (primary appointment)
MD Southern Illinois University 2006
Yehuda Ginosar, MD Professor of Anesthesiology (primary appointment)
MD University of London 1986
Thomas J Girard, PHD Assistant Professor of Medicine (primary appointment)
BS Univ of Wisconsin Oshkosh 1979
PHD Iowa State University 1985
Margo Renee Girardi, MD Assistant Professor of Medicine (primary appointment)
MD Saint Louis University 2005
BS University of Illinois 2001
Gardar T Gislason Adjunct Instructor in Medicine (primary appointment)
Luis Giuffra, MS, PHD Professor of Clinical Psychiatry (primary appointment)
MS School Not Listed 1985
PHD Yale University 1991
BS School Not Listed 1983
Josephine Lee Aghub Glaser Instructor in Clinical Medicine (primary appointment)
Paul E Glaser, PHD, MD Professor of Psychiatry (Child Psychiatry) (primary appointment)
PHD Washington Univ in St. Louis 1996
MD Washington Univ in St. Louis 1996
MS1 University of Illinois Chicago 1986
BS1 University of Illinois Chicago 1986
Sean C. Glasgow, MD Assistant Professor of Surgery (General Surgery) (Pending Executive Faculty Approval) (primary appointment)
BS Duke University 1995
MD Duke University 1999
Harvey S Glazer Professor of Radiology (primary appointment)
BA Washington Univ in St. Louis 1971
John F Gleeson Jr Instructor in Pediatrics (primary appointment)
Marye J Gleva, MD Professor of Medicine (primary appointment)
MD University of Washington 1988
BA Wellesley College 1984
Katherine LuBell Glover-Collins Assistant Professor of Surgery (General Surgery) (Pending Executive Faculty Approval) (primary appointment)
Anne L Glowinski, MS, MD Professor of Psychiatry (Child Psychiatry) (primary appointment)
BS University of Houston 1988
MS Washington Univ in St. Louis 2001
MD Baylor University 1992
Thomas James Goblirsch, MD Assistant Professor of Anesthesiology (primary appointment)
MD Loyola University Chicago 1985
BS University of Notre Dame 1980
Sreekrishna M Goddu, MS, PHD Associate Professor of Radiation Oncology (primary appointment)
BS Andhra University
MS Andhra University
PHD Andhra University 1991
Joel Goebel, MD Professor of Otolaryngology (primary appointment)
Vice Chairman of Otolaryngology
MD Washington Univ in St. Louis 1980
BS University of Notre Dame 1976
Simon P Goedegebuure, PHD, MA Associate Professor of Surgery (General Surgery) (primary appointment)
PHD Erasmus University Rotterdam 1989
MA School Not Listed 1985
BS School Not Listed 1982
George W Gokel, PHD Adjunct Professor of Molecular Biology and Pharmacology (primary appointment)
PHD University of Southern Calif 1971
Andrew S Gold, MD Instructor in Clinical Medicine (primary appointment)
MD University of Iowa 1989
BS University of Illinois 1985
Mark Gold, MD Adjunct Professor of Psychiatry (primary appointment)
MD University of Florida 1975
Anne Carol Goldberg, MD Professor of Medicine (primary appointment)
BA Harvard University 1973
MD University of Maryland 1977
Daniel E Goldberg, MD David M and Paula L Kipnis Distinguished Professor (primary appointment)
Professor of Molecular Microbiology
MD Washington Univ in St. Louis 1985
Gregory I Goldberg, PHD Professor of Medicine (Dermatology) (primary appointment)
Professor of Biochemistry and Molecular Biophysics
PHD Weizmann Institute of Science 1977
Richard I Goldberg, DDENT Instructor in Clinical Otolaryngology (DMD) (primary appointment)
DDENT Washington Univ in St. Louis 1988
BA Washington Univ in St. Louis 1981
Seth Goldberg, MD Assistant Professor of Medicine (primary appointment)
BS University of South Florida 1999
MD University of South Florida 2003
Judith P Golden, PHD Assistant Professor of Anesthesiology (primary appointment)
PHD Saint Louis University 1994
BS Hofstra University 1984
Barry Steven Goldenberg, DDENT, MS Instructor in Clinical Otolaryngology (DMD) (primary appointment)
BA Fairleigh Dickinson University 1975
DDENT Washington Univ in St. Louis 1982
MS University of Missouri 1987
Joseph K Goldenberg, MD Associate Professor of Clinical Pediatrics (primary appointment)
MD University of MO Kansas City 1980
Charles A Goldfarb, MD Professor of Orthopaedic Surgery (primary appointment)
BA Williams College 1992
MD University of Alabama 1996
**Gordon Goldman, MD**Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS University of Toledo 1962
MD Saint Louis University 1966
**David Goldmeier, MD**Instructor in Clinical Psychiatry (primary appointment)
BA Dartmouth College 1978
MD Washington Univ in St. Louis 1982
**James M Goldring, MD, PHD**Instructor in Clinical Neurology (primary appointment)
MD Washington Univ in St. Louis 1986
PHD Washington Univ in St. Louis 1977
**Matthew I Goldsmith, MD, MS**Associate Professor of Pediatrics (primary appointment)
Assistant Professor of Genetics
BS University of Toronto 1987
MD University of Toronto 1995
MS University of Toronto 1990
Scott Ryan GoldsmithInstructor in Medicine (primary appointment)
**Benjamin M Goldstein, MD**Associate Professor of Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1960
MD Washington Univ in St. Louis 1964
**Paul T Golumbek, MD, PHD**Assistant Professor of Neurology (primary appointment)
Assistant Professor of Pediatrics
MD Johns Hopkins University Medic 1995
BA University of Maryland 1984
PHD Johns Hopkins University 1995
**Yong-feng Gong, MS, PHD**Instructor in Medicine (primary appointment)
MS China Medical University 2005
PHD Zhejiang Medical University 2009
**Debra Ann Gonzalez, MD**Assistant Professor of Otolaryngology (primary appointment)
MD Cornell University 1987
BS Wellesley College 1982
**Maria Cristina Gonzalez-Mayda, MD**Assistant Professor of Medicine (primary appointment)
MD University of Puerto Rico 2008
BS University of Puerto Rico 2004
**Vivian Maria Gonzalez-Perez, PHD**Instructor in Anesthesiology (primary appointment)
PHD University of Valparaiso 2009
**Misty Lynn Good, MD**Assistant Professor of Pediatrics (Pending Executive Faculty Approval) (primary appointment)
MD American U of Carribean SchMed 2005
Daniel M GoodenbergerProfessor of Medicine (primary appointment)
Gary M GoodmanAssistant Professor of Clinical Pediatrics (primary appointment)
**Melody Serene Goodman, MS, PHD**Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
BS State Univ of NY Stonybrook 1999
MS Harvard University 2003
PHD Harvard University 2006
**Brian A Gordon, MS PSYC, PHD**Instructor in Radiology (primary appointment)
MS PSYC University of Illinois 2006
PHD University of Illinois 2010
BS University of Illinois 2003

J. Eric Gordon, MD Professor of Orthopaedic Surgery (primary appointment)
MD University of CA Davis 1988

James M Gordon, MD Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MD University of Minnesota 1966
BA University of Minnesota 1962

Jeffrey I Gordon, MD Professor of Pathology and Immunology (primary appointment)
MD University of CA Davis 1988

Mae Etsuko Gordon, MS, PHD Professor of Ophthalmology and Visual Sciences (primary appointment)
BA Oberlin College 1969
MD University of Chicago 1973

Mae Etsuko Gordon, MS, PHD Professor of Ophthalmology and Visual Sciences (primary appointment)

Professor of Medicine
Professor of Developmental Biology
BA Oberlin College 1969
MD University of Chicago 1973

Dr Robert J Glaser Distinguished University Professor
Director of the Center for Genome Sciences

Professor of Biostatistics
Professor of Medicine
Professor of Developmental Biology
BA Oberlin College 1969
MD University of Chicago 1973

Mae Etsuko Gordon, MS, PHD Professor of Ophthalmology and Visual Sciences (primary appointment)

Mary Jo Gorman, MBA Instructor in Clinical Medicine (primary appointment)
MBA Washington Univ in St. Louis 1996
BA Saint Louis University 1981

Jaya Goswami, MA, MD Instructor in Pediatrics (primary appointment)
MA State University of New York 2008
BS Calcutta University 2004
MD SUNY DOWNSTATE MED BROOKLYN 2012

David I Gottlieb, PHD, MA Prof Emeritus of Neurobiology (primary appointment)
PHD Washington Univ in St. Louis 1971
MA Univ of Wisconsin Madison 1969
BA Harpur College 1964

James Dean Gould, MD Instructor in Clinical Otolaryngology (primary appointment)
BA University of Virginia 1989
MD University of Virginia 1993

Jennifer E Gould, MD Associate Professor of Radiology (primary appointment)
BA Cornell University 1993
MD Washington Univ in St. Louis 1997

Ramaswamy Govindan, MD Professor of Medicine (primary appointment)
MD University of Madras 1986

Siddhesh Gowda Associate Professor of Clinical Medicine (primary appointment)

Bella Goyal Instructor in Pathology and Immunology (Pending Dean's Approval) (primary appointment)

Manu Shri Goyal, MD, MS Assistant Professor of Radiology (primary appointment)
MD University of Chicago 2005
MS Oxford University 2001
BS University of Illinois Chicago 2000

Ronald M Grady, MD, MA Associate Professor of Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1989  
BA Princeton University 1984  
MA Washington Univ in St. Louis 1989  

Thomas J Graetz, MD Assistant Professor of Anesthesiology (primary appointment)  
Assistant Professor of Surgery (Cardiothoracic Surgery)  
MD Saint Louis University 2005  

Barry A Graff, MD Assistant Professor of Anesthesiology (primary appointment)  
BA Macmurray College 1973  
MD Saint Louis University 1976  

Laquita A Graham, MD Instructor in Clinical Pediatrics (primary appointment)  
MD Saint Louis University 1996  
BA Washington Univ in St. Louis 1991  

Andrea Granados, MD Instructor in Pediatrics (primary appointment)  
MD Universidad Nacional de Columb 2015  

Mark Gilbert Grand, MD Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)  
BS Tufts University 1964  
MD Yale University 1968  

Dorothy K. Grange Professor of Pediatrics (primary appointment)  
BA Mount Holyoke College 1976  

Gregory Alan Grant, PHD Professor of Biochemistry in Medicine (Dermatology) (primary appointment)  
Professor of Developmental Biology  
PHD Univ of Wisconsin Madison 1975  
BS Iowa State University 1971  

Julia D. Grant, PHD, MA Associate Professor of Psychiatry (primary appointment)  
PHD Pennsylvania State University 1997  
BA Davidson College 1989  
MA Wake Forest University 1993  
Michael Anne Gratton Professor of Otolaryngology (Pending Executive Faculty Approval) (primary appointment)  

Diana Lee Gray Professor of Obstetrics and Gynecology (primary appointment)  
Professor of Radiology  
Associate Dean for Faculty Affairs  
Professor of Engineering  
BS University of Illinois 1977  

Margaret Rosanna Gray-Swain, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)  
MD Washington Univ in St. Louis 2002  

Jonathan M Green, MD Professor of Medicine (primary appointment)  
Associate Dean for Human Studies  
Professor of Pathology and Immunology  
BS University of Michigan 1982  
MD Wayne State University 1986  

Kenneth O Green, MD Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)  
MD University of Missouri 1960  

Olga Leonidovna Green, MS Assistant Professor of Radiation Oncology (primary appointment)
Ted Allen Green, MD
MD University of Illinois 1994
Michael Jonathan Greenberg Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)

Deanna Greene, PHD, MS Assistant Professor of Psychiatry (primary appointment)
Assistant Professor of Radiology
PHD University of CA Los Angeles 2010
BA University of CA San Diego 2003
MS University of CA Los Angeles 2006

Aaron Greenspan Instructor in Clinical Medicine (primary appointment)
Mark H Gregory, MD Assistant Professor of Clinical Medicine (primary appointment)

Kevin William Greuloch, MD Instructor in Ophthalmology and Visual Sciences (primary appointment)
MD University of Michigan 1999
BS University of Notre Dame 1995

Valerie Janet Gribben Instructor in Pediatrics (primary appointment)
BA University of AL Birmingham 2008

Walter Blake Gribben, MD Instructor in Medicine (primary appointment)
MD University of Alabama 2010

Richard T Griffey Jr, MD Associate Professor of Emergency Medicine in Medicine (primary appointment)
MD Norfolk General Hospital 1977

Nicholas Wayne Griffin, PHD Instructor in Pathology and Immunology (primary appointment)
PHD Washington Univ in St. Louis 2010

Malachi Griffith, PHD Academic Rank held in Genetics (primary appointment)
Assistant Professor of Genetics
PHD University of British Columbia 2010
BS University of Winnipeg 2002

Obi Lee Griffith, PHD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Genetics
PHD British Columbia Open Univ 2008

Perry W Grigsby, MD Professor of Radiation Oncology (primary appointment)

Professor of Radiology
Professor of Obstetrics and Gynecology
BS University of Kentucky 1974
MD University of Kentucky 1982

Russell J.I. Groener, MBCHB Associate Professor of Anesthesiology (primary appointment)
MBCHB University of Cape Town 1983

Scott D. Groesch, MD Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1994

Georgeann Keh-Teng Groh, MD Instructor in Pediatrics (primary appointment)
BS Rice University 2001
MD Baylor College of Medicine 2006

Jesse Brookshire Groh, MD Instructor in Clinical Pediatrics (primary appointment)
John R Groll, MD
Instructor in Clinical Medicine (primary appointment)

Steven J Grondalski, OD
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)

Ann Marie Gronowski, PhD
Professor of Pathology and Immunology (primary appointment)
Professor of Obstetrics and Gynecology

Richard Warren Gross, PhD, AB, MD
Professor of Medicine
Professor of Developmental Biology
Professor of Chemistry

Brenda Jean Grossman, MS, MD
Professor of Pathology and Immunology (primary appointment)
Professor of Medicine

Jessica Rosenbaum Grubb, MD
Assistant Professor of Medicine (primary appointment)

Robert Lee Grubb III, MD
Associate Professor of Surgery (Urologic Surgery) (primary appointment)

Robert L Grubb Jr, MD
Professor of Neurological Surgery (primary appointment)

Richard Grucza, MS, PhD
Associate Professor of Psychiatry (primary appointment)

Royal Gene Grueneich, PhD
Assistant Professor of Clinical Neurology (primary appointment)

Brian Anthony Grus, MD
Instructor in Clinical Medicine (primary appointment)
Chi Gu, PHD
Associate Professor of Biostatistics (primary appointment)
Associate Professor of Genetics
BS Nanjing Medical University 1982
PHD Washington Univ in St. Louis 1992

Yuxing Gu, PHD
Assistant Professor of Radiation Oncology (primary appointment)
PHD University of MO St Louis 2014

Anthony Herbert Guarino, MA, MD
Associate Professor of Anesthesiology (primary appointment)
MA Yale University 1988
MD University of Maryland 1992
BA Yale University 1986

Rejean Michael Guerriero, MD
Assistant Professor of Neurology (primary appointment)
BS Bates College 2001
MD University of New England 2009

Ryan C Guffey, MD
Assistant Professor of Anesthesiology (primary appointment)
MD Wayne State University 2007

Farshid Guilak, MS, MPH
Professor of Orthopaedic Surgery (primary appointment)
Professor of Development Biology
Professor of Biomedical Engineering
MS Rensselaer Poly Institute 1987
MPH Columbia University 1990
BS Rensselaer Poly Institute 1985

Kristin Guilliams, MD
Assistant Professor of Neurology (primary appointment)
Assistant Professor of Pediatrics
MD University of Virginia 2006
BS Furman University 2002

Guner B Gulmen, PHD
Assistant Professor of Clinical Medicine (primary appointment)
PHD University of Minnesota 1974

Vyjanthanath R. Gunasingham, MD
Instructor in Clinical Medicine (primary appointment)
MD School Not Listed 1982
BS School Not Listed 1975

Subhadra C Gunawardana, PHD
Associate Professor of Cell Biology and Physiology (primary appointment)
PHD Cornell University 2002

Mark Cobb Gunby, DOST
Assistant Professor of Clinical Medicine (primary appointment)
BS University of Tulsa 1981
DOST Oklahoma St University 1988

Joseph Donald Gunn, MD
Associate Professor of Pediatrics (primary appointment)
MD University of Virginia 1989

Jun Guo, PHD, MS
Assistant Professor of Surgery (Pediatric Surgery) (primary appointment)
PHD Shanghai Medical University 2000
MS Dalian Medical University 1997

Jitendra K Gupta, MS
Instr Emeritus In Clinical Medicine (primary appointment)
MS School Not Listed 1963
UNKNOWN School Not Listed 1963

Munish C Gupta, MD
Mildred B. Simon Distinguished Professor of Orthopaedic Surgery (primary appointment)
BS Northwestern University 1982
MD Northwestern University Med 1986
Punita Gupta, MPH, MD Instructor in Radiology (primary appointment)
MPH Saint Louis University 1996
BA Washington Univ in St. Louis 1995
MD University of Illinois 2000

Santosh K Gupta, DC Associate Professor of Clinical Pediatrics (primary appointment)
UNKNOWN School Not Listed 1963
DC University of London 1966
UNKNOWN1 University of London 1970

Christina A. Gurnett, PHD, MD Associate Professor of Neurology (primary appointment)
Associate Professor of Orthopaedic Surgery
Assistant Professor of Pediatrics
PHD University of Iowa 1998
BS University of Notre Dame 1991
MD University of Iowa 1998

Maria Gurrieri, MD, DIP Instructor in Clinical Medicine (primary appointment)
MD Catholic University 1989
DIP School Not Listed 1982

Reena Gurung, MD Instructor in Medicine (primary appointment)
MD Kathmandu University 2007

Christine Hillery Gustus, MS Instructor in Otolaryngology (primary appointment)
Instructor in Audiology and Communication Sciences
MS Washington Univ in St. Louis 1975

Alexandra Gutierrez, MD, M PH Associate Professor of Medicine (primary appointment)
MD Case Western Reserve Univ 2000
M PH Harvard University 2006
BS Brown University 1996

Fernando R Gutierrez Professor of Radiology (primary appointment)

David H Gutmann Donald O. Schnuck Family Professor of Neurology (primary appointment)
Professor of Genetics
Professor of Neurological Surgery
Professor of Pediatrics

Steven William Guyton Associate Professor of Clinical Surgery (Cardiothoracic Surgery) (primary appointment)

Chandra Prakash Gyawali, MBBS, MD Professor of Medicine (primary appointment)
MBBS University of Calicut 1985
MD University of Calicut 1990

Allah B Haafiz Adjunct Associate Professor of Pediatrics (primary appointment)

Ramsey R Hachem, MD Professor of Medicine (primary appointment)

Tracey C Marshall - Dr. Elbert P Trulock Distinguished Professor of Medicine
MD1 University of Texas Southwest 1997
MD University of Texas Southwest 1997
BA1 Southern Methodist University 1992
BA Southern Methodist University 1992

Brian P Hackett, PHD, MD Professor of Pediatrics (primary appointment)
BA Middlebury College 1975
PHD Boston College 1984
MD Saint Louis University 1986

Matthew D Hageman Instructor in Clinical Medicine (primary appointment)
Andrea Ruth Hagemann, MD
Assistant Professor of Obstetrics and Gynecology (primary appointment)
MD Washington Univ in St. Louis 2004
BA Princeton University 2000

Ian Sean Hagemann, PHD, MD
Assistant Professor of Pathology and Immunology (primary appointment)

Assistant Professor of Obstetrics and Gynecology
PHD Washington Univ in St. Louis 2008
MD Washington Univ in St. Louis 2008
BA Princeton University 2000

Jennifer Christine Hagopian
Adjunct Instructor in Medicine (primary appointment)

Ashfaq H Hakim, MD, MBBS
Instructor in Clinical Medicine (primary appointment)
MD RNT Medical College 1973
MBBS RNT Medical College 1968

Carmen Marie Halabi, PHD, MD
Instructor in Pediatrics (primary appointment)
BS University of Iowa 2001
PHD University of Iowa 2009
MD University of Iowa 2009

Ilia Gueorguev Halatchev, MD
Assistant Professor of Medicine (primary appointment)
MD Oregon Health Science Univers 2007

Sarah Eliza Halcomb, MD
Assistant Professor of Emergency Medicine in Medicine (primary appointment)
MD Royal College of Surgeons 2000

Angela Marie Hall, PHD
Assistant Professor of Medicine (primary appointment)
PHD Univ of Minnesota Twin Cities 2005
BS University of MO Columbia 1999

Bruce Lee Hall, MD
Professor of Surgery (General Surgery) (primary appointment)
Professor of Health Care Management (Olin School of Business)
Fellow in the Center for Health Policy
BA Princeton University 1984
MD Duke University 1992

Ira McCarthy Hall, PHD
Associate Professor of Medicine (primary appointment)
Associate Professor of Genetics
Associate Director of the Genome Center
BS University of CA Berkeley 1998
PHD Cold Spring Harbor Laboratory 2003

Kathleen Hall, PHD
Professor of Biochemistry and Molecular Biophysics (primary appointment)
BS University of Minnesota 1974
PHD University of CA Berkeley 1985

Lannis Hall, MD
Assistant Professor of Clinical Radiation Oncology (primary appointment)
MD Howard University 1992
BA University of Michigan 1988

Laura Evelyn Hall, MD
Instructor in Pediatrics (primary appointment)
MD University of Toledo 2010
BS Allegheny College 2005

Dennis E Hallahan, MD
Professor of Radiation Oncology (primary appointment)
Professor of Cell Biology and Physiology
Professor of Pathology and Immunology
Elizabeth H and James S McDonnell III Distinguished Professor of Medicine
Head of the Department of Radiation Oncology
Professor of Molecular Microbiology
MD Rush University 1984
BS University of Illinois 1980

Mark E. Halstead, MD
Associate Professor of Orthopaedic Surgery (primary appointment)
Associate Professor of Pediatrics
BS Univ of Wisconsin Madison 1994
MD Univ of Wisconsin Madison 1998

Yasir A Hamad
Instructor in Medicine (primary appointment)

Duncan Lee Hamilton, MD
Instructor in Anesthesiology (primary appointment)
MD University of Nottingham 1992

Kim P Hamlin, MD
Assistant Professor of Pediatrics (primary appointment)
MD University of MO St Louis 2001
BS University of MO St Louis 1997

Stephanie M Hammer, MD
Instructor in Clinical Medicine (primary appointment)
MD Chicago St University 1995

Roman E Hammes, MD
Instructor in Clinical Pediatrics (primary appointment)
MD University of Iowa 1954
BA University of Iowa 1950

Melanie G Hampton, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
BS Georgetown College 1976
MD University of Louisville 1981

Dong Hyun Han
Visiting Instructor in Psychiatry (primary appointment)

Edward B. Han, PhD
Assistant Professor of Neuroscience (primary appointment)
Assistant Professor of Anesthesiology
PHD University of CA San Diego 2004
BS Cornell University 1995

Martha B. Han, PhD
Assistant Professor of Neuroscience (primary appointment)
BS Yale University 2000
PHD University of CA San Diego 2008

Se Young Han
Instructor in Medicine (primary appointment)

Joseph Hanaway, MD
Assistant Professor of Clinical Neurology (primary appointment)
BA McGill University 1956
MD McGill University 1960

Elinor F Hancock, MD
Instructor in Clinical Pediatrics (primary appointment)
MD Meharry Med College 1982
BA Fisk University 1975

Scott A Handley, PhD
Assistant Professor of Pathology and Immunology (primary appointment)
PHD Washington Univ in St. Louis 2006
BS Southwest Missouri St Universi 1998

Thomas Joseph Hannan, DVM
Instructor in Pathology and Immunology (primary appointment)
BA Georgetown University 1989
BA1 Georgetown University 1989
DVM Tufts University 1995

Ted H Hansen, MS, PhD
Prof Emeritus of Pathology & Immunol (primary appointment)
BS Michigan State University 1970
MS University of Michigan 1972
PHD University of Michigan 1975
Jason M. Hanson, MD <br>**Instructor in Clinical Otolaryngology** (primary appointment)
MD Northwestern University 1992
Phyllis I Hanson, PHD <br>**Professor of Cell Biology and Physiology** (primary appointment)
Gerty T Cori Professor
PHD Stanford University 1993
BA Yale University 1985
Robin D Hanson <br>**Instructor in Clinical Pediatrics** (primary appointment)
BA Johns Hopkins University 1985
Suzanne M Hanson <br>**Assistant Professor of Clinical Pediatrics** (primary appointment)
Charles B Hantler, MA, MD <br>**Professor of Anesthesiology** (primary appointment)
MA Davenport University 1973
MD Davenport University 1977
BS Davenport University 1971
Hoosna Haque, MD <br>**Instructor in Clinical Obstetrics and Gynecology** (primary appointment)
BS University of Texas Arlington 1992
MD Beaufort Technical College 1996
Zahirul Haque <br>**Instructor in Clinical Medicine** (primary appointment)
Oscar Marcos Harari, PHD, MA <br>**Assistant Professor of Psychiatry** (Pending Executive Faculty Approval) (primary appointment)
PHD University of Granada 2009
BA Universidad del Buenos Aires 1997
MA Universidad del Buenos Aires 1999
Melissa A. Harbit, MD <br>**Associate Professor of Psychiatry** (primary appointment)
MD University of Iowa 1997
BS University of Iowa 1993
William B Hardin Jr, MD <br>**Asst Prof Emeritus Of Clinical Neurology** (primary appointment)
BA Rice University 1953
BA1 Rice University 1953
MD University of Texas Austin 1957
David A. Hardy <br>**Instructor in Surgery** (Urologic Surgery) (primary appointment)
Lisa Adel Harker <br>**Instructor in Clinical Neurology** (primary appointment)
Archie B Harmon Jr, MA, PHD <br>**Instructor in Otolaryngology** (primary appointment)
MA University of Central Florida 2006
BA University of Florida 2002
PHD Florida State University 2010
Michael P. Harms <br>**Assistant Professor of Psychiatry** (primary appointment)
George J Harocopos, MD <br>**Associate Professor of Ophthalmology and Visual Sciences** (primary appointment)
**Assistant Professor of Pathology and Immunology**
MD University of Virginia 2000
BA Harvard University 1995
Simone Haroutounian, PHD, MA <br>**Assistant Professor of Anesthesiology** (primary appointment)
PHD Hebrew University 2011
MA Hebrew University 2005
Alexander D Harris, OD, MA <br>**Adjunct Instructor in Ophthalmology and Visual Sciences** (primary appointment)
BA University of Evansville 1969
OD University of Missouri 1986
MA Washington Univ in St. Louis 1972
Charles A. Harris Assistant Professor of Medicine (primary appointment)
Assistant Professor of Developmental Biology
Charles R Harris Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
UNKNOWN University of Missouri 1971
BS University of Missouri 1970
Dehra Anne Harris, MD Assistant Professor of Psychiatry (Child Psychiatry) (primary appointment)
MD University of Arkansas 2000
BS Washington Univ in St. Louis 1996
Lydia-Ann Lynell Harris, PHD Instructor in Medicine (primary appointment)
PHD State University of New York 2011
Michael Dennison Harris Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Orthopaedic Surgery
BS University of Utah 2007
Michael Raymond Harris, MS Professor of Pediatrics (primary appointment)
MS Saint Louis University 1976
Elizabeth Avis Harrison, MD Instructor in Clinical Pediatrics (primary appointment)
BA Vanderbilt University 2002
MD Washington Univ in St. Louis 2006
Thomas J. Harrison Jr, MD Instructor in Clinical Pediatrics (primary appointment)
BA Saint Louis University 1970
MD University of Missouri 1979
Kathryn Ming Hart Instructor in Biochemistry and Molecular Biophysics (primary appointment)
William M Hart Jr, PHD, MD Prof Emeritus of Ophthalmol & Vis Sci (primary appointment)
PHD University of Maryland 1970
MD University of Maryland 1970
BA Dartmouth College 1963
William Hartel Instructor in Clinical Otolaryngology (primary appointment)
David E Hartenbach Associate Professor of Clinical Pediatrics (primary appointment)
BA Saint Louis University 1983
Laura Hartman
Mary E Hartman, M PH, MD Assistant Professor of Pediatrics (primary appointment)
M PH University of Pittsburgh 2006
BA Mount Holyoke College 1994
MD University of Rochester 1999
Richard Alan Hartman, MD Associate Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD University of Missouri 1978
Thomas D Hartnett, MD Asst Prof Emeritus of Clinical Psychiatry (primary appointment)
BS Loyola University 1955
MD University of Ottawa 1959
Jack Hartstein, MD Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA University of Missouri 1953
MD University of Cincinnati 1955
John Edward Hartwegert Instructor in Clinical Pediatrics (primary appointment)
Sarah McConnell Hartz, MD, PHD Assistant Professor of Psychiatry (primary appointment)
BA Knox College 1996
MD University of Iowa 2005
PHD University of Illinois 2002
Alan A Harvey Assistant Professor of Clinical Otolaryngology (primary appointment)
Steven Arthur Harvey, MD Instructor in Clinical Psychiatry (primary appointment)
BA Washington Univ in St. Louis 1988
MD Washington Univ in St. Louis 1992
James Larry Harwell, MD Assistant Professor of Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1958
MD University of Missouri 1961
Jeffrey A Haspel Assistant Professor of Medicine (primary appointment)
BS Binghamton University 1994
Anisa Hassan, MD Instructor in Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1988
MD Dow Medical College Karachi 1976
Anjum Hassan, MD Associate Professor of Pathology and Immunology (primary appointment)
MD Aga Khan University 1989
MD1 School Not Listed 1989
Jason J Hassenstab, PHD, MS PSYC Assistant Professor of Neurology (primary appointment)
Assistant Professor of Psychological & Brain Sciences
PHD Fordham University 2009
MS PSYC Fordham University 2005
Mary Kent Hastings, MS, DPT Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
MS Washington Univ in St. Louis 1993
BS University of Illinois 1990
DPT Washington Univ in St. Louis 2002
Thomas F Hastings, MD Instructor in Clinical Medicine (primary appointment)
MD University of Missouri 1986
BA Rockhurst College 1981
J Michael Hatlelid, MD Associate Professor of Clinical Neurology (primary appointment)
MD Washington Univ in St. Louis 1977
BA St Johns University 1970
Sherrie M Hauft, MD Professor of Pediatrics (primary appointment)
MD University of Texas Austin 1984
BS University of Texas Austin 1977
Jay Fredrick Hauser, DDENT Instructor in Clinical Otolaryngology (primary appointment)
DDENT University of Iowa 1988
BA University of Tulsa 1983
James J Havranek, PHD Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)
PHD Stanford University 2008
William G. Hawkins, MD Professor of Surgery (General Surgery) (primary appointment)
Neidorff Family and Robert C Packman Professor
MD State Univ of NY Stonybrook 1995
BA New York University 1991
Robert J Hayashi, MD Professor of Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1986
BS Stanford University 1982
Michael E Hayek, MS, MD
Instructor in Clinical Surgery (General Surgery) (primary appointment)
BA Saint Louis University 1976
MS Saint Louis University 1978
MD University of Missouri 1982

Ericka V. Hayes, MD
Associate Professor of Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1998
BS Washington Univ in St. Louis 1994

Heather Hayes, M ED, PHD
Associate Professor of Otolaryngology (primary appointment)
Associate Professor of Audiology and Communication Sciences
Director of Deaf Education Studies in Audiology and Communication Sciences
M ED Smith College 2005
BA Emory University 1995
PHD Washington Univ in St. Louis 2009

Marcie Harris Hayes, MS, DPT
Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
BS Southwest Misouri St Universi 1994
MS Northwestern University 1996
DPT Washington Univ in St. Louis 2003

Damon Joseph Louis Hays, MD
Instructor in Clinical Orthopaedic Surgery (primary appointment)
BS Truman State University 1998
MD Ohio University 2003

Mai He
Associate Professor of Pathology and Immunology (Pending Executive Faculty Approval)
( primary appointment)

Richard D Head
Associate Professor of Genetics (primary appointment)
Associate Professor of Pathology and Immunology

Andrew C Heath, PHD
Spencer T. Olin Professor of Psychology in Psychiatry (primary appointment)
Associate Professor of Psychological & Brain Sciences
Professor of Genetics
PHD Oxford University 1983

Krysta Lynn Heath, MD
Instructor in Medicine (primary appointment)
MD University of AR Med Sciences 2011

George Heberton, MD
Instructor in Medicine (primary appointment)
MD Univ of Texas Med Sch Houston 2013

Jay Paul Heiken, MD
Professor of Radiology (primary appointment)
MD Columbia University 1978
BA Williams College 1974

Mark Francis Heiland
Assistant Professor of Clinical Surgery (General Surgery) (primary appointment)

James N Heins, MD
Professor of Clinical Medicine (primary appointment)
Adjunct Professor of Medicine
MD University of Louisville 1961
BA University of Louisville 1957

Laura Elaina Heitsch
Assistant Professor of Emergency Medicine in Medicine (primary appointment)

Assistant Professor of Neurology

Jason M Held, PHD
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Anesthesiology
Daniel Luke Helsten, MD  
Associate Professor of Anesthesiology (primary appointment)
MD University of Kentucky 2001  
BS University of Kentucky 1997
Mohammad Anas Helwani, MD  
Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
MD Damascus University 1998
Kenneth Edmond Hemba, MD  
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Jefferson Medical College 2011
Jeffrey P. Henderson, PHD, MD  
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Molecular Microbiology
PHD Washington Univ in St. Louis 2002  
BS Univ of Wisconsin Madison 1994  
MD Washington Univ in St. Louis 2002
Katherine Eileen Henderson  
Assistant Professor of Clinical Medicine (primary appointment)
BS Univ of Wisconsin Madison 1993
Kristina Louise Henderson, MD  
Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1991  
BA Saint Louis University 1982
Kara E Hennelly, MD  
Assistant Professor of Pediatrics (primary appointment)
MD UMICCSOM 2015
Nathan Henninger  
Instructor in Clinical Pediatrics (primary appointment)
William L Herbold, OD  
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD School Not Listed 1967  
BS School Not Listed 1967
Celeste Eileen Herleth  
Instructor in Psychiatry (primary appointment)
BA1 Loyola University 2005
Daniel Robert Herleth  
Instructor in Clinical Medicine (primary appointment)
Cheryl R Herman, MD  
Assistant Professor of Radiology (primary appointment)
MD Meharry Med College 1990  
BS Loma Linda University 1986
Catherine Hermann  
Instructor in Clinical Medicine (primary appointment)
Leonel F. Hernandez Aya, MD  
Assistant Professor of Medicine (primary appointment)
MD Universidad Nacional de Columb 2007
Mary Jo Hernandez-Zipfel, MD  
Instructor in Clinical Pediatrics (primary appointment)
BS University of North Carolina 1996  
MD University of Florida 2001
Robert E Herold, MD  
Assistant Professor of Anesthesiology (primary appointment)
BA Wabash College 1970
MD Washington Univ in St. Louis 1974
Pilar Herrero, MS, ME  
Associate Professor of Radiology (primary appointment)
MS Vanderbilt University 1984  
ME Washington Univ in St. Louis 1997  
BS Loyola University Chicago 1981
Cynthia Joan Herrick, MD  
Assistant Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 2006
BS Princeton University 2002
Andreas Herrlich, PHD, MD_Associate Professor of Medicine (primary appointment)
PHD Freie University 1998
MD Freie University 1994
Virginia M Herrmann, MD_Professor of Surgery (General Surgery) (primary appointment)
Professor of Medicine
MD Saint Louis University 1974
Tamara G Hershey_Professor of Psychiatry (primary appointment)
Adjunct Professor of Psychological & Brain Sciences (Courtesy)
Professor of Neurology
Professor of Radiology
BA Earlham College 1988
John C Herweg, MD_Assoc Dean Emeritus (primary appointment)
BS Drury College 1943
MD Washington Univ in St. Louis 1945
Godofredo M Herzog_Assoc Prof Emeritus Of Clinical Ob & Gyn (primary appointment)
BS Louisiana St University 1953
Jacques A Herzog, MD_Assistant Professor of Clinical Otolaryngology (primary appointment)
BA University of Missouri 1980
MD University of MO Kansas City 1980
Albert E Hesker, MD_Assistant Professor of Clinical Radiology (primary appointment)
MD University of MO Columbia 1964
Jennifer Kristen Hester_Instructor in Clinical Medicine (primary appointment)
Jonathan W Heusel, MD, PHD_Associate Professor of Pathology and Immunology (primary appointment)
MD Washington Univ in St. Louis 1995
PHD Washington Univ in St. Louis 1995
John E Heuser_Prof Emeritus of Cell Biology/Physiol (primary appointment)
BS Harvard University 1964
Laurel D Hibbs_Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Christina Kim Ahn Hickey, MD_Instructor in Pediatrics (primary appointment)
MD Washington Univ in St. Louis 2009
Scot G Hickman, MD_Professor of Medicine (primary appointment)
BA Duke University 1966
MD Washington Univ in St. Louis 1970
Robert Jerome Hickok_Asst Prof Emeritus of Physical Therapy (primary appointment)
Frederick G Hicks_Assistant Professor of Clinical Psychiatry (primary appointment)
Tunde Hidvegi, MS, PHD_Associate Professor of Pediatrics (primary appointment)
MS Eötvös Loránd University 1980
PHD Eötvös Loránd University 1988
Stuart T. Higano, MD_Instructor in Clinical Medicine (primary appointment)
MD University of Massachusetts 1984
SueLin Ming Hilbert_Assistant Professor of Emergency Medicine in Medicine (primary appointment)
Charles F Hildebolt, MA, PHD_Prof Emeritus of Radiology (primary appointment)
MA Washington Univ in St. Louis 1985
PHD Washington Univ in St. Louis 1987
Laura Hill, MD, Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
MD University of Illinois Chicago 2002
Travis J Hillen, Assistant Professor of Radiology (primary appointment)
Elizabeth Hilliker, MA, Assistant Professor of Emergency Medicine in Medicine (primary appointment)
Assistant Professor of Surgery (General Surgery)
BA Washington Univ in St. Louis 1965
MA Washington Univ in St. Louis 1970
Jennifer M Hinton, Instructor in Clinical Pediatrics (primary appointment)
Paul Flack Hintze, MD, Assistant Professor of Clinical Medicine (primary appointment)
MD University of Utah 1978
BS Brigham Young University 1974
Angela Christine Hirbe, MD, PHD, Assistant Professor of Medicine (primary appointment)
BS Washington Univ in St. Louis 2001
MD Washington Univ in St. Louis 2009
PHD Washington Univ in St. Louis 2009
Keiko Hirose, MD, Associate Professor of Otolaryngology (primary appointment)
Associate Professor of Audiology and Communication Sciences
Associate Professor of Pediatrics
Vice Chairman of Otolaryngology
MD Harvard University 1993
Gary E Hirshberg, MD, Professor Emeritus of Anesthesiology (primary appointment)
BA Princeton University 1968
MD Hahnemann University 1972
Stanley P Hmiel, MD, M PHIL, PHD, Professor of Pediatrics (primary appointment)
MD Case Western Reserve Univ 1989
BS Case Western Reserve Univ 1980
M PHIL Cambridge University 1981
PHD Case Western Reserve Univ 1987
Sandra Jean Hodel, Instructor in Clinical Pediatrics (primary appointment)
Dee Hodge III, MD, Professor of Pediatrics (primary appointment)
BA Occidental College 1974
MD University of CA San Francisco 1978
Didier Hodzic, PHD, Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
Assistant Professor of Cell Biology and Physiology
BS University of Liege 1991
PHD University of Liege 1998
James R Hoekel, OD, Instructor in Ophthalmology and Visual Sciences (primary appointment)
BS University of MO Columbia 1990
OD University of MO St Louis 1994
Grant S. Hoekzema, MD, Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1992
John T Hoff, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS Xavier University 2002
MD Medical College of Wisconsin 2006
J. Langston Hoffman, MD, Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1999
BS Univ of Wisconsin Madison 1994
Lawrence M Hoffman, DDENT Instructor in Clinical Otolaryngology (DMD) (primary appointment)
BA Indiana University Bloomington 1972
DDENT Washington Univ in St. Louis 1976
Robert J Hoffman, MD Professor of Clinical Pediatrics (primary appointment)
MD Saint Louis University 1976
BS University of Illinois 1972
Russell G. Hoffmann, PHD Instructor in Clinical Pediatrics (primary appointment)
PHD University of Florida 1995
Sandra S Hoffmann, MD Instructor in Clinical Medicine (primary appointment)
BA University of Kansas 1972
MD University of Kansas 1976
Kathleen M Hogan, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA Westminster College 1985
MD University of Missouri 1989
Robert Edward Hogan III, MD Professor of Neurology (primary appointment)
MD University of MO Columbia 1989
Joshua Wade Hogins Instructor in Clinical Psychiatry (primary appointment)
Nancy Melberg Holekamp, MD Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MD Johns Hopkins University 1989
BA Wellesley College 1985
Nicholas Alan Holekamp, MD Instructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1987
BA Dartmouth College 1982
Nilsson Holguin, MS, PHD Instructor in Orthopaedic Surgery (primary appointment)
MS Stony Brook University 2007
PHD Stony Brook University 2010
Abby Solomon Hollander, MD Associate Professor of Pediatrics (primary appointment)
BA Cornell University 1982
MD University of Cincinnati 1986
Carey Lane Holleran, MS, PHD Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Neurology
MS Duquesne University 2004
BS Duquesne University 2003
PHD University of Indianapolis 2014
John Otto Holloszy, MD Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1957
Robert Franklyn Holloway Jr Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Nancy E Holmes, MD Professor of Clinical Pediatrics (primary appointment)
MD University of Missouri 1976
BA University of Kansas 1972
William F Holmes, PHD Assoc Prof Emeritus Of Biological Chemistry (primary appointment)
PHD University of Pennsylvania 1960
BA Princeton University 1953
Sheldon G Holstad, PHD, PHS Assistant Professor of Clinical Pharmacy in Psychiatry (On Staff at Jewish Hospital and St Louis College of Pharmacy) (primary appointment)
Christopher Vincent Holthaus, Assistant Professor of Emergency Medicine in Medicine (primary appointment)

Lori Rachel Holtz, MD, Assistant Professor of Pediatrics (primary appointment)

Sumner Holtz, Associate Professor of Clinical Radiology (primary appointment)

David Michael Holtzman, MD, Andrew B. and Gretchen P. Jones Professor of Neurology (primary appointment)

Head of the Department of Neurology

Professor of Developmental Biology

MD Northwestern University 1985
BS Northwestern University 1983

Gregory William Holtzman, MS, DPT, Associate Professor of Physical Therapy (primary appointment)

Associate Professor of Orthopaedic Surgery

Associate Director of Clinical Practice in Physical Therapy

BA Emory University 1995
MS Washington Univ in St. Louis 2001
DPT Washington Univ in St. Louis 2007

Michael J Holtzman, Selma and Herman Seldin Professor of Medicine (primary appointment)

Professor of Cell Biology and Physiology

Rochelle LeAnn Holtzman, PHD, MS, Instructor in Clinical Pediatrics (primary appointment)

PHD University of Kansas 2010
BS Loyola University 2003
MS University of Kansas 2006

Timothy E. Holy, MA, PHD, Associate Professor of Neuroscience (primary appointment)

MA Princeton University 1992
BA Rice University 1991
PHD Princeton University 1997

Neal Holzum, Instructor in Clinical Medicine (primary appointment)

Hitoshi Honda, Adjunct Assistant Professor of Medicine (primary appointment)

Augustine Richard Hong, Assistant Professor in Ophthalmology and Visual Sciences (primary appointment)

BA University of Illinois 2004

Barry Allen Hong, MD, Professor of Psychiatry (primary appointment)

Professor of Psychological & Brain Sciences

Vice Chairman for Clinical Affairs, Department of Psychiatry

Professor of Medicine

BA Concordia University 1969
MDI Concordia University 1972

Bruce Jay Hookerman, MD, Assistant Professor Emeritus of Clinical Medicine (Dermatology) (primary appointment)

Asst Prof Emeritus of Clin Medicine (Derm) (primary appointment)

MD Saint Louis University 1968
BA Dartmouth College 1964

J. Joseph Horan, MD, Instructor in Clinical Pediatrics (primary appointment)
Amjad Horani, MD **Assistant Professor of Pediatrics** (primary appointment)
BS Hebrew University-Hadassah Med 2015
MD Hebrew University-Hadassah Med 2004

Barbra A Horn, MD **Instructor in Clinical Medicine** (primary appointment)
MD Washington Univ in St. Louis 1982
BA Clark University 1975

Linda S Horne, MD **Instructor in Clinical Psychiatry** (primary appointment)
MD Ohio State University 1986

Caroline Clare Horner, MD **Associate Professor of Pediatrics** (primary appointment)
MD Saint Louis University 2000
BA Washington Univ in St. Louis 1993

Ian Kerst Hornstra, PHD, MD **Associate Professor of Medicine (Dermatology)** (primary appointment)
PHD University of Florida 1993
MD University of MO Kansas City 1986
BA University of MO Kansas City 1985

Jennifer A. Horst, MD **Instructor in Pediatrics** (primary appointment)
BS University of Missouri Columbi 2003
MD University of Missouri Columbi 2007

Timothy Adam Horwedel **Adjunct Instructor in Medicine** (primary appointment)
Pooya Hosseinzadeh **Assistant Professor of Orthopaedic Surgery (Pending Executive Faculty Approval)** (primary appointment)

Terri L Hosto, BS, MSW **Instructor in Neurology** (primary appointment)
BSW University of Illinois 1981
MSW University of Michigan 1986

Richard S Hotchkiss **Professor of Anesthesiology** (primary appointment)

Professor of Surgery (General Surgery)
Professor of Developmental Biology
Professor of Medicine

Jianghui Hou, PHD **Associate Professor of Medicine** (primary appointment)
PHD Edinburgh University 2003
BS Nanjing University 1999

William Edward Houck, MD **Instructor in Clinical Obstetrics and Gynecology** (primary appointment)
MD University of Cincinnati 1981
BS Brown University 1977

Dennis Emil Hourcade, MA, PHD **Professor of Medicine** (primary appointment)
BS Mass Inst of Technology (MIT) 1971
MA Harvard University 1974
PHD Harvard University 1978

Stacey L House **Instructor in Emergency Medicine in Medicine** (primary appointment)
BS Yale University 1999

Jacqueline Howard **Instructor in Clinical Medicine** (primary appointment)
UNKNOWN School Not Listed 1995

Matthew A Howard **Adjunct Assistant Professor of Neurological Surgery** (primary appointment)
David Thomas Howell **Instructor in Clinical Medicine** (primary appointment)
Randall A Howell, MD Assistant Professor of Emergency Medicine in Medicine (primary appointment)
BS Kansas State University 1974
MD Kansas State University 1978
Christine M Hrach, MD, BSW Assistant Professor of Pediatrics (primary appointment)
MD Saint Louis University 2002
BSW Saint Louis University 1998
Keith A Hruska, MD Professor of Pediatrics (primary appointment)
Professor of Cell Biology and Physiology
Professor of Medicine
BS Creighton University 1965
MD Creighton University 1969
Paul W. Hruz, PHD, MD Associate Professor of Pediatrics (primary appointment)
Associate Professor of Cell Biology and Physiology
PHD Medical College of Wisconsin 1993
MD Medical College of Wisconsin 1994
BS Marquette University 1987
Chyi-Song Hsieh Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology
Alan A and Edith L Wolff Distinguished Professor
Chung Hsu, MD, PHD Adjunct Professor of Neurology (primary appointment)
MD National Taiwan University 1970
PHD University of Virginia 1975
Fong Fu Hsu, PHD, MS Professor of Medicine (primary appointment)
PHD University of Utah 1986
MS Tsinghua University, China 1975
Hawpeng Stephen Hsu, MS, MD Assistant Professor of Anesthesiology (primary appointment)
BA Georgia St University 1991
MS Emory University 1993
MD Taipei Medical University 1983
Kevin Hsueh, MD Instructor in Medicine (primary appointment)
BS Williams College 2003
BS1 Williams College 2003
MD New York University 2008
Hongzhen Hu, PHD Associate Professor of Anesthesiology (primary appointment)
PHD Ohio State University 2004
Raymond J Hu Instructor in Clinical Medicine (primary appointment)
David H Hua Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS University of California 1990
Frederick Szujuei Huang, MD Associate Professor of Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1990
MD Baylor University 1994
Henry V Huang, PHD Associate Professor of Molecular Microbiology (primary appointment)
PHD California Institute Technolo 1977
Jiayi Huang, MD Assistant Professor of Radiation Oncology (primary appointment)
MD University of Massachusetts 2007
Jing-Wei Huang, MD Professor of Ophthalmology and Visual Sciences (primary appointment)
MD National Taiwan University 1981
Wei-Wei Huang, Instructor in Clinical Medicine (Dermatology) (primary appointment)
Yafei Huang, PHD, MS, Instructor in Medicine (primary appointment)
PHD Univ of Texas Med Sch Houston 2007
MS Beijing Medical University 2000
Dee Jay Hubbard, MA, PhD, Adjunct Assistant Professor of Otolaryngology (Speech Pathology) (primary appointment)
MA University of Iowa 1965
BS Kansas State University 1962
PHD University of Iowa 1967
John W Hubert, MD, Associate Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1975
BA Wabash College 1971
Richard W Hudgens, MD, Prof Emeritus of Psychiatry (primary appointment)
MD Washington Univ in St. Louis 1956
BA Princeton University 1952
James J Hudziak, Adjunct Professor of Psychiatry (primary appointment)
Donald V Huebener, MA, DDENT, MS, Prof Emeritus of Surgery (primary appointment)
MA Washington Univ in St. Louis 1975
DDENT Washington Univ in St. Louis 1969
MS Case Western Reserve Univ 1971
Elizabeth Stack Huebner, MD, Assistant Professor of Medicine (primary appointment)
BA Washington Univ in St. Louis 1995
MD Loyola University Chicago 2000
Rocco Hueneke, Assistant Professor of Anesthesiology (primary appointment)
James E Huettner, PhD, Professor of Cell Biology and Physiology (primary appointment)
Professor of Biomedical Engineering
PHD Harvard University 1987
BS Indiana University 1980
BA Indiana University 1981
Douglas Lee Huff, OD, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD So Cal College of Optometry 1981
BS School Not Listed 1980
Laura Huff, MD, Assistant Professor of Medicine (Dermatology) (primary appointment)
MD U of Colorado Health Sci Ctr 2011
BS Colorado St University 2006
Jing Hughes, MD, Instructor in Medicine (primary appointment)
MD University of Pennsylvania 2009
BS Stanford University 2002
Laura Hulbert, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Washington Univ in St. Louis 1981
BA Washington Univ in St. Louis 1976
Monica L Hulbert, Associate Professor of Pediatrics (primary appointment)
BS Indiana University Bloomington 1996
Rebecca L Hulett, Assistant Professor of Radiology (primary appointment)
Timothy Everett Hullar, MD, Adjunct Professor of Otolaryngology (primary appointment)
BS Stanford University 1990
MD Harvard University 1996
Scott James Hultgren, PHD
Helen L Stoever Professor of Molecular Microbiology (primary appointment)
BS Indiana University Bloomington 1981
PHD Northwestern University 1987
Theresa Human
Instructor in Clinical Neurology (primary appointment)
Benjamin Duane Humphreys
Associate Professor of Medicine (primary appointment)
David A Hunstad, MD
Associate Professor of Pediatrics (primary appointment)
Associate Professor of Molecular Microbiology
MD Washington Univ in St. Louis 1995
BA Carleton College 1991
Devyni M. Hunt, MD
Associate Professor of Orthopaedic Surgery (primary appointment)
Associate Professor of Neurology
MD University of Texas Houston 2000
BS University of Texas Austin 1995
Jane Alyce Hunt, MD
Instructor in Pediatrics (primary appointment)
MD Washington Univ in St. Louis 2014
BS Washington Univ in St. Louis 2014
Linda Ann Hunt
Adjunct Associate Professor of Neurology
Adjunct Associate Professor of Occupational Therapy
Steven R Hunt, MD
Associate Professor of Surgery (General Surgery) (primary appointment)
BA Dartmouth College 1992
MD Stanford University 1997
Eva A Hurst, MD
Associate Professor of Medicine (Dermatology) (primary appointment)
MD Washington Univ in St. Louis 2002
Mark Albert Hurt, MD
Instructor in Clinical Medicine (Dermatology) (primary appointment)
MD University of Missouri 1982
BS Southeast Missouri St Univers 1978
Kareem D. Husain
Assistant Professor of Surgery (General Surgery) (primary appointment)
BS University of Notre Dame 1995
Thy N Huskey, MD
Associate Professor of Neurology (primary appointment)
MD Northwestern University Med 1996
BS Northwestern University 1993
Jennifer L Hyde, PHD
Instructor in Medicine (primary appointment)
BS University of Queensland 2005
PHD University of Queensland 2011
Krzysztof L Hyrc, PHD, MS
Assistant Professor of Neurology (primary appointment)
PHD Jagiellonian University 1987
MS Jagiellonian University 1981
Mohsen Ibrahim
Instructor in Surgery (Cardiothoracic Surgery) (primary appointment)
Catherine Ifune, MD, PHD
Associate Professor of Anesthesiology (primary appointment)
MD Washington Univ in St. Louis 1997
PHD Washington Univ in St. Louis 1990
BS California Institute Technolo 1985
Richard G. Ihnat
Instructor in Clinical Medicine (primary appointment)
Richard J Iken, MD
Instructor in Clinical Pediatrics (primary appointment)
BA Univ of Wisconsin Madison 1972
MD University of MO Columbia 1978
Maxenia Garcia Ilagan
Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)
Assistant Professor of Developmental Biology

Obeid Noor Ilahi, MD  
Associate Professor of Surgery (General Surgery) (primary appointment)
MD Aga Khan University 1992
Shin-Ichiro Imai  
Professor of Developmental Biology (primary appointment)

Professor of Medicine

Carl S Ingber, MD  
Instructor in Clinical Pediatrics (primary appointment)
MD Boston University 1972
BA University of Rochester 1968

Donald R Ingram, MD  
Asst Prof Emeritus Of Clin Otolaryngology (primary appointment)
BS University of Illinois 1954
MD University of Illinois 1956

Joseph Edward Ippolito, MD, PHD  
Instructor in Radiology (primary appointment)
BS Cornell University 1998
MD Washington Univ in St. Louis 2007
PHD Washington Univ in St. Louis 2007

Belinda K. Ireland, MD  
Adjunct Assistant Professor of Medicine (primary appointment)
MD University of MO Columbia 1976

Susan Allison Ironstone, MD  
Assistant Professor of Anesthesiology (primary appointment)
MD Tel-Aviv University 2009

Warren Isakow, MD  
Associate Professor of Medicine (primary appointment)
MD University of the Witwatersra 1998

Jill Christine Isenberg, MS PSYC  
Instructor in Clinical Neurology (primary appointment)
BA Wake Forest University 1998
MS PSYC Wake Forest University 2003

Keith E Isenberg, MD  
Prof Emeritus of Psychiatry (primary appointment)
BA Wabash College 1974
MD Indiana University Bloomington 1978

Selma E.h.o. Ishag, PHD, MD  
Assistant Professor of Anesthesiology (primary appointment)
PHD University of Khartoum 1996
MD University of Khartoum 1987

Hassan Issa, MD  
Instructor in Medicine (primary appointment)
MD Tishreen Univ College of Med 2003

Michael J Isserman, MD  
Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MD Washington Univ in St. Louis 1975

Eva Susanne Istvan  
Assistant Professor of Medicine (primary appointment)

HHMI Specialist II

BS University of Houston 1993

Akinobu Itoh  
Assistant Professor of Surgery (Cardiothoracic Surgery) (primary appointment)

Renee A. Ivens, DPT, MHS  
Associate Professor of Physical Therapy (primary appointment)

Associate Professor of Orthopaedic Surgery

BS Maryville University 1984
DPT Washington Univ in St. Louis 2006
MHS Washington Univ in St. Louis 1996

Yukitoshi Izumi  
Professor of Psychiatry (primary appointment)

Carolyn M Jachna, MD  
Assistant Professor of Medicine (primary appointment)
BS Washington Univ in St. Louis 1993
MD Northwestern University Med 1998

Ryan Scott Jackson, MD, Assistant Professor of Otolaryngology (primary appointment)

MD Saint Louis University 2009

BA Saint Louis University 2004

Ronald R. Jackups Jr., Assistant Professor of Pathology and Immunology (primary appointment)

Assistant Professor of Pediatrics

BS Washington Unio in St. Louis 2000

Jeffrey H. Jacob, OD, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)

BA University of Missouri 1975

OD So Cal College of Optometry 1980

BS So Cal College of Optometry 1978

Saji Jacob, MD, MS, Instructor in Clinical Obstetrics and Gynecology (primary appointment)

MD School Not Listed 1993

UNKNOWN School Not Listed 1996

MS Kerala University 1989

Sindhu Saji Jacob, Assistant Professor of Neurology (primary appointment)

Daryl Jacobs, MD, ME, Instructor in Clinical Medicine (primary appointment)

BS Washington Unio in St. Louis 1977

MD Washington Unio in St. Louis 1983

ME Carnegie Mellon University 1979

Myron H. Jacobs, MD, Instructor in Clinical Medicine (primary appointment)

BA Vanderbilt University 1965

MD Louisiana St Univ Hlth Sci 1969

Arnold Scott Jacobson, DDENT, MS, Instructor in Clinical Otolaryngology (DMD) (primary appointment)

DDENT Washington Unio in St. Louis 1976

BA University of Missouri 1970

MS University of Missouri 1977

Steven Jacobson, MD, Instructor in Clinical Medicine (primary appointment)

MD Saint Louis University 1985

Meagan A. Jacoby, MD, Assistant Professor of Medicine (primary appointment)

MD Washington Unio in St. Louis 2005

Mark F. Jacquin, PHD, Professor of Neurology (primary appointment)

BS Brandeis University 1975

PHD City University of New York 1980

David M. Jaffe, MD, Adjunct Professor of Pediatrics (primary appointment)

MD University of Chicago 1978

BA Stanford University 1972

Sue E. Jagler, Instructor in Clinical Pediatrics (primary appointment)

Sanjay Jain, Associate Professor of Medicine (primary appointment)

Associate Professor of Pathology and Immunology

BA University of California 1990

Siddharth Vinod Jain, MD, Assistant Professor of Neurology (primary appointment)

Assistant Professor of Pediatrics

MD D.Y. Patil Medical College 2003

Sudhir Kumar Jain, MBBS, Associate Professor of Medicine (primary appointment)

MBBS Maulana Azad Medical College 1986
Patricia A Jamerson, Instructor in Clinical Pediatrics (primary appointment)

Aimee S. James, PHD, MA, M PH, Associate Professor of Surgery (General Surgery) (primary appointment)

PHD University of Houston 1999
MA University of Houston 1998
M PH University of Texas Houston 2000
BA Goucher College 1995

William P James, MD, Assistant Professor of Radiology (primary appointment)
MD University of MO Columbia 1993
BA Washington Univ in St. Louis 1989

Aleksandar Janca, MD, Adjunct Professor of Psychiatry (primary appointment)
MD School Not Listed

James W Janetka, Associate Professor of Biochemistry and Molecular Biophysics (primary appointment)

BS University of Illinois 1990

David P. Jaques, Professor of Surgery (General Surgery) (primary appointment)

George Jarad, Assistant Professor of Medicine (primary appointment)

Michael R Jarvis, MD, Professor of Psychiatry (primary appointment)
Vice Chairman for Clinical Affairs, Department of Psychiatry

MD Washington Univ in St. Louis 1985

Daniel Ragin Jasper, MD, Instructor in Clinical Medicine (primary appointment)
BA University of Texas Austin 1990
MD Saint Louis University 1994

Anuja Java, MD, Instructor in Medicine (primary appointment)

MD Government Medical College 2002

Cylene Javidan, MD, Associate Professor of Radiology (primary appointment)

MD Iran Univ of Medical Sciences 1994

Patrick Y Jay, Associate Professor of Pediatrics (primary appointment)

Associate Professor of Genetics

Yasangi Maina Jayasiha, Instructor in Clinical Pediatrics (primary appointment)

Donna Beth Jeffe, MA, Professor of Medicine (primary appointment)

MA Washington Univ in St. Louis 1990
BA Washington Univ in St. Louis 1972

Christopher M. Jenkins, PHD, Assistant Professor of Medicine (primary appointment)

PHD Vanderbilt University 1997
BS Michigan State University 1991

Jack W Jennings, MS, PHD, Associate Professor of Radiology (primary appointment)

MS Ohio State University 1995
PHD University of South Florida 1999

Susan Jerger, Adjunct Research Professor of Otolaryngology (primary appointment)

Xuntian Jiang, PHD, Assistant Professor of Medicine (primary appointment)

PHD China Pharmaceutical Univ 1992

Sharon Leslie Jick, Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)

Jeffrey Jim, MS, MD, Associate Professor of Surgery (General Surgery) (primary appointment)

BS University of Southern Calif 1996
MS University of Southern Calif 1999
MD University of CA Irvine 2003

Hongjun Jin, Instructor in Radiology (primary appointment)
Shannon M. Joerger, MD
Instructor in Pediatrics (primary appointment)

William Steven Joffe, MD
Asst Prof Emeritus Of Clin Ophthal & VIs Sci (primary appointment)

Morris Joftus, MD
Assistant Professor of Clinical Medicine (primary appointment)

Audrey Ragan Odom John, PHD, MD
Associate Professor of Pediatrics (primary appointment)

Cassandra Johnson, PHD
Assistant Professor of Surgery (Public Health Sciences) (primary appointment)

Denise R Johnson, MD
Associate Professor of Clinical Pediatrics (primary appointment)

Eric Keith Johnson, MD
Instructor in Medicine (primary appointment)

Jeffrey E Johnson, MD
Professor of Orthopaedic Surgery (primary appointment)

Joyce D Johnson, MD
Assistant Professor of Clinical Pediatrics (primary appointment)

Mark C Johnson, MD
Associate Professor of Pediatrics (primary appointment)

Mark C. Johnson
Associate Professor of Clinical Psychiatry (primary appointment)

Michael K Johnson, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)

Reuben D Johnson, BE, MD
Assistant Professor of Emergency Medicine in Medicine (primary appointment)

Staci R. Johnson, MD
Instructor in Clinical Pediatrics (primary appointment)

Stephen L Johnson
Professor of Genetics (primary appointment)

William F Johnson
Adjunct Instructor in Medicine (primary appointment)

William Lee Johnson, MD
Associate Professor of Clinical Pediatrics (primary appointment)
Adjunct Associate Professor of Pediatrics
MD University of Missouri 1981
BS University of Missouri 1977

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Prof Emeritus of Neurology (primary appointment)
PHD University of Maryland 1970
BS University of Maryland 1966

Glen P Johnston
Assoc Prof Emeritus Of Clin Ophthal & Vls Sci (primary appointment)

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Instructor in Clinical Pediatrics (primary appointment)
MD Universidad Nacional de Columb 1989

**Katherine McMullin Jones, MD**
Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
BA Amherst College 2001
MD Washington Univ in St. Louis 2007

La Rhonda Jones
Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)

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Assistant Professor of Clinical Pediatrics (primary appointment)
BA Johns Hopkins University 1972
MD Johns Hopkins University Medic 1976

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Instructor in Medicine (primary appointment)
MD Saint Louis University 2013

**Amy M Joseph**
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BA Johnston Community College 1977

Daniel Paul Joseph
Associate Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BS Cornell University 1981

**Barbara Jost, MS**
Instructor in Clinical Medicine (primary appointment)
MS Northwestern University 1995
BS University of Missouri 1993

**R. Gilbert Jost, MD**
Professor of Radiology (primary appointment)
BA Harvard University 1964
MD Yale University 1969

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Sarah C. Jost
Adjunct Assistant Professor of Neurological Surgery (primary appointment)

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BS Rockhurst College 1976
MD University of Missouri 1981

Randall S Jotte
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MD University of MO Columbia 2006
BS University of MO Columbia 2002

**Yo-El S Ju, MD**
Assistant Professor of Neurology (primary appointment)
MD Columbia University 2005
BS Harvard University 2001

**William G Juergens Jr, MD**
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MD Washington Univ in St. Louis 1961

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Associate Professor of Neurology (primary appointment)
BA School Not Listed 1985
MD Kaunas Medical Institute 1989
Samuel F. Julian, MD 
Instructor in Pediatrics (primary appointment) 
MD University of Texas Southwest 2007 
BS University of Texas Austin 2001 

Erzsebet Jung, MD 
Instructor in Clinical Pediatrics (primary appointment) 
MD School Not Listed 1987 

Emily Susan Jungheim, MD 
Associate Professor of Obstetrics and Gynecology (primary appointment) 
BS University of Illinois 1997 
MD Loyola University Chicago 2001 

James A Junker 
Instructor in Clinical Radiology (primary appointment) 

Puja Kachroo, MD, MS 
Instructor in Surgery (Cardiothoracic Surgery) (primary appointment) 
BS Boston University 2001 
MD Ross Univ School of Medicine 2007 
MS Columbia University 2003 

Brad S Kahl, MD 
Professor of Medicine (primary appointment) 
BS University of Wisconsin-Madiso 1989 
MD Tufts University 1994 

Caroline Holleck Kahle, MD 
Assistant Professor of Medicine (primary appointment) 
MD University of North Carolina 2006 

Lawrence I Kahn, MD 
Prof Emeritus Of Pediatrics (primary appointment) 
BA University of Alabama 1941 
MD Louisiana St Univ Hlth Sci 1945 

Timothy N Kaiser 
Assistant Professor of Clinical Otolaryngology (primary appointment) 

Aadil Kausarali Kakajiwala, MBBS 
Instructor in Pediatrics (primary appointment) 
MBBS Topiwala National Med College 2008 

Sergey Kaliberov, MD 
Assistant Professor of Radiation Oncology (primary appointment) 
MD First Moscow Medical Institute 1984 

Krishna Priya Kalyam, MD 
Instructor in Ophthalmology and Visual Sciences (primary appointment) 
MD Robert Wood Johnson Medical Sc 2012 
BS Rutgers University 2008 

Sona Sharad Kamat 
Instructor in Clinical Medicine (primary appointment) 

Vinay Gopal Kamat, MD 
Instructor in Clinical Medicine (primary appointment) 
MD University of Pennsylvania 1994 

Stephen A Kamenetzky, MD 
Professor of Clinical Ophthalmology and Visual Sciences (primary appointment) 
BA Washington Univ in St. Louis 1967 
MD1 School Not Listed 1970 
MD Washington Univ in St. Louis 1970 

Daniel Thomas Kane, MD 
Assistant Professor of Anesthesiology (primary appointment) 
MD Washington Univ in St. Louis 1989 

Deborah Shipley Kane, MD 
Assistant Professor of Emergency Medicine in Medicine (primary appointment) 
BA University of MO Kansas City 2006 
MD University of MO Kansas City 2006 

Ivan M Kangrga, MD 
Professor of Anesthesiology (primary appointment) 
MD University of Belgrade 1982 

Akash Pravin Kansagra 
Assistant Professor of Radiology (primary appointment)
Patricia F Kao, BE, MD
Associate Professor of Medicine (Pending Executive Faculty Approval)
(primary appointment)
MS2 Ohio State University 1997
BE Princeton University 1994
MD Case Western Reserve Univ 2001

Humeyra Karacal, MD
Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
MD Hacettepe University 1994

Menelaos Karanikolas, MD
Associate Professor of Anesthesiology (primary appointment)
MD Athens University Med School 1988

Waija Parveen Karatela
Instructor in Clinical Psychiatry (Child) (primary appointment)

Celeste Marie Karch
Assistant Professor of Psychiatry (primary appointment)

Eugenia Kardaris
Instructor in Clinical Otolaryngology (DDS) (primary appointment)

Robert S Karsh, MD
Professor of Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1951
MD Washington Univ in St. Louis 1952

Roanne Kay Karzon, MS, PhD
Adjunct Assistant Professor of Audiology and Communication Science (primary appointment)
Adjunct Assistant Professor of Otolaryngology
MS University of Virginia 1976
PHD Washington Univ in St. Louis 1982
BA University of Connecticut 1974

Rojano Kashani, MS, PhD
Assistant Professor of Radiation Oncology (primary appointment)
MS University of Michigan 2006
PHD University of Michigan 2009
BS University of Michigan 2003

Victoria Kaskutas, MHS
Associate Professor of Occupational Therapy (primary appointment)
Associate Professor of Medicine
BS University of Illinois 1980
MHS Washington Univ in St. Louis

Thomas J Kasper
Instructor in Clinical Pediatrics (primary appointment)

Michael A Kass, MD, MS
Bernard Becker Professor of Ophthalmology and Visual Sciences (primary appointment)

Senior Associate Dean for Human Research Protection
MD Northwestern University 1966
MS Northwestern University Med 1966
BS Northwestern University 1963

Andrew M. Kates, MD
Associate Professor of Medicine (primary appointment)
BS Tufts University 1990
MD Tufts University 1994

Demetrios Katsikas, MD
Instructor in Clinical Surgery (Urological Surgery) (primary appointment)
BS University of Michigan 1985
MD Wayne State University 1989

Shashi Krishna Katukoori, MS
Instructor in Medicine (primary appointment)
BS Kakatiya Medical College 2004
MS Eastern Kentucky University 2010

Richard T. Katz
Professor of Clinical Neurology (primary appointment)

David A Katzman, MD
Instructor in Clinical Medicine (primary appointment)
Andrew L. Kau, MD, PHD, Assistant Professor of Medicine (primary appointment)
BS Emory University 1998
MD Washington Univ in St. Louis 2006
PHD Washington St University 2006
Charles Kaufman, PHD, MD, Assistant Professor of Medicine (Pending Executive Faculty Approval) (primary appointment)
Assistant Professor of Developmental Biology
PHD University of Chicago 2003
MD University of Chicago 2005
BA Washington Univ in St. Louis 1997
Jenny E Kaufman, Instructor in Clinical Pediatrics (primary appointment)
BS University of Michigan 1999
Robert L Kaufman, MD, Assistant Professor of Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1959
MD Washington Univ in St. Louis 1963
Tejbeer Kaur, PHD, BAS, PHARMD, Instructor in Otolaryngology (primary appointment)
PHD Southern Illinois University 2012
BAS Delhi University 2005
PHARMD Delhi University 2007
Pavan Kumar Kavali, MD, Instructor in Radiology (primary appointment)
BS Georgia Tech 2003
MD Morehouse College 2010
James Alexander Kavanagh, MS, Instructor in Radiation Oncology (primary appointment)
BS University of Saint Thomas 2008
MS Louisiana St University 2011
Jack Kayes, MD, Professor Emeritus of Clinical Ophthalmology and Visual Sciences (primary appointment)
Prof Emeritus of Clin Ophthalmol & Vis Sci (primary appointment)
MD Washington Univ in St. Louis 1957
BA Yale University 1953
Elizabeth Jane Keath, PHD, Assistant Professor of Medicine (primary appointment)
BA University of MO St Louis 1978
PHD Saint Louis University 1985
Robert S Kebler, MD, Instructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1984
BS Muhlenberg College 1980
Dalius Kedainis, MD, Instructor in Clinical Medicine (primary appointment)
MD Kaunas University of Medicine 1998
Elizabeth A Keegan Garrett, MD, M PH, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Oregon Health Science Univers 2005
M PH Harvard University 2003
BA Mount Holyoke College 1998
Jay Donovan Keener, MD, Associate Professor of Orthopaedic Surgery (primary appointment)
BS West Virginia University 1991
MD West Virginia University 1998
Jacob Brian Keeperman, MD Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Emergency Medicine in Medicine
MD Loyola University Chicago 2006
Eirini Kefalogianni Instructor in Medicine (primary appointment)
Vladimir Jivkov Kefalov, PHD Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Neuroscience
PHD Boston University 1999
Jesse Wade Keller Instructor in Medicine (primary appointment)
BS University of Tulsa 2005
Martin S Keller, MD Associate Professor of Surgery (Pediatric Surgery) (primary appointment)
Associate Professor of Pediatrics
BS University of Pennsylvania 1985
MD University of Vermont 1990
Sarah Lynn Keller, MD Assistant Professor of Obstetrics and Gynecology (primary appointment)
BA University of Notre Dame 1985
MD Southern Illinois University 1989
Robert V Kellow Assistant Professor of Clinical Pediatrics (primary appointment)
Brian Adams Kelly, MD Assistant Professor of Orthopaedic Surgery (Pending Executive Faculty Approval) (primary appointment)
MD Columbia University 2009
BA Williams College 2002
Brian J Kelly, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MD School Not Listed 1972
BS School Not Listed 1964
Daniel P Kelly, MD Adjunct Professor of Medicine (primary appointment)
BS University of Illinois 1978
MD University of Illinois 1982
James E. Kelly Assistant Professor of Radiology (primary appointment)
BS University of Notre Dame 1999
Jeannie Chen Kelly, MD Assistant Professor of Obstetrics and Gynecology (primary appointment)
MD Columbia University 2009
John J Kelly, MD Associate Professor of Medicine (primary appointment)
BS Rockhurst College 1959
MD Saint Louis University 1963
Michael Patrick Kelly, MD Assistant Professor of Orthopaedic Surgery (primary appointment)
Assistant Professor of Neurological Surgery
BS Boston College 1999
MD University of Massachusetts 2005
James Scott Kemp Professor of Pediatrics (primary appointment)
Michele E Kemp, MD Associate Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1981
BA Washington Univ in St. Louis 1977
Charlotte J Kennedy, PHD, MD Assistant Professor of Clinical Medicine (primary appointment)
PHD Washington Univ in St. Louis 1992
MD Washington Univ in St. Louis 1992
BA Agnes Scott College 1984
Robert M Kennedy Professor of Pediatrics (primary appointment)
Rainer Kentner, MD
Assistant Professor of Anesthesiology (primary appointment)
MD University of Tuebingen 1987

Joseph L Kenzora, MD
Associate Professor of Medicine (primary appointment)
MD University of New Mexico 1975

Deborah Lynn Kerber
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BS Southeast Missouri St Univers 1986

Paul William Kerby, MBBS
Assistant Professor of Anesthesiology (primary appointment)
BS King's College London 2001
MBBS King's College London 2004

Martin Hurley Kerrigan
Assistant Professor of Medicine (primary appointment)
BS Saint Josephs University 2001

Daniel Kerschensteiner, PHD
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)

Associate Professor of Neuroscience
Associate Professor of Biomedical Engineering (Courtesy)

Nicholas Kessides, MD
Instructor in Anesthesiology (primary appointment)
MD University of Maryland 2010

Salah G. Keyrouz
Associate Professor of Neurology (primary appointment)
Associate Professor of Neurological Surgery

Syed Ahmed Khader
Instructor in Clinical Neurology (primary appointment)
BS School Not Listed 1989

Ahmed Sultan Khan
Adjunct Instructor in Medicine (primary appointment)

Rao Fawwad Khan, PHD, MD
Associate Professor of Radiation Oncology (primary appointment)
Associate Professor of Biomedical Engineering

PHD McMaster University 2003
MD Quaid-Azam University 1997

Geetika Khanna, MS, MBBS
Associate Professor of Radiology (primary appointment)
MS University of Iowa 2006
MBBS All-India Inst of Medical Sci 1997

Sangeeta Khanna
Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)

Evan David Kharasch, PHD
Russell and Mary Shelden Professor of Anesthesiology (primary appointment)

Professor of Biochemistry and Molecular Biophysics

PHD Northwestern University Med 1983

Shahrdad Khodamoradi, MD
Assistant Professor of Anesthesiology (primary appointment)
MD Washington Univ in St. Louis 1990

Saaid Khojasteh, MD
Assistant Professor of Clinical Psychiatry (primary appointment)
MD School Not Listed 1981

Lynnette C Khoo-Summers, MS, DPT
Associate Professor of Physical Therapy (primary appointment)

Associate Professor of Orthopaedic Surgery

MS Washington Univ in St. Louis 1998
DPT Washington Univ in St. Louis 2008
BA Colorado St University 1990

Thomas B Kibby, MD
Instructor in Emergency Medicine in Medicine (primary appointment)
MD Eastern Virginia Med School 1979
Daniel Jason Kichura, MDInstructor in Medicine (primary appointment)
MD Israel Institute of Technology 2012
George Kichura, MDInstructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1993
William F Kiefer Jr, ODAAdjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Illinois College of Optometry 1975
BA Princeton University 1967
BS Illinois College of Optometry 1973
Mary Kiehl, AAssistant Professor of Clinical Medicine (primary appointment)
BA University of California 1985
AS Long Beach City College 1976
Kenneth Richard Kilian, MDInstructor in Clinical Medicine (primary appointment)
MD Saint Louis University 1984
Kent Leon Killian, MDInstructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1990
BA Saint Louis University 1986
Charles Kilo, MDPProfessor of Medicine (primary appointment)
Professor of Pathology and Immunology
MD Washington Univ in St. Louis 1959
Charles John Kilo, MDInstructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1991
BA University of Kansas 1987
Albert H Kim, MA, PHD, MDAssistant Professor of Neurological Surgery (primary appointment)
Assistant Professor of Neurology
Assistant Professor of Developmental Biology
BA Harvard University 1994
MA Washington Univ in St. Louis 1999
PHD New York U. School of Medicine 2002
MD New York U. School of Medicine 2003
Albert J Kim, MDInstructor in Emergency Medicine in Medicine (primary appointment)
BS University of Chicago 2005
MD Northwestern University 2009
Alfred KimAssistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
Andrew M Kim, MS, DDENTAssistant Professor of Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)
Instructor in Clinical Otolaryngology
MS Ohio State University 1987
BA California State University 1978
DDENT Washington Univ in St. Louis 1984
Brian Kim, MDAssistant Professor of Medicine (Dermatology) (primary appointment)
Assistant Professor of Anesthesiology
Assistant Professor of Pathology and Immunology
MD University of Washington 2007
BS Haverford College 2001
Joong Hee Kim, PHD, MSInstructor in Neurology (primary appointment)
Instructor in Radiology
PHD Washington Univ in St. Louis 2006
BS Kangwon National University 1996
PHD1 Washington Univ in St. Louis 2006
MS Kangwon National University 2000
Seung Kwon Kim, Assistant Professor of Radiology (primary appointment)
Assistant Professor of Surgery (General Surgery)

Sungsu Kim, Instructor in Genetics (primary appointment)
BS Korea University 2000
Helen Young Kim-James, Instructor in Clinical Medicine (Dermatology) (primary appointment)

Rosa Anne Kincaid, Instructor in Clinical Medicine (primary appointment)
BA City College 1970

Allison A King, MD, Associate Professor of Occupational Therapy (primary appointment)
Associate Professor of Pediatrics
Associate Professor of Pediatrics
Associate Professor of Education (Courtesy)
Associate Professor of Surgery (General Surgery)
Associate Professor of Medicine
Associate Professor of Medicine
MD University of MO Columbia 1996

Donald Kevin King, MD, Assistant Professor of Clinical Medicine (primary appointment)
BA Fairfield University 1966
MD Johns Hopkins University Medic 1970

Erin L King, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Washington Univ in St. Louis 2003
BA Stanford University 1997

Kevin Patrick King, MD, Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 2006

Tessa Marie King, MD, Assistant Professor of Anesthesiology (primary appointment)
MD University of Kansas 1997
MD1 University of Kansas 1997
BA School Not Listed 1993

Tinna P King, Instructor in Clinical Medicine (primary appointment)
BA University of Missouri 1988

Phillip Lee Kintner, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Southern Illinois University 1986

John P. Kirby, MD, MS, Associate Professor of Surgery (General Surgery) (primary appointment)
BS University of Illinois 1988
MD University of Illinois 1993
MS University of Illinois 1999

Erik Paul Kirk, MS, PHD, Adjunct Assistant Professor of Medicine (primary appointment)
MS University of Kansas 2001
PHD University of Kansas 2004

Nigar Kirmani, MD, Professor of Medicine (primary appointment)
MD King Edward Medical College 1973

Sonya Kirmani, MD, Instructor in Pediatrics (primary appointment)
BS Northwestern University 2006
MD University of Iowa 2010
Neha Navsaria Kirtane, PHD, MA Assistant Professor of Psychiatry (primary appointment)
PHD Temple University 2008
MA Columbia University 2003
BA Bryn Mawr College 1999
Sameer M. Kirtane, MD Instructor in Clinical Medicine (primary appointment)
MD Jefferson Medical College 2008
John M Kissane Retiree - Professor of Pathology and Immunology (primary appointment)
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Asko I Kivikoski, D SC, MD Assoc Prof Emeritus Of Ob & Gyn (primary appointment)
BA School Not Listed 1954
UNKNOWN School Not Listed 1954
D SC School Not Listed 1967
MD School Not Listed 1958
Laurie Klabi, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD University of Missouri 1991
BA University of Missouri 1987
Joseph W. Klaesner, PHD, MS Professor of Physical Therapy (primary appointment)
Professor of Radiology
BS1 Marquette University 1987
BS Marquette University 1987
PHD Vanderbilt University 1995
MS Vanderbilt University 1993
Michael K Klebert, BN, PHD, MSN Instructor in Medicine (primary appointment)
BA Southern Illinois University 1979
BN Southern Illinois University 1981
PHD University of MO St Louis 2008
MSN University of Texas Austin 1987
Eynav Yafit Klechevsky, PHD Assistant Professor of Pathology and Immunology (primary appointment)
PHD Baylor University 2007
Grant Michael Kleiber Assistant Professor of Surgery (Plastic and Reconstructive Surgery)
(primary appointment)
BS University of Notre Dame 2004
Robert E Kleiger Professor of Medicine (primary appointment)
Jacob Klein, MD Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD School Not Listed 1968
BS Muhlenberg College 1964
Robyn Sue Klein, PHD Professor of Medicine (primary appointment)
Professor of Pathology and Immunology
Professor of Neuroscience
PHD Albert Einstein College of Med 1993
Samuel Klein, MD, MS Danforth Professor of Medicine (primary appointment)
Professor of Cell Biology and Physiology
BA Brandeis University 1974
MD Temple University 1979
MS Mass Inst of Technology (MIT) 1984
Sandra E. Klein, BE, MD Associate Professor of Orthopaedic Surgery (primary appointment)
BE University of Missouri 1994
MD Washington Univ in St. Louis 2001
Saul Klein Instructor in Clinical Surgery (Urologic Surgery) (primary appointment)
Mark Alan Kleindorfer, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Indiana University Bloomington 1979
BS Indiana University Bloomington 1977
June Leslie Kleinfeld, DDENT Instructor in Clinical Otolaryngology (DMD) (primary appointment)
DDENT Washington Univ in St. Louis 1985
George R Kletzker, MD Assistant Professor of Clinical Otolaryngology (primary appointment)
BA University of Missouri 1980
MD University of Missouri 1984
Mary E Klingensmith, MD Professor of Surgery (General Surgery) (primary appointment)
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Vice Chairman for Education, Department of Surgery
Sr Associate Dean for Education
Sr Associate Dean for Education
BA Wellesley College 1988
MD Duke University 1992
Vivian Marie Kloke, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD University of Missouri 1990
Linda Marie Klutho Instructor in Clinical Medicine (primary appointment)
Vitaly A Klyachko, PHD, MS Associate Professor of Cell Biology and Physiology (primary appointment)
Associate Professor of Biomedical Engineering
Associate Professor of Neuroscience
PHD Univ of Wisconsin Madison 2002
MS Moscow State University 1998
BS Moscow State University 1997
Paula J Knapp-Baker Instructor in Clinical Medicine (primary appointment)
Kathleen Marie Kniepmann, M PH, DED Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Neurology
M PH Harvard University 1981
BA Washington Univ in St. Louis 1974
BS Washington Univ in St. Louis 1974
DED Harvard University 1980
Richard D Knight Instructor in Clinical Pediatrics (primary appointment)
Shirley M Knight, MD Professor of Clinical Pediatrics (primary appointment)
BA Dillard University 1976
MD Washington Univ in St. Louis 1980
Teresa Lee Knight, MS, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MS Saint Louis University 1994
MD Saint Louis University 1998
BA University of CA Berkeley 1992
Justin Knittel Assistant Professor of Anesthesiology (primary appointment)
Eric Knoche, MD Assistant Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 2006
BS Davidson College 2001
Kathryn Knoop Instructor in Medicine (primary appointment)
Harry L Knopf Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Harvard University 1963
Valerie S. Knopik, MA, PHD Adjunct Assistant Professor of Psychiatry (primary appointment)
MA University of Colorado Boulder 1998
BA Wesleyan College 1994
PHD University of Colorado Boulder 2000
Norman P Knowlton Jr Prof Emeritus Of Clinical Medicine (primary appointment)
BS Harvard University 1942
Ronald Joseph Knox, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD School Not Listed 1956
Nels C Knutson, PHD, MS Instructor in Radiation Oncology (Pending Dean's Approval) (primary appointment)
PHD Univ of Massachusetts Lowell 2016
BS University of Montana Missoula 2009
MS Louisiana St University 2012
Ira Joe Kodner, MD Prof Emeritus of Surgery (General Surg) (primary appointment)
MD Washington Univ in St. Louis 1967
BA Washington Univ in St. Louis 1963
Carolyn Koenig, MD Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 2002
Joel S Koenig, MD Professor of Clinical Pediatrics (primary appointment)
MD Vanderbilt University 1982
Kenneth A Koerner, MD Associate Professor of Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1935
MD Washington Univ in St. Louis 1941
Ismail Kola, PHD Adjunct Professor of Medicine (primary appointment)
PHD School Not Listed 1985
UNKNOWN Rhodes College 1982
BS Rhodes College 1982
Marin H Kollef, MD Professor of Medicine (primary appointment)
BS US Military Academy 1979
MD University of Rochester 1983
Hermann M Koller, MD Instructor in Medicine (primary appointment)
MD Washington Univ in St. Louis 1978
BS Stanford University 1974
Sri Devi Kolli, MBBS Instructor in Clinical Medicine (primary appointment)
MBBS Guntur Medical College 1989
Nikoleta S. Kolovos, MD Associate Professor of Pediatrics (primary appointment)
MD University of Pittsburgh 1996
BS University of Pittsburgh 1991
Mary E. Koly, MD Instructor in Clinical Medicine (primary appointment)
BA University of MO Kansas City 1995
MD University of MO Kansas City 1995
Yosuke Komatsu Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Helga Komen Instructor in Anesthesiology (primary appointment)
Katherine L Komendowski, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MD School Not Listed 1984
BS Marymount College 1980

Ramakrishna Kommagani, PHD Assistant Professor of Obstetrics and Gynecology (Pending Executive Faculty Approval) (primary appointment)
PHD Wright State University 2009

Jamie L Kondis, MD Instructor in Pediatrics (primary appointment)
BS Westminster College 2002
MD Indiana University South Bend 2006

Kevin L Konzen Assistant Professor of Clinical Medicine (primary appointment)

Raphael Kopan, MS, PHD Adjunct Professor of Developmental Biology (primary appointment)
MS Tel Aviv University 1984
PHD University of Chicago 1989

Robert G Kopitsky, MD Assistant Professor of Clinical Medicine (primary appointment)
BS Emory University 1978
MD Duke University 1982

Kevin Marc Korenblat, MD Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1996
Phillip E Korenblat Professor of Clinical Medicine (primary appointment)

Michael S Korenfeld, MD Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MD Washington Univ in St. Louis 1986
BS University of Arizona 1981

Stephen K Kornfeld, PHD, MD Professor of Developmental Biology (primary appointment)
PHD Stanford University 1991
MD Stanford University 1991

Stuart A Kornfeld David C and Betty Farrell Professor of Medicine (primary appointment)
Professor of Biochemistry and Molecular Biophysics
BA Dartmouth College 1958

Sara L Kornfield, PHD Assistant Professor of Psychiatry (primary appointment)
PHD Drexel University 2010
BA Columbia University 2003

Alex H Kosloff, MD Instructor in Clinical Medicine (primary appointment)
BS Washington Univ in St. Louis 1975
MD Saint Louis University 1980

Alok K. Kothari, MD
MD University of Illinois Chicago 2009
BS1 Washington Univ in St. Louis 2003
BS Washington Univ in St. Louis 2003

Lawrence M Kotner, MD Assoc Prof Emeritus of Radiology (primary appointment)
BA Washington Univ in St. Louis 1965
MD Washington Univ in St. Louis 1968
Paul Thomas Kotzbauer Associate Professor of Neurology (primary appointment)
Associate Professor of Developmental Biology

Attila Kovacs Associate Professor of Medicine (primary appointment)
BS School Not Listed 1981

Maria Kovacs Visiting Professor of Psychiatry (primary appointment)

Sandor J Kovacs, MD, MS, PHD Professor of Medicine (primary appointment)
Adjunct Professor of Physics
Professor of Biomedical Engineering
Professor of Cell Biology and Physiology
MD University of Miami 1979
MS California Institute Technolo 1972
PHD California Institute Technolo 1977
BS Cornell University 1969
Edward H. Kowert Assoc Prof Emeritus of Clinical Psychiatry (primary appointment)

Beth Ann Kozel, MD, PHD Adjunct Assistant Professor of Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1996
MD Washington Univ in St. Louis 2004
PHD Washington Univ in St. Louis 2004
Alexander Kozlov, MS, PHD Instructor in Biochemistry and Molecular Biophysics (primary appointment)
MS Moscow State University 1983
PHD Moscow State University 1994
Benjamin D. Kozower, MD Professor of Surgery (Cardiothoracic Surgery) (Pending Executive Faculty Approval) (primary appointment)
BS University of Rochester 1993
MD University of Rochester 1997

Thomas Errol Kraemer, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BS Indiana University Bloomington 1970
OD Indiana University Bloomington 1972
BA Millikin University 1968
James M Krafck Instructor in Clinical Pediatrics (primary appointment)
Aldi T Kraja Associate Professor of Genetics (primary appointment)
David Paul Krajcovic, MD Instructor in Clinical Surgery (General Surgery) (primary appointment)
MD Washington Univ in St. Louis 1969
BA Washington Univ in St. Louis 1965
Robert S Kramer, MD Instructor in Clinical Orthopaedic Surgery (primary appointment)
BA Harvard University 1979
MD Washington Univ in St. Louis 1983

Joseph F Kras, DDENT, MD Associate Professor of Anesthesiology (primary appointment)
DDENT Loyola University Chicago 1982
MD Hahnemann University 1991
Claudia Krasno, MA, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MA Johns Hopkins University 1990
MD University of Maryland 1994
Mark S Krasno, MD Instructor in Clinical Medicine (primary appointment)
BA Amherst College 1987
MD Johns Hopkins University Medici 1991
Frederick Thier Kraus Adjunct Professor of Obstetrics and Gynecology (primary appointment)
BS College of William and Mary 1951
Lily Tadayyon Kregenow Instructor in Clinical Pediatrics (primary appointment)
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Professor of Pathology and Immunology
MD Mount Sinai School of Medicine 1995
Friederike H. Kreisel, MD, Associate Professor of Pathology and Immunology

Geraldine J. Kress, PHD, Instructor in Neurology

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Elaine Susan Krul, PHD, Adjunct Associate Professor of Medicine

Kilannin Cathleen Krysiak, PHD, Instructor in Medicine

Thomas Kuciejczyk-Kernan, MD, Instructor in Clinical Medicine

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Robert E Kuhlman, MD, Asst Prof Emeritus Of Clinical Ortho Surg

Frederick Matthew Kuhlmann, MD, Instructor in Medicine

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Terrance T. Kummer, PHD, MD
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PHD Washington Univ in St. Louis 2006
MD Washington Univ in St. Louis 2006
BS University of Minnesota 1999

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Instructor in Clinical Medicine (primary appointment)
PHD Washington Univ in St. Louis 2000
MD Washington Univ in St. Louis 2000
BS University of Georgia 1992

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Assistant Professor of Clinical Pediatrics (primary appointment)
MD Yale University 1991
BA University of Missouri 1986

David I. Kuperman
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BA Hendrix College 1997

Lindsay M Kuroki, MD
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MD Brown University 2009

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Professor of Medicine (primary appointment)
MEE Princeton University 1980
MD New York Medical College 1984
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BS1 Massachusetts Institute of Technology (MIT) 1979

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BA Washington Univ in St. Louis 1968

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Assistant Professor of Medicine (primary appointment)
MD Ohio State University 2006
BS University of Utah 2002

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PHD Michigan State University 2009

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BA Univ of IL -Urbana-Champaign 2005
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BS Univ of IL -Urbana-Champaign 2005

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Assistant Professor of Medicine (primary appointment)
MS University of Ghana Medical Sc 2003
MD University of Ghana Medical Sc 1998
PHD University of New Mexico 2007

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MD Albert Einstein College of Med 1962

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Associate Professor of Neurology
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BS Louisiana College 1994

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Jennifer S Ladage, MD
Instructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1991
BS Valparaiso University 1987

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MD University of Missouri 1990
BA Saint Louis University 1986

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Professor of Clinical Chemistry in Medicine
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BS Pennsylvania State University 1964

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Instructor in Clinical Pediatrics (primary appointment)
BA Lawrence University 1989
MD School Not Listed 1993

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Associate Professor of Radiology (primary appointment)
PHD University of Laval 1994
MS University of Laval 1991

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PHD Columbia University 2007
M Phil Columbia University 2005

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Associate Professor of Surgery (Urologic Surgery) (primary appointment)
Associate Professor of Anesthesiology
MD Cornell University 1999

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Instructor in Clinical Pediatrics (primary appointment)
MBBS Bangalore University 1994

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Instructor in Clinical Medicine (primary appointment)
MS Osmania Medical College 1971

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MD Washington Univ in St. Louis 1976
BS University of MO St Louis 1972

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Instructor in Medicine (primary appointment)

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Prof Emeritus of Neurology (primary appointment)
MD Washington Univ in St. Louis 1947

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Instructor in Clinical Orthopaedic Surgery (primary appointment)
MD University of Illinois 1972
BA University of Michigan 1968

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Assistant Professor of Medicine (primary appointment)
MD Drexel University 2004
MS John Hopkins University 2000
BA Colgate University 1995

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Adjunct Instructor in Audiology and Communication Sciences (primary appointment)
BA Fontbonne University 1975
M Ed University of MO St Louis 1998
Catherine Eckels Lang, MS, PHD
Professor of Physical Therapy (primary appointment)
Professor of Neurology
Professor of Occupational Therapy
MS University of Vermont 1997
PHD Washington Univ in St. Louis 2001
BS University of Vermont 1993

Gabriel David Lang, MDAssistant Professor of Medicine (primary appointment)
MD University of Illinois Chicago 2009

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Director Office of Radiation Safety (primary appointment)
Assistant Professor of Radiology
ME University of MO Columbia 1979
BS MO S&T (formerly UofMO Rolla) 1976
PHD University of MO Columbia 1982

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Instructor in Physical Therapy (primary appointment)
Instructor in Orthopaedic Surgery
BS Washington Univ in St. Louis 2007

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Oliver M Langenberg Distinguished Professor of Science and Practice of Medicine (primary appointment)
Professor of Biomedical Engineering
BA Colby College 1975
PHD University of Georgia 1981
MS University of Georgia 1978

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Adjunct Associate Professor of Radiology (primary appointment)
BS Simon Fraser University 2001
MS Simon Fraser University 2003
PHD Simon Fraser University 2007

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OD School Not Listed 1963

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Prof Emeritus Of Anesthesiology (primary appointment)
MD Aristotle University 1961

Gina N LaRossa, MDA
Assistant Professor of Medicine (primary appointment)
MD Yale University 2007
BS Yale University 2001

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Associate Professor of Neurology (primary appointment)
Associate Professor of Pediatrics
BA Brigham Young University 1999
MD University of Utah 2003

David Ernfrid Larson, PHD
Academic Rank held in Genetics (primary appointment)
Instructor in Genetics
BS Indiana State University 2003
PHD Washington Univ in St. Louis 2007

Shane Joseph LaRue, MDA
Assistant Professor of Medicine (primary appointment)
MD Medical College of Wisconsin 2005

John M Lasala, MDP
Professor of Medicine (primary appointment)
Professor of Surgery (Cardiothoracic Surgery)
BA Drew University 1975
MD University of Connecticut 1983
Andrei Laszlo, PHD, MS
Associate Professor of Radiation Oncology (primary appointment)
PHD University of California 1979
MS University of California 1972
BS University of Chicago 1970

Chakrapol Lattanand, MD
Assistant Professor of Anesthesiology (primary appointment)
MD Hahnemann University 2000

Steven A Lauter, MD
Associate Professor of Medicine (primary appointment)
MD Wayne State University 1971
BS Wayne State University 1967

Kory J. Lavine, PHD, MD
Assistant Professor of Development Biology
PHD Washington Univ in St. Louis 2008
BS University of Rochester 2001
MD Washington Univ in St. Louis 2008

Steven Jay Lavine
Professor of Medicine (primary appointment)
BA Temple University 1972

Russell K Lawrence, MD
Adjunct Instructor in Pediatrics (primary appointment)
MD Baylor College of Medicine 2002
BS University of Texas Austin 1998

Steven J Lawrence, MS
Associate Professor of Medicine (primary appointment)
MS University of London 2004
BS Rose Hulman Institute 1992

Heather A Lawson, PHD, MA
Assistant Professor of Genetics (primary appointment)
BA Univ of Wisconsin Milwaukee 2002
PHD Pennsylvania State University 2008
MA Pennsylvania State University 2004

Leland M Laycob, MD
Instructor in Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1964
MD University of Missouri 1968

Patricia Lazaroff, BN, MSN
Adjunct Instructor in Obstetrics and Gynecology (primary appointment)
BN School Not Listed 1972
MSN Saint Louis University 1974

Richard Lee Lazaroff
Professor of Clinical Pediatrics (primary appointment)

Daniel Joseph Leary Jr, MD
Assistant Professor of Clinical Radiology (primary appointment)
MD Washington Univ in St. Louis 1966
BS Saint Louis University 1962

Caroline Kim Lee, MD
Associate Professor of Pediatrics (primary appointment)
BA Wellesley College 1995
MD University of Virginia 1999

Caroline Martz Lee, PHD, MD
Instructor in Medicine (primary appointment)
BS Knox College 2003
PHD University of North Carolina 2009
MD University of North Carolina 2011

Chris Cheng-Fu Lee, PHD, MD
Associate Professor of Anesthesiology (primary appointment)
PHD Beijing Medical University 1991
MD Hubei Medical University 1985

Constance Wye Leng Lee, MD
Instructor in Surgery (Pediatric Surgery) (primary appointment)
MD University of Virginia 2006
BS University of Virginia 2001
Eileen May Lee, MD Assistant Professor of Medicine (primary appointment)
BA University of Iowa 2002
MD University of Iowa 2006
Gary G Lee, DOST Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS School Not Listed 1970
DOST School Not Listed 1976
Jin-Moo Lee, MD Professor of Neurology (primary appointment)
Professor of Radiology
MD Cornell University 1993
Kim Lynette Lee Instructor in Clinical Medicine (primary appointment)
BS Washington Univ in St. Louis 1979
Michelle Lee Assistant Professor of Radiology (primary appointment)
Sena Lee, PHD Assistant Professor of Medicine (Dermatology) (primary appointment)
PHD Rockefeller University 2002
Steven F Lee, MD Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
MD University of Maryland 1987
BS University of Maryland 1983
Wang Sik Lee, PHD, MA Assistant Professor of Medicine (primary appointment)
PHD Korea University Medical Coll 1990
MA Korea University Medical Coll 1982
BA Korea University Medical Coll 1978
Yi-Shan Lee, MD, PHDAstt Professor of Pathology and Immunology (primary appointment)
MD National Taiwan University 2000
PHD Duke University 2008
Stephen S Lefrak, MD Prof Emeritus of Medicine (primary appointment)
MD State University of New York 1965
BA Colgate University 1960
Robert B Lehman Instructor in Clinical Medicine (primary appointment)
BA Texas Tech University 1977
Paula M Leiva, MD Instructor in Radiology (primary appointment)
MD Univ Nacional de Cuyo 2000
Fanee J Lekkas Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Walter Lemann III, MD Associate Professor of Clinical Neurology (primary appointment)
MD Tulane University 1979
BS Yale University 1975
Deborah J. Lenschow, MD, PHD Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology
MD University of Chicago 1998
PHD University of Chicago 1995
PHD University of Chicago 1995
MD University of Chicago 1998
Eric J Lenze, MD Professor of Psychiatry (primary appointment)
MD Washington Univ in St. Louis 1994
Shannon N Lenze, PHD, MA Assistant Professor of Psychiatry (primary appointment)
PHD University of Pittsburgh 2007
MA University of Pittsburgh 2003
David Seamus Leonard, MBCHB, MHA Assistant Professor of Otolaryngology (primary appointment)
MD Tel-Aviv University 2003
BS Rutgers University 2001

**Amanda Lark Lewis, PHD**
Assistant Professor of Molecular Microbiology (primary appointment)
Assistant Professor of Obstetrics and Gynecology
BS Cal Polytec San Luis Obispo 2001
PHD University of San Diego 2006

**Collins E Lewis, MD**
Associate Professor Emeritus of Psychiatry (primary appointment)
Assoc Prof Emeritus Of Psychiatry (primary appointment)
BA Rutgers University 1967
MD Harvard University 1971

**Lawrence M Lewis, AA, MD**
Professor of Emergency Medicine in Medicine (primary appointment)
AA University of Florida 1972
MD University of Miami 1976

**Scott W Lewis**
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BS So Cal College of Optometry 1975

**Warren Graybill Lewis, PHD**
Instructor in Medicine (primary appointment)
BS State Univ of NY Buffalo 1998
PHD Scripps Research Institute 2005

**Timothy J Ley**
Lewis T and Rosalind B Apple Professor of Medicine (primary appointment)
Professor of Genetics
BA Drake University 1974

**Ellen Li, PHD, MD**
PHD Washington Univ in St. Louis 1980
BS Stanford University 1974
MD Washington Univ in St. Louis 1980

**Hua Li, PHD**
Assistant Professor of Radiation Oncology (primary appointment)
BS Huazhong University of Science 1994
PHD Huazhong University of Science 2001

**Hui Li, MS**
Associate Professor of Radiation Oncology (primary appointment)
MS Chinese Academy of Sciences 1995

**Li Li, MD, PHD**
Instructor in Clinical Medicine (primary appointment)
MD Shanghai Medical University 1988
PHD Loyola University Chicago 1998

**Mingjie Li, MD, PHD**
Assistant Professor of Neurology (primary appointment)
MD Heilong jiang Coll of Trad Med 1983
PHD Kochi Medical School 1989

**Shunqiang Li, PHD**
Assistant Professor of Medicine (primary appointment)
PHD Chinese Academy of Med Science 1999

**Tingting Li, MD**
Associate Professor of Medicine (primary appointment)
MD State Univ of NY Buffalo 1999

**Weikai Li, PHD, MS**
Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)
PHD Yale University 2004
MS University of Tenn Chattanooga 1998
BS East China Univ of Sci & Tech 1993

**Wenjun Li**
Assistant Professor of Surgery (Cardiothoracic Surgery) (primary appointment)

**Min Lian, PHD**
Assistant Professor of Medicine (primary appointment)
PHD Texas Tech University 2006
Stephen Yuan-Tung Liang Assistant Professor of Medicine (primary appointment)
Steve Ming-Che Liao, MD Assistant Professor of Pediatrics (primary appointment)
BS University of CA Los Angeles 1999
MD Saint Louis University 2003
Jeffery Lichtenhan, BAS Assistant Professor of Otolaryngology (primary appointment)
BAS University of Kansas 2000
Amy K Licit, MD Assistant Professor of Neurology (primary appointment)
MD Washington Univ in St. Louis 2004
BS Rice University 2000
James Walter Lieber Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BS Wayne State University 1976
David M Lieberman, MD Assoc Prof Emeritus Of Clinical Medicine (primary appointment)
MD Vanderbilt University 1949
Huiping C Lieser, PhD, MA Instructor in Occupational Therapy (primary appointment)
PhD Kansas State University 2001
MA Kansas State University 1994
Charles H Lieu, MD Instructor in Clinical Medicine (primary appointment)
MD State Univ of NY Buffalo 1993
Judith E Lieu, MD Associate Professor of Otolaryngology (primary appointment)
BS University of CA Davis 1988
MD Washington Univ in St. Louis 1992
Barry Light, MD Associate Professor of Clinical Pediatrics (primary appointment)
BA University of Missouri 1973
MD University of Missouri 1980
Anna Lijowska, MD Assistant Professor of Pediatrics (primary appointment)
MD Jagiellonian University 1988
Stephen Bradley Lillard, MD Instructor in Clinical Medicine (primary appointment)
MD Univ of Health Sciences KC 1970
Michael Lillmars, DDENT Instructor in Clinical Otolaryngology (DDS) (primary appointment)
DDENT Northwestern University 1984
BA Drury College 1979
Efrem S Lim, PhD Instructor in Molecular Microbiology (primary appointment)
PhD University of Washington 2012
BS University of Michigan 2008
Kian-Huat Lim, PhD, MD Assistant Professor of Medicine (primary appointment)
PhD Duke University 2006
MD National Taiwan University 1999
David D Limbrick Jr Professor of Neurological Surgery (primary appointment)
Professor of Pediatrics
BS College of William and Mary 1995
Congxing Lin Instructor in Medicine (primary appointment)
Hsiu-San Lin, PhD, MD Professor Emeritus of Radiation Oncology (primary appointment)
Prof Emeritus of Radiation Oncology (primary appointment)
PhD University of Chicago 1968
MD National Taiwan University 1960
Huawen Lin Instructor in Genetics (primary appointment)
BS School Not Listed 1998
John Chao-Chun Lin, MD
Assistant Professor of Pediatrics (primary appointment)
MD University of Virginia 1998
BS University of Virginia 1994

Michael Fu-Yen Lin
Assistant Professor of Radiology (primary appointment)
BS Northwestern University 1995

Michael Yun Lin, MD
Associate Professor of Medicine (primary appointment)
MD University of Iowa 1994
BA Harvard University 1990

Yiing Lin, PHD, MD
Assistant Professor of Surgery (General Surgery) (primary appointment)
PHD Washington Univ in St. Louis 2005
MD Washington Univ in St. Louis 2005
BS Duke University 1997

John T Lind, MS
Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
BS Indiana University Indianopoli 1999
MS Purdue University 2000

Penelope Alathea Lind
Adjunct Instructor in Psychiatry (primary appointment)

Kathryn Jesseca Lindley, MD
Assistant Professor of Medicine (primary appointment)
BS University of Illinois 2003
MD Emory University 2007

Brian Richard Lindman, MD, MA
Associate Professor of Medicine (primary appointment)
MD Vanderbilt University 2003
BS Duke University 1997
MA Reformed Theological Seminary 2001

Christopher J Lingle
Professor of Anesthesiology (primary appointment)
Professor of Neuroscience
BS University of Oregon 1972

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Professor of Pathology and Immunology
MD Univ of Wisconsin Milwaukee 1985

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BS1 Washington Univ in St. Louis 2000
MS1 Northwestern University 2003
PHD University of Michigan 2014

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BA Washington Univ in St. Louis 1965

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Professor of Medicine (primary appointment)
MD State University of New York 1977
BA State University of New York 1973

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Professor of Medicine (primary appointment)
MD National Autonomous U of Mex 1980

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Associate Professor of Clinical Psychiatry (primary appointment)
MD Washington Univ in St. Louis 1966
BA Washington Univ in St. Louis 1963

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Assistant Professor of Medicine (primary appointment)

Howard S Lite, MD
Instructor in Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1977
MD University of Missouri 1983
Patricia Elizabeth Litkowski, MD
Instructor in Medicine (primary appointment)
MD Washington Univ in St. Louis 2013
Adam Daniel Littich, MD
Instructor in Medicine (primary appointment)
MD Saint Louis University 2009
Blake Allen Little, MD
Instructor in Clinical Pediatrics (primary appointment)
MD University of MO Kansas City 1986
John Russell Little Jr
Prof Emeritus of Medicine (primary appointment)
BA Cornell University 1952
Marina Litvin
Assistant Professor of Medicine (primary appointment)
BA Washington Univ in St. Louis 2003
Chang Liu, PHD, MD
Assistant Professor of Pathology and Immunology (primary appointment)
PHD Oregon Health Science Univers 2010
MD Peking Union Medical College 2004
Jianmei Liu, MS
Instructor in Clinical Medicine (primary appointment)
MS Shanghai Medical University 1987
Qianjin Liu, MD, PHD
Assistant Professor of Anesthesiology (primary appointment)
MD Nanjing Medical University 1983
PHD Saint Louis University 1997
Qin Liu, PHD
Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Ophthalmology and Visual Sciences
PHD Chinese Academy of Sciences 2004
BS Wuhan University 1998
Ta-Chiang Liu, MD, PHD
Assistant Professor of Pathology and Immunology (primary appointment)
MD National Yang-Ming University 1997
PHD Imperial College 2003
Xinping Liu, MS, PHD
Instructor in Medicine (primary appointment)
MS Southeast Missouri St Univers 1999
BS School Not Listed 1986
PHD Washington Univ in St. Louis 2005
Yangjian Liu
Instructor in Developmental Biology (primary appointment)
Ying Liu, MD, PHD
Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
MD Southeast U Medical School 1995
PHD Texas Tech University 2006
Yongjian Liu, PHD, MS
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PHD University of Missouri Columbi 2007
MS Zhejiang Medical University 2000
BS Henan Normal University 1997
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PHS Harvard University 2009
Adam Edward Locke, PHD
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PHD Emory University 2010
BA Lawrence University 2003
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Professor of Medicine (primary appointment)
BA Rice University 1989
MHS Duke University 2001
MD University of Texas Dallas 1993
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Vice Chairman of Anesthesiology
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MD University of MO Columbia 2010

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Vice Chancellor for Research
Vice Chancellor for Research
Associate Dean for Research
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Vice Chairman for Research

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MD University of Missouri Columbia 2010

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PHD University of Michigan 2007
BS University of Michigan 1993
MS Wayne State University 1996

Lola J Loeb, MA, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MA California State Dominguez 1992
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BA Lawrence University 1964
PHD Univ of Wisconsin Madison 1969

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BS University of California 1995
MD Drexel University 2005
M PH California State University 1999

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Instructor in Clinical Medicine
MS Georgetown University 1988
MD University of Minnesota 1992
BA Tufts University 1982

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Stanley L London, MD Associate Professor Emeritus of Clinical Surgery (General Surgery) (primary appointment)
Assoc Prof Emeritus of Clin Surg (Gen Surg) (primary appointment)
MD Washington Univ in St. Louis 1949

Fanxin Long, PHD Professor of Orthopaedic Surgery (primary appointment)
Professor of Developmental Biology
Professor of Medicine
PHD Tufts University 1997

Jeremiah Robert Long, MD Assistant Professor of Radiology (primary appointment)
BS University of Notre Dame 1999
MD Georgetown University 2004
Gregory D Longmore, MD, MS
Professor of Medicine (primary appointment)
Professor of Cell Biology and Physiology
MD McGill University 1983
BS University of Western Ontario 1977
MS University of Toronto 1979

Maurice J Lonsway Jr, MD
Prof Emeritus Of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1950
BA Washington Univ in St. Louis 1946

Dwight C Look, MD
Professor of Medicine (primary appointment)
MD University of MO Kansas City 1985
BA University of MO Kansas City 1985

James F Loomis Jr, MD, MBA
Instructor in Clinical Medicine (primary appointment)
MD University of Arkansas 1985
BA Hendrix College 1981
MBA Washington Univ in St. Louis 1997

Glenn Lopate, MD
Professor of Neurology (primary appointment)
BS Colorado St University 1983
MD Ohio State University 1987

Ramon Alberto Lorca
Instructor in Obstetrics and Gynecology (Pending Dean's Approval) (primary appointment)
BS Universidad Catolica Del Norte 2001

Jerry L Lowder, MD
Associate Professor of Obstetrics and Gynecology (primary appointment)
MD East Carolina University 1999

Robert Douglas Lowe, DDENT
Instructor in Clinical Otolaryngology (DMD) (primary appointment)
DDENT Washington Univ in St. Louis 1982
BA Washington Univ in St. Louis 1977

Jeffrey A Lowell, MD
Prof Emeritus of Surgery (primary appointment)
BA Oberlin College 1981
MD Yale University 1985

Esther Jiaxin Lu, PHD, MS
Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
Assistant Professor of Biostatistics
PHD Medical College of Wisconsin 2007
MS National Univ of Singapapore 2002
BS Nankai University 1997

Olga Y. Lubman, PHD
Instructor in Pathology and Immunology (primary appointment)
BA Goucher College 1998
PHD Washington Univ in St. Louis 2002
BS Goucher College 1998

Anthony J Lubniewski, MD
Professor of Ophthalmology and Visual Sciences (primary appointment)
BS University of Florida 1980
MD University of Florida 1985

Herbert Lubowitz, MD
Associate Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1958
BA Clark University 1954

Joan L Luby, MD
Professor of Psychiatry (Child Psychiatry) (primary appointment)
BA Brown University 1981
MD Wayne State University 1985
Brendan Patrick Lucey, MD Assistant Professor of Neurology (primary appointment)
BA University of Vermont 1999
MD John Hopkins University 2003

Philip A Ludbrook, MBBS Professor Emeritus of Medicine (primary appointment)
Prof Emeritus of Medicine (primary appointment)
Professor Emeritus of Psychiatry
MBBS University of Adelaide 1963
BS School Not Listed 1957

Kenneth M Ludmerer, MA Professor of Medicine (primary appointment)
Mabel Dorn-Reeder Distinguished Professor of the History of Medicine
MA Johns Hopkins University 1971

Mark A Ludwig, MD Instructor in Clinical Surgery (General Surgery) (primary appointment)
MD University of Chicago 1976
BA Emory University 1972

Lauren Michelle Ludwig Lee, MD Instructor in Clinical Medicine (primary appointment)
MD University of MO Kansas City 2008

Gregg T Lueder, MD Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Pediatrics
MD University of Iowa 1985
BS Iowa State University 1981

Susan L Luedke, MD Instructor in Clinical Medicine (primary appointment)
MD University of Rochester 1972

Scott J Luhmann, MD Professor of Orthopaedic Surgery (primary appointment)
MD University of Minnesota 1991
BA Gustavus Adolphus College 1986

Peter David Lukasiewicz, PHD Janet and Bernard Becker Professor of Ophthalmology (primary appointment)
Professor of Neuroscience
PHD University of Michigan 1984
BS Brown University 1977

Clifford James Luke, PHD Associate Professor of Pediatrics (Pending Executive Faculty Approval)
PHD University of Surrey 1999
BS University of Liverpool 1994

Jingqin Luo, PHD, MS Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
Assistant Professor of Biostatistics
PHD Duke University 2006
MS Renmin University of China 2001
MS1 Duke University 2003
BS Renmin University of China 1998

Patrick Joseph Lustman, PHD Professor of Psychiatry (primary appointment)
Professor of Psychological & Brain Sciences
BA University of Illinois 1972
PHD Michigan State University 1980

Barbara A Lutey, MD, MLS Assistant Professor of Medicine (primary appointment)
BA Indiana University Bloomington 1982
Christopher Raymond Lynch, Instructor in Clinical Medicine (primary appointment)  

John P Lynch, MD, Professor of Medicine (primary appointment)  

BA Saint Louis University 1983  
MD Georgetown University 1989  

Michael T. Lynskey, PHD, MS, Adjunct Professor of Psychiatry (primary appointment)  
PHD School Not Listed 1997  
BS School Not Listed 1987  
MS University of Canterbury 1989  

Alan P Lyss, MD, Associate Professor of Clinical Medicine (primary appointment)  
MD Washington Univ in St. Louis 1976  
BA Washington Univ in St. Louis 1972  

Carl A Lyss, Assistant Professor of Clinical Medicine (primary appointment)  

Cynthia Xiuguang Ma, PHD, MD, Associate Professor of Medicine (primary appointment)  
PHD University of Cincinnati 1997  
MD Beijing Medical University 1990  

Hongming Ma, MS, PHD, Instructor in Medicine (primary appointment)  
BA Qufu Normal University 1993  
MS Fudan University 1996  
PHD Ocean University of China, Qin 2004  

Liang Ma, PHD, Associate Professor of Medicine (Dermatology) (primary appointment)  
Associate Professor of Developmental Biology  
PHD University of CA Los Angeles 1995  
BA University of CA Berkeley 1989  

Ningning Mal, Instructor in Medicine (primary appointment)  

Richard W Maack, MD, Instructor in Clinical Otolaryngology (primary appointment)  
BS Muhlenberg College 1981  
MD University of Maryland 1985  

Robert R Mac Donald III, MD, Instructor in Clinical Otolaryngology (primary appointment)  
MD Washington Univ in St. Louis 1993  
BA Duke University 1989  

Shannon L. Macauley-Rambach, PHD, Assistant Professor of Neurology (primary appointment)  
PHD Washington Univ in St. Louis 2009  
BS Middlebury College 1999  

Luigi Maccotta, MD, PHD, Assistant Professor of Neurology (primary appointment)  
BS St Peters College 1994  
MD Washington Univ in St. Louis 2005  
PHD Washington Univ in St. Louis 2005  

Donna Alexandra MacDu, PHD, Instructor in Pathology and Immunology (primary appointment)  
PHD University of Minnesota 2008  

Matthew R. MacEwan, PHD, Assistant Professor of Neurosurgery (Pending Executive Faculty Approval) (primary appointment)  
PHD Washington Univ in St. Louis 2015  
BS Case Western Reserve Univ 2004  

Colin MacKenzie, Instructor in Clinical Psychiatry (primary appointment)  

Lisa Marie Mackey, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BA University of Kansas 1989
Susan E Mackinnon, MD Sydne M., Jr. and Robert H. Shoenberg Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
Professor of Otolaryngology
Professor of Occupational Therapy
BA Queens College 1971
MD Queen's University 1975
George Andrew Macones, MD, MS Mitchell and Elaine Yanow Professor of Obstetrics and Gynecology (primary appointment)
Head of the Department of Obstetrics and Gynecology
MD Jefferson Medical College 1988
BS University of Pennsylvania 1984
MS University of Pennsylvania 2006
Julie Kathleen MacPhee, MD Instructor in Clinical Medicine (primary appointment)
MD Albert Einstein College of Med 2008
BS Trinity College 2003
John C. Madden Instructor in Clinical Pediatrics (primary appointment)
Pamela A Madden, PHD, MS Professor of Psychiatry (primary appointment)
PHD University of Pittsburgh 1992
MS University of Pittsburgh 1983
BS University of Pittsburgh 1978
Tessa E Madden, MD, M PH Associate Professor of Obstetrics and Gynecology (primary appointment)
BS Smith College 1995
MD Washington Univ in St. Louis 2001
M PH Johns Hopkins University Medic 2006
Blair B Madison, PHD Assistant Professor of Medicine (primary appointment)
PHD University of Michigan 2005
BS Washington Univ in St. Louis 1998
Jeffrey A Magee, PHD, MD Assistant Professor of Pediatrics (primary appointment)
Assistant Professor of Genetics
PHD Washington Univ in St. Louis 2005
MD Washington Univ in St. Louis 2005
William Edwin Magee, MD Associate Professor of Clinical Medicine (primary appointment)
MD Duke University 1950
Leonard B Maggi Jr, PHD Assistant Professor of Medicine (primary appointment)
BA Cornell College 1995
PHD Saint Louis University 2001
BA1 Cornell College 1995
Jambunathan Mahadevan Instructor in Clinical Medicine (primary appointment)
Christopher A Maher, PHD Assistant Professor of Medicine (primary appointment)
Assistant Director of The Genome Institute
PHD Stony Brook School of Medicine 2006
Nicole Maher, PHD Instructor in Medicine (primary appointment)
PHD Case Western Reserve Univ 2007
BA Ithaca College 1998
Mohamed Mahjoub Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
Robert John Mahoney, MD Associate Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1997
BA Princeton University 1993

Baijayanta Maiti Instructor in Neurology (Pending Dean's Approval) (primary appointment)

Elaine Michelle Majerus, MD Associate Professor of Medicine (primary appointment)
Associate Professor of Cell Biology and Physiology
BA Washington Univ in St. Louis 1986
MD Saint Louis University 1998
BS Washington Univ in St. Louis 1986

John E Majors, PHD Prof Emeritus of Biochem & Molecular Biophysic (primary appointment)
PHD Harvard University 1977

Majesh Makan, MD Associate Professor of Medicine (primary appointment)
MD Univ of Panama School of Med 1984

Kamlesh R Makwana, DDENT Instructor in Clinical Otolaryngology (DDS) (primary appointment)
BA Univ of Wisconsin Madison 1992
DDENT Marquette University 1996

Ranjan P Malhotra, MD Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
MD University of Missouri 1995

Mohsin Ilyas Malik, MBBS Instructor in Clinical Medicine (primary appointment)
MBBS Army Medical College 1999

Virgil Lee Malmberg, MD, MS Instructor in Clinical Psychiatry (primary appointment)
MD University of Missouri 1978
MS University of Illinois 1970
BS University of Illinois 1968

Andrew F. Malone Assistant Professor of Medicine (primary appointment)
BA Trinity College Dublin 2000
MBCHB1 Royal College of Surgeons 2005

Jay Randolph Malone, MD Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
BS University of Oklahoma 2005
MD University of Oklahoma 2009

Horacio M Maluf Associate Professor of Pathology and Immunology (primary appointment)

Daniel T. Mamah Assistant Professor of Psychiatry (primary appointment)

Maria Maminta-Streiiff Instructor in Clinical Obstetrics and Gynecology (primary appointment)

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MD Washington Univ in St. Louis 1982
BS Mass Inst of Technology (MIT) 1977

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BA Washington Univ in St. Louis 1980

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MBBS Tamilnadu Medical University 1995
MS PGI 1999

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Associate Professor of Medicine
MD University of Illinois 1998
BS University of Michigan 1994
Shivaprasad Gowda Manjappa, MBBS
Instructor in Clinical Medicine (primary appointment)
MBBS Medical College of India 2004

Caroline Mann, MS, MD
Associate Professor of Medicine (Dermatology) (primary appointment)
BS Indiana University Bloomington 1986
MS Sarah Lawrence College 1988
MD Indiana University Bloomington 1993

Douglas L. Mann, MDTobias and Hortense Lewin Professor of Medicine (primary appointment)
Professor of Cell Biology and Physiology
MD Temple University 1979
BA Lafayette College 1973

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Instructor in Clinical Otolaryngology (DDS) (primary appointment)
DDENT Washington Univ in St. Louis 1960
BA Washington Univ in St. Louis 1956
MS Indiana University Bloomington 1964

Peter Bruce Manning, MD
Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
BS Bucknell University 1978
MD University of Michigan 1982

Scott R. Manson, PHD
Instructor in Surgery (Urologic Surgery) (primary appointment)
BS University of Illinois 1999
PHD Washington Univ in St. Louis 2007

George Mansour, MD
Instructor in Medicine (primary appointment)
MD Tishreen Univ College of Med 2010

John F Mantovani, MD
Associate Professor of Clinical Neurology (primary appointment)
Assistant Professor of Clinical Pediatrics
BA University of Evansville 1971
MD University of Missouri 1974

Tanying Mao, MD
Instructor in Anesthesiology (primary appointment)
MD Baylor College of Medicine 2010

Xianrong Mao, MS
Instructor in Genetics (primary appointment)
MS Chinese Academy of Sciences 1996

Soe S Mar
Associate Professor of Neurology (primary appointment)
Associate Professor of Pediatrics

Daniel Scott Marcus, PHD
Associate Professor of Radiology (primary appointment)
BS Washington Univ in St. Louis 1995
PHD Washington Univ in St. Louis 2001
BA Washington Univ in St. Louis 1995

Elaine Rene Mardis, PHD
Adjunct Professor of Genetics (primary appointment)
BS University of Oklahoma 1984
PHD University of Oklahoma 1989

Julie Ann Margenthaler, MD
Professor of Surgery (General Surgery) (primary appointment)
MD Southern Illinois University 1997
BA Boston University 1993

Robert P Margolis, MD
Assistant Professor of Clinical Neurology (primary appointment)
MD Saint Louis University 1975
BA Kent St University 1971

Sarah K Margolis, MD
Associate Professor of Clinical Medicine (primary appointment)
MD State University of New York 1989
BA Barnard College 1984
Todd P Margolis, PHD, MD
Alan A and Edith L Wolff Distinguished Professor (primary appointment)
Head of the Department of Ophthalmology and Visual Sciences
PHD University of CA San Francisco 1983
BS Stanford University 1977
MD University of CA San Francisco 1984

Joanne Markham, MS
Associate Professor of Radiology (primary appointment)
BA Centre College 1963
MS Washington Univ in St. Louis 1973

Stephanie Markovina, MD
Assistant Professor of Radiation Oncology (primary appointment)
MD University of Wisconsin-Madiso 2010

Natasha M.V. Marrus, PHD, MD
Assistant Professor of Psychiatry (primary appointment)
BA University of Southern Calif 1999
PHD Washington Univ in St. Louis 2007
MD Washington Univ in St. Louis 2007
BS University of Southern Calif 1999

Jonas Marschall, MD
Adjunct Assistant Professor of Medicine (primary appointment)
MD University of Basel 1996

Bess Adkins Marshall, MD
Professor of Pediatrics (primary appointment)

Garland R Marshall
Professor of Biochemistry and Molecular Biophysics (primary appointment)
Professor of Biomedical Engineering
BS California Institute Technolo 1962

Jay Phillips Marshall II, MD
Assistant Professor of Clinical Medicine (primary appointment)
MD University of Missouri 1972
BA De Paul University 1968

Ann G Martin
Associate Professor of Medicine (Dermatology) (primary appointment)
BS University of Notre Dame 1977

Carolyn Marie Martin, MD
Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
BA Lindenwood College 1970
MD Washington Univ in St. Louis 1976

Jeffrey Wackher Martin, MD
Associate Professor in Orthopaedic Surgery (Pending Executive Faculty Approval) (primary appointment)
MD Case Western Reserve Univ 1981

John Barlow Martin, MD
Assoc Prof Emeritus Of Clinical Ob & Gyn (primary appointment)
BA Amherst College 1951
MD Washington Univ in St. Louis 1955

Megan Spokes Martin, MD
Instructor in Pediatrics (primary appointment)
BA University of Notre Dame 2007
MD University of Kansas 2012

Nathan Russell Martin, MD
Assistant Professor of Medicine (primary appointment)
MD University of Texas Southwest 2005
BA University of Pennsylvania 2001

Nicholas Gordon Martin
Adjunct Instructor in Psychiatry (primary appointment)

Philip Latham Martin, MD
Associate Professor of Clinical Otolaryngology (primary appointment)
MD Saint Louis University 1968
Thomas F Martin, MD Associate Professor of Clinical Medicine (primary appointment)

MD Saint Louis University 1965
BS Saint Louis University 1961
Wade H Martin III, MD Associate Professor of Medicine (primary appointment)
BA University of Kansas 1973
MD University of Kansas 1977

Jerald Arthur Maslanko, MD Instructor in Clinical Medicine (primary appointment)
MD Emory University 1975

Mary Vest Mason, MD, MBA Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1994
MBA Washington Univ in St. Louis 1999
BS University of Illinois 1990

Muhammad Faraz Masood, MD Assistant Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
MD Dow Medical College Karachi 2001

Joan Alice Mass, MD Assistant Professor of Clinical Medicine (primary appointment)
MD Temple University 1977
BA Washington Univ in St. Louis 1971

Leslie Stewart Massad, MD Professor of Obstetrics and Gynecology (primary appointment)
BS Williams College 1980
MD Duke University 1984

Matthew J Matava, MD Professor of Orthopaedic Surgery (primary appointment)
Professor of Physical Therapy
BA University of MO Kansas City 1986
MD University of MO Kansas City 1987

Alicia B Matayoshi Instructor in Clinical Otolaryngology (DDS) (primary appointment)
Stanley Mathew, MBBS Instructor inClinical Medicine (primary appointment)
MBBS Kerala University 1991

F. Scott Mathews, PhD Prof Emeritus of Biochem & Molec Biophysics (primary appointment)
BS University of California 1955
PHD University of Minnesota 1959

Jose Mathews, MD Assistant Professor of Psychiatry (primary appointment)
MD Delhi University 1993

Patrice Mathews, MD Instructor in Clinical Pediatrics (primary appointment)
BA Trinity University 1984
MD University of Oklahoma 1988

Amit Mathur, MBBS Professor of Pediatrics (primary appointment)
MBBS Delhi University 1982
BS Delhi University 1976

Scot J. Matkovich, PhD Assistant Professor of Medicine (primary appointment)
BA University of Melbourne 1995
BS University of Melbourne 1996
PHD University of Melbourne 2000

Anthony J-P Mattaline, DOST Assistant Professor of Clinical Medicine (primary appointment)
BA St Edwards University 1979
BS Northeast Missouri St Univrsty 1981
DOST School Not Listed 1985
Caline Mattar, MD  
Instructor in Medicine (primary appointment)  
MD American University of Beirut 2010  
BS American University of Beirut 2006

Claire Matthews, MA, PHD  
Adjunct Assistant Professor of Otolaryngology (Speech Pathology) (primary appointment)  
MA University of Kansas 1978  
BA University of Kansas 1969  
PHD University of Kansas 1980

Gregory Warren Mattingly, MD  
Assistant Professor of Clinical Psychiatry (primary appointment)  
BS University of Missouri 1985  
MD Washington Univ in St. Louis 1989

Henry E Mattis, MD  
Instructor in Clinical Medicine (primary appointment)  
MD Washington Univ in St. Louis 1975

Marvin M Maurer Jr, MD  
Assistant Professor of Clinical Pediatrics (primary appointment)  
BA Washington Univ in St. Louis 1968  
MD Washington Univ in St. Louis 1972

Thin Thin Maw, MS, MBBS  
Assistant Professor of Medicine (primary appointment)  
MS Long Island University Brookl 2008  
MBBS Institute of Medicine 2004

Ariane E May, MD  
Associate Professor of Clinical Pediatrics (primary appointment)  
BA Tufts University 1983  
MD School Not Listed 1993

Kara H Mayes  
Instructor in Clinical Medicine (primary appointment)

Ben R Mayes Jr, MD  
Assistant Professor of Clinical Radiology (primary appointment)  
MD Washington Univ in St. Louis 1966

Thomas Rolf Mazur, PHD  
Instructor in Radiation Oncology (Pending Dean's Approval) (primary appointment)  
PHD University of Texas Austin 2014

John E. Mazuski, PHD, MD  
Professor of Surgery (General Surgery) (primary appointment)  
PHD University of Minnesota 1993  
MD University of CA Los Angeles 1981

Pietro Mazzoni, PHD, MD  
Associate Professor of Neurology (primary appointment)  
PHD Mass Inst of Technology (MIT) 1994  
BS University of CA San Diego 1988  
MD Harvard University 1995

Gabriel Mbalaviele, PHD, MA  
Associate Professor of Medicine (primary appointment)  
PHD University of Paris 1992  
MA School Not Listed 1987

James P Mc Carter, MD, PHD  
Adjunct Professor of Genetics (primary appointment)  
MD Washington Univ in St. Louis 1998  
BA Princeton University 1989  
PHD Washington Univ in St. Louis 1998

Audrey McAlinden, PHD  
Associate Professor of Orthopaedic Surgery (primary appointment)  
Associate Professor of Cell Biology and Physiology  
PHD University of London 1998

Rebecca P McAllister, MD  
Professor of Obstetrics and Gynecology (primary appointment)  
Associate Dean for Graduate Medical Education  
MD University of Kentucky 1979
BS University of Kentucky 1977
William H McAlister Professor of Radiology (primary appointment)
Professor of Radiology in Pediatrics
James Patterson McAllister, PHD Professor of Neurological Surgery (primary appointment)
PHD Purdue University 1976
BA Earlham College 1970
John D McAllister, MD Professor of Anesthesiology (primary appointment)
Professor of Pediatrics
MD University of Manitoba 1980
BS University of Manitoba 1982
Steven Joseph McAnany, MD Assistant Professor of Orthopaedic Surgery (Pending Executive Faculty Approval) (primary appointment)
MD Mount Sinai School of Medicine 2010
Christopher M McAndrew, MD Assistant Professor of Orthopaedic Surgery (primary appointment)
MD University of Tennessee 2004
Jina L McAtee Assistant Professor of Clinical Pediatrics (primary appointment)
MD University of Tennessee 2004
Steven Joseph McAnany, MD Assistant Professor of Orthopaedic Surgery (Pending Executive Faculty Approval) (primary appointment)
MD Mount Sinai School of Medicine 2010
Christopher M McAndrew, MD Assistant Professor of Orthopaedic Surgery (primary appointment)
MD University of Tennessee 2004
Jina L McAtee Assistant Professor of Clinical Pediatrics (primary appointment)
MD University of Tennessee 2004
Mark P. McAvoy, MEE, PHD Assistant Professor of Radiology (primary appointment)
MEE Southern Illinois University 1993
PHD Southern Illinois University 1998
BS University of Illinois 1991
Megan McBride Instructor in Clinical Pediatrics (primary appointment)
Sarah Howe McBride, PHD, MS Adjunct Instructor in Orthopaedic Surgery (primary appointment)
BS Clemson University 2004
PHD Case Western Reserve Univ 2011
MS Case Western Reserve Univ 2008
Jennifer Ann McCabe Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS Saint Louis University 2001
Marcia June McCabe, PHD, MA Associate Professor of Psychiatry (primary appointment)
PHD University of Missouri 1991
BA Washburn University 1985
MA University of Missouri 1987
Kimberli McCallum, MD Assistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)
BS Brown University 1981
MD Yale University 1986
Timothy Joseph McCann, MD Instructor in Clinical Medicine (primary appointment)
BS Saint Louis University 1980
MD American Univ of the Caribbean 1984
Scott A McClain, DDENT Instructor in Clinical Otolaryngology (DDS) (primary appointment)
BS Graceland College 1987
DDENT University of Missouri 1991
Donte D McClary, MD Instructor in Clinical Medicine (primary appointment)
MD Meharry Med College 1998
BS Xavier University 1993
Jonathan E McConathy, PHD, MD Adjunct Assistant Professor of Radiology (primary appointment)
PHD Emory University 2003
BS University of North Carolina 1995
MD Emory University 2004
Jeremy James McCormick, MD  
Assistant Professor of Orthopaedic Surgery (primary appointment)  
MD Loyola University Chicago 2003  
BS Dartmouth College 1999  
Molly Ann McCormick  
Assistant Professor of Anesthesiology (primary appointment)  
Scott McCormick III, MD  
Assistant Professor of Clinical Psychiatry (primary appointment)  
MD University of Chicago 1985  
BA Coe College 1981

Carolyn Kay McCourt, MD  
Assistant Professor of Obstetrics and Gynecology (primary appointment)  
MD Creighton University 2001  
BS Creighton University 1997

Douglas E McCoy, MD  
Instructor in Clinical Psychiatry (primary appointment)  
BS Eastern Illinois University 1986  
MD Southern Illinois University 1990

Leslie Rose McCrary-Etuk, MD  
Instructor in Clinical Medicine (primary appointment)  
MD New York Medical College 2001

Vivia Van Dyne McCutcheon, MS, PHD  
Assistant Professor of Psychiatry (primary appointment)  
BA Ohio State University 1985  
MS Washington Univ in St. Louis 2001  
PHD Washington Univ in St. Louis 2005

Eric Martin McDade, DOST  
Assistant Professor of Neurology (primary appointment)  
BA Canisius College 1998  
DOST Chicago Coll of OsteopathicMed 2004

Daniel S McDonald, MD  
Instructor in Clinical Obstetrics and Gynecology (primary appointment)  
BS Yale University 1984  
MD University of Missouri 1989

Douglas J. McDonald, MD  
Professor of Orthopaedic Surgery (primary appointment)  
BS St Johns University 1978  
MD University of Minnesota 1982

Jay R. McDonald, MD  
Assistant Professor of Medicine (primary appointment)  
MD Oregon Health Science Univers 1998  
BA Duke University 1991  
BS Portland St University 1994

Debra Ann McDonnell, MS, DPT, AS  
Associate Professor of Emergency Medicine in Medicine (primary appointment)  
Associate Professor of Orthopaedic Surgery  
Associate Professor of Physical Therapy  
BS Washington Univ in St. Louis 1990  
MS Washington Univ in St. Louis 1990  
DPT Washington Univ in St. Louis 2005  
AS Oakton Community College 2000

Mary Kate McDonnell, DPT, MHS  
Associate Professor of Physical Therapy (primary appointment)  
Associate Professor of Orthopaedic Surgery  
Associate Director of Residencies and Fellowships in Physical Therapy  
BS Saint Louis University 1981  
DPT Washington Univ in St. Louis 2003  
MHS Washington Univ in St. Louis 1985

Cheryl Riddle McDonough, MD  
Instructor in Medicine (primary appointment)
Colleen McEvoy, MD  Assistant Professor of Medicine (primary appointment)

Steven D McGaughey  Instructor in Pediatrics (primary appointment)

Carli Laura McGee  Instructor in Pediatrics (primary appointment)

Patricia Navarro McGee  Assistant Professor of Physical Therapy (primary appointment)

Assistant Professor of Orthopaedic Surgery

Bryan Edward McGill, MD  Instructor in Neurology (primary appointment)

Instructor in Pediatrics

Janet B McGill, MA, MD  Professor of Medicine (primary appointment)

Mark E. McGranahan, MD  Instructor in Clinical Pediatrics (primary appointment)

Murray D McGrady, MD  Instructor in Clinical Otolaryngology (primary appointment)

Leslie Denise McIntosh, PhD, MA  Assistant Professor of Pathology and Immunology (primary appointment)

Jonathan L McJunkin, MD  Assistant Professor of Otolaryngology (primary appointment)

Oliver McKee, MD  Instructor in Clinical Medicine (Dermatology) (primary appointment)

Clark R McKenzie, MD  Instructor in Clinical Medicine (primary appointment)

Heather McKenzie  Assistant Professor of Anesthesiology (primary appointment)

John W McKinney, MD  Instructor in Clinical Otolaryngology (primary appointment)

Joseph K McKinney, MD  Assoc Prof Emeritus Of Clinical Psychiatry (primary appointment)

Thomas Casey McKinney, MD  Professor of Clinical Pediatrics (primary appointment)
Robert Carolin McKinstry III  
Professor of Radiology (primary appointment)  

Robert M McMahon  
Instructor in Clinical Medicine (primary appointment)  

William A McManus, MD  
Assistant Professor of Pediatrics (primary appointment)  

Marie Elizabeth McNeely, PhD  
Assistant Professor of Physical Therapy (primary appointment)  

Colleen Patricia McNicholas, DOST  
Assistant Professor of Obstetrics and Gynecology (primary appointment)  

Christopher Clayton McPherson  
Assistant Professor of Clinical Pediatrics (primary appointment)  

Amy McQueen  
Assistant Professor of Medicine (primary appointment)  

Colleen Patricia McNicholas, DOST  
Assistant Professor of Obstetrics and Gynecology (primary appointment)  

Denise Andrea Meckler, MD  
Instructor in Clinical Obstetrics and Gynecology (primary appointment)  

Gerald Medoff, MD  
Professor Emeritus of Medicine (primary appointment)  

Nalini K Mehta  
Instructor in Clinical Pediatrics (primary appointment)  

Anibal G Melo, MD  
Instructor in Clinical Medicine (primary appointment)  

Gary Jay Meltz, MD  
Instructor in Clinical Medicine (primary appointment)
Karyn Naomi Meltz Steinberg, PHD  
Instructor in Medicine (primary appointment)  
PHD Emory University 2009  
Robert S Mendelsohn  
Associate Professor of Clinical Medicine (primary appointment)  
David F Mendelson, MDA  
Asst Prof Emeritus Of Clinical Neurology (primary appointment)  
MD Indiana University Bloomington 1948  
Maithilee D Menezes, MD  
Assistant Professor of Otolaryngology (primary appointment)  
BS Grinnell College 1997  
MD Grinnell College 2002  
Christine Onsy Menias, MD  
Adjunct Professor of Radiology (primary appointment)  
BS1 Marquette University 1990  
MD George Washington University 1995  
Steven James Mennerick, PHD  
Professor of Psychiatry  
Professor of Neuroscience  
PHD Washington Univ in St. Louis 1995  
BA Earlham College 1988  
Paul A Mennes, MD  
Professor of Clinical Medicine (primary appointment)  
BS Univ of Wisconsin Madison 1966  
MD Washington Univ in St. Louis 1970  
P Aravindaksha Menon  
Instructor in Clinical Pediatrics (primary appointment)  
David Norman Menton, PHD  
Assoc Prof Emeritus Of Anatomy (primary appointment)  
PHD Brown University 1966  
Ronald L Mera, MD  
Instructor in Clinical Medicine (primary appointment)  
MD School Not Listed 1976  
BS School Not Listed 1970  
Robert W Mercer, PHD  
Professor of Cell Biology and Physiology (primary appointment)  
BA San Jose State University 1974  
PHD Syracuse University 1980  
Sarah J. Mermelstein, MD  
Instructor in Pediatrics (primary appointment)  
MD Drexel University 2007  
BA Indiana University Bloomington 2002  
Theodore Merrims, MD  
Instr Emeritus In Clinical Ob & Gyn (primary appointment)  
MD Washington Univ in St. Louis 1954  
BS Washington Univ in St. Louis 1949  
Diane F Merritt, MD  
Professor of Obstetrics and Gynecology (primary appointment)  
MD New York University 1975  
BS Miami University 1971  
Sara Hargarten Mesick, MD  
Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)  
MD Washington Univ in St. Louis 2012  
Elizabeth Sarah Messer, MD  
Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)  
BS Washington Univ in St. Louis 2009  
MD University of Illinois Chicago 2013  
John P Metzler  
Associate Professor of Orthopaedic Surgery (primary appointment)  
Associate Professor of Neurology  
BS Texas A&M University 1991  
Adam Vogeler Meyer, MD  
Assistant Professor of Medicine (primary appointment)  
MD Baylor College of Medicine 2009
Claire Elizabeth Meyer, MD  Assistant Professor of Medicine (primary appointment)  
BS Roanoke College 2004  
MD Washington Univ in St. Louis 2009  

Gretchen Ann Meyer, PHD, MS  Assistant Professor of Physical Therapy (primary appointment)  
Assistant Professor of Neurology  
Assistant Professor of Orthopaedic Surgery  
PHD University of CA San Diego 2011  
BS Washington Univ in St. Louis 2004  
MS Washington Univ in St. Louis 2004  

Jay L Meyer, MD  Associate Professor of Clinical Psychiatry (primary appointment)  
BA Washington Univ in St. Louis 1956  
MD Saint Louis University 1960  

Mary Shaughnessy Meyer, MD  Assistant Professor of Clinical Pediatrics (primary appointment)  
MD Saint Louis University 2003  
BA Saint Louis University 1999  

Bryan F Meyers, MD  Patrick and Joy Williamson Endowed Professor of Surgery (Cardiothoracic Surgery) (primary appointment)  
MD University of Chicago 1986  

Jerry R Meyers, MD  Assistant Professor of Clinical Surgery (General Surgery) (primary appointment)  
MD Washington Univ in St. Louis 1966  
BA University of Texas Austin 1962  

Rabaya Mian, MBBS  Instructor in Clinical Medicine (primary appointment)  
MBBS King Edward Medical College 1999  

Craig Anthony Micchelli, PHD  Associate Professor of Developmental Biology (primary appointment)  
PHD Univ of Wisconsin Madison 1999  
BS Univ of Wisconsin Madison 1993  

Scott Micek, MD  Adjunct Instructor in Medicine (primary appointment)  
MD University of Iowa 1999  

Gina Michael  Instructor in Clinical Medicine (primary appointment)  
BS University of Missouri 1978  

Jeff Michael Michalski, MD, MBA  Carlos Perez Distinguished Professor of Radiation Oncology (primary appointment)  
Vice Chairman of Radiation Oncology  
BS Univ of Wisconsin Madison 1982  
MD Univ of Wisconsin Madison 1986  
MBA Washington Univ in St. Louis 2001  

Andrew Philip Michelson, MD  Instructor in Medicine (primary appointment)  
MD Case Western Reserve Univ 2013  
BS Case Western Reserve Univ 2007  

Peter Howard Michelson, MD, MS  Associate Professor of Pediatrics (primary appointment)  
MD Jefferson Medical College 1983  
MS University of Pittsburgh 2007  
BS Bowdoin College 1978  

William Samuel Micka, MD  Instructor in Clinical Medicine (primary appointment)  
BA Saint Louis University 1999  
MD Saint Louis University 2003
John Neal Middelkamp, MD  
Prof Emeritus of Pediatrics (primary appointment)  
BS University of Missouri 1946  
MD Washington Univ in St. Louis 1948  

Jerry N Middleton, MD  
Instructor Emeritus in Clinical Obstetrics and Gynecology (primary appointment)  
Instr Emeritus in Clinical Ob & Gyn (primary appointment)  
MD Washington Univ in St. Louis 1963  
BA Westminster College 1959  

Mary Ann Middleton, MD  
Assistant Professor of Radiology (primary appointment)  
MD Medical College of Wisconsin 1982  
BS Univ of Wisconsin Whitewater 1974  

William D Middleton, MD  
Professor of Radiology (primary appointment)  
MD Duke University 1981  
BS Duke University 1977  

Jenny Lynn Miele, MD  
Instructor in Clinical Pediatrics (primary appointment)  
BS Valparaiso University 2001  
MD University of Illinois at Chic 2005  

Francis M Miezin, MS  
Associate Professor of Neurology (primary appointment)  
Associate in Psychology  
Associate Professor of Radiology  
MS Univ of Wisconsin Madison 1972  
BS Univ of Wisconsin Madison 1969  

Mary Kay Migneco, OD  
Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)  
BS University of Missouri 1986  
OD University of MO St Louis 1991  
BS1 University of Missouri 1986  

James R Mikolajczak, MD  
Assistant Professor of Clinical Psychiatry (primary appointment)  
MD Saint Louis University 1972  
BS Saint Louis University 1968  

Jeffrey D Milbrandt, PHD, MD  
James S McDonnell Professor of Genetics (primary appointment)  
Professor of Medicine  
Professor of Neurology  
Professor of Pathology and Immunology  
Head of the Department of Genetics  
PHD University of Virginia 1983  
MD Washington Univ in St. Louis 1978  
BS Univ of Nebraska at Kearney 1974  

Barry David Milder, MD  
Associate Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)  
MD Washington Univ in St. Louis 1973  

Benjamin Milder, MD  
Prof Emeritus Of Clinical Ophthalmol & VIs Sci (primary appointment)  
MD Washington Univ in St. Louis 1939  

Anna Noel Miller, MD  
Associate Professor of Orthopaedic Surgery (Pending Executive Faculty Approval) (primary appointment)  
BA Rice University 2001  
MD Baylor University 2005  

Brent William Miller, MD  
Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 1990
BS Stanford University 1986
Charles William Miller, Assistant Professor of Clinical Medicine (Dermatology) (primary appointment)

Christopher A Miller, PHD, Instructor in Medicine (primary appointment)
PHD Baylor University 2011
BS Truman State University 2005
BS1 Truman State University 2005

Donna C Miller, MD, Instructor in Clinical Pediatrics (primary appointment)
MD University of Miami 1982

Gary Arthur Miller, MD, Associate Professor of Orthopaedic Surgery (primary appointment)
MD Jefferson Medical College 1977
BA University of Chicago 1973

Heidi B Miller, MD, Instructor in Clinical Medicine (primary appointment)
BS Yale University 1994
MD Harvard University 2000

J. Philip Miller, Professor of Biostatistics (primary appointment)
Professor of Medicine
Tenure Held At-Large in the Medical School
BA Washington Univ in St. Louis 1965

James D. Miller, PHD, MA, Instructor in Audiology and Communication Sciences (primary appointment)
Instructor in Otolaryngology
PHD Indiana University Bloomington 1957
MA Indiana University Bloomington 1953
BS Univ of Wisconsin Madison 1951

James E Miller, MD, Professor Emeritus Of Clinical Ophthal & VIs Sci (primary appointment)
MD University of Alabama 1949
BS Tulane University 1946

Lara Elizabeth Miller, DOST, Instructor in Clinical Medicine (primary appointment)
DOST Midwestern University 2000
BS Carleton College 1996

Mark James Miller, PHD, Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology
BS University of California 1991
PHD University of California 1996

Mark L. Miller, B.E, Assistant Professor of Orthopaedic Surgery (primary appointment)
BE Stanford University 2004

Shondra Michelle Miller, PHD, Assistant Professor of Genetics (primary appointment)
PHD University of Texas Southwest 2008
BA University of Arkansas 2003

Suzanne Lee Miller, MD, Instructor in Clinical Pediatrics (primary appointment)
BS University of Illinois 1974
MD University of Illinois 1978

Timothy M Miller, Clayson Professor of Neurology (primary appointment)

Jule P. Miller Jr, Instructor in Clinical Psychiatry (primary appointment)

Jennifer Alaine Miller-Katsafanas, DPT, BBA, Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Obstetrics and Gynecology
BA University of MO St Louis 1996
DPT Washington Univ in St. Louis 2012
BBA University of MO St Louis 1996
Michelle M Miller-Thomas Assistant Professor of Radiology (primary appointment)
Jeffrey R Millman, PHD Assistant Professor of Medicine (primary appointment)

Assistant Professor of Biomedical Engineering
PHD Mass Inst of Technology (MIT) 2011
BS North Carolina State University 2005
Jason C Mills, MD, AB, PHD Professor of Medicine (primary appointment)

Professor of Developmental Biology
Professor of Pathology and Immunology
MD University of Pennsylvania 1997
BA Washington Univ in St. Louis 1989
AB Washington Univ in St. Louis 1989
PHD University of Pennsylvania 1997
MD1 University of Pennsylvania 1997
Lauren Elizabeth Milton, PHD Instructor in Occupational Therapy (Pending Dean's Approval)
(primary appointment)
BS1 Saint Louis University 2001
PHD Washington Univ in St. Louis 2008
Susan Minchin, PHD, MD Instructor in Clinical Psychiatry (primary appointment)
PHD University of Iowa 1991
MD University of Iowa 1991
BS Oregon St University 1981
Graeme Mindel, MS, MBBCH Instructor in Clinical Medicine (primary appointment)
MS University of the Witwatersra 1992
MBBCH University of the Witwatersra 1992
Jeffrey H Miner, PHD Professor of Medicine (primary appointment)

Professor of Cell Biology and Physiology
PhD California Institute Technolo 1991
Jonathan J Miner, MD Instructor in Medicine (primary appointment)
MD University of Oklahoma 2010
Marian A Minor, PHD, M PH Associate Professor of Occupational Therapy (primary appointment)
PHD University of Missouri 1989
BS University of Kansas 1965
M PH University of Missouri 1979
Khurram Rehman Mirza, MBBS Instructor in Medicine (primary appointment)
MBBS King Edward Medical College 2002
Elizabeth Tracy Mishler, MA, AUD Instructor in Audiology and Communication Sciences (primary appointment)

Instructor in Otolaryngology
MA Northwestern University 1981
BS Northwestern University 1980
AUD A.T. Still U of Health Science 2007
Tehmton S Mistry, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD University of Bombay 1968
Kevin Joseph Mitchell Instructor in Clinical Surgery (General Surgery) (primary appointment)
BS Howard University 1981
Timothy John Mitchell, PHD, MS, PHD *Instructor in Radiation Oncology* (primary appointment)
PHD Washington Univ in St. Louis 2011
MS Washington Univ in St. Louis 2007
BS John Carroll University 2005
PHD University of MO St Louis 2014
Yoshiko Mito, MS, PHD *Assistant Professor of Pathology and Immunology* (primary appointment)
MS University of Tokyo 2002
BS University of Tokyo 2000
PHD University of Washington 2007
Robi D. Mitra, PHD *Associate Professor of Genetics* (primary appointment)
Alvin Goldfarb Distinguished Professor of Computational Biology
PHD Mass Inst of Technology (MIT) 2000
Makedonka Mitreva, PHD, MS *Associate Professor of Medicine* (primary appointment)
Associate Professor of Genetics
PHD Wageningen University 2001
MS University of Skopje - Macedon 1994
Bettina Mittendorfer, PHD, MS *Professor of Medicine* (primary appointment)
PHD University of Texas Austin 1999
MS University of Vienna 1999
Duane L Mitzel, MD *Assistant Professor of Clinical Ophthalmology and Visual Sciences* (primary appointment)
BS University of California 2000
MD Washington Univ in St. Louis 1977
Eugene James Mobley *Adjunct Instructor in Ophthalmology and Visual Sciences* (primary appointment)
Robert L Mobley, OD *Adjunct Instructor in Ophthalmology and Visual Sciences* (primary appointment)
OD Illinois College of Optometry 1958
Stephen M Moerlein, MA, PHARMD *Associate Professor of Radiology* (primary appointment)
Associate Professor of Biochemistry and Molecular Biophysics
MA Washington Univ in St. Louis 1979
BS University of Illinois 1976
PHARMD University of Florida 2008
Durga Prasanna Mohapatra, PHD *Associate Professor of Anesthesiology* (primary appointment)
PHD University of Erlangen 2011
C. Scott Molden, MD *Instructor in Clinical Medicine* (primary appointment)
BA De Paul University 1968
MD Case Western Reserve Univ 1972
Jeffrey F Moley, MD *Professor of Surgery (General Surgery)* (primary appointment)
MD Columbia University 1980
BA Harvard University 1976
Kelle Harbert Moley *James Crane Professor of Obstetrics and Gynecology* (primary appointment)
Associate Professor of Cell Biology and Physiology
Vice Chairman for Basic Research, Department of Obstetrics and Gynecology
BA Wellesley College 1984
Hector D Molina-Vicent, MD *Associate Professor of Medicine* (primary appointment)
Associate Professor of Pathology and Immunology
Christopher Molitor, Instructor in Clinical Pediatrics (primary appointment)

David W. Molter, MD, Professor of Otolaryngology (primary appointment)

Cynthia L Monaco, MD, PhD, Instructor in Medicine (primary appointment)

Michael David Monaco, MD, Instructor in Medicine (primary appointment)

Joseph B Monahan, Adjunct Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)

Steven M Mondschein

Kelly Renee Monk, PhD, Associate Professor of Developmental Biology (primary appointment)

Ilya E. Monosov, MS, PhD, Assistant Professor of Neuroscience (primary appointment)

Jennifer Marie Monroy, MD, Assistant Professor of Medicine (primary appointment)

Barbara S Monsees, MD, Professor of Radiology (primary appointment)

David M Montani, Instructor in Clinical Psychiatry (primary appointment)

Austin F Montgomery, MD, Instructor in Clinical Medicine (primary appointment)

Grant William Montgomery, Adjunct Instructor in Psychiatry (primary appointment)

Mary Ann Montgomery, MBA, MD, Associate Professor of Clinical Psychiatry (primary appointment)

Gail Lynn Moolsintong, Instructor in Clinical Pediatrics (primary appointment)

Marc R Moon, MD, John M Shoenberg Professor of Surgery (Cardiothoracic Surgery) (primary appointment)

Amy M. Moore, MD, Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
Blake William Moore, PHD  Prof Emeritus Of Biochemistry In Psychiatry (primary appointment)
BS University of Akron 1948
PHD Northwestern University 1952
Darlene A. Moore, MD  Instructor in Clinical Pediatrics (primary appointment)
BS Eastern Illinois University 1974
MD University of Illinois 1978
Nathan Moore, MD  Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 2013
BS Texas College 2007
Robert Paul Moore, MD  Assistant Professor of Anesthesiology (primary appointment)
MD Washington Univ in St. Louis 2004
Stephen M Moore, MEE  Assistant Professor of Radiology (primary appointment)
BS1 Washington Univ in St. Louis 1981
BS Washington Univ in St. Louis 1981
MEE Washington Univ in St. Louis 1984
Timothy D Moore  Instructor in Clinical Medicine (primary appointment)
Alvaro Mora, MD  Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Universidad de Antioquia
Christopher J Moran, MD  Professor of Radiology (primary appointment)
Professor of Neurological Surgery
MD Saint Louis University 1974
BS University of Notre Dame 1970
Stewart Edward Moreland, DDENT  Instructor in Clinical Otolaryngology (DMD) (primary appointment)
BA University of Missouri 1978
DDENT Washington Univ in St. Louis 1983
Joshua L. Morgan, PHD  Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
Assistant Professor of Neuroscience
BA Florida Southern College 2001
PHD Washington Univ in St. Louis 2007
Kerri A Morgan, PHD, MS  Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Neurology
PHD Washington Univ in St. Louis 2015
MS Washington Univ in St. Louis 1998
BA Texas Christian University 1996
Mary R Morgan, MD  Instructor in Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1990
BA Miami University 1984
Daniel Morgensztern, MD  Associate Professor of Medicine (primary appointment)
MD FTE Souza Marques 1995
Sharon Celeste Morley, MD, PHD  Assistant Professor of Pediatrics (primary appointment)
Assistant Professor of Pathology and Immunology
MD Harvard University 2002
PHD Harvard University 2002
Jeffrey Stuart Mormoll  Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS Indiana University Bloomington 1986
Jose Moron-Concepcion, PHD
Associate Professor of Anesthesiology (primary appointment)
Associate Professor of Neuroscience
PHD University of Barcelona 1998

Daniel R. Morra
Instructor in Clinical Pediatrics (primary appointment)

Donald G Morris, MS, MD
Instructor in Clinical Medicine (primary appointment)
BA Benedictine College 1987
MS Saint Louis University 1989
MD University of Missouri 1993

John Carl Morris, MD
Harvey A and Dorismae Hacker Friedman Distinguished Professor of Neurology (primary appointment)
Professor of Physical Therapy
Professor of Pathology and Immunology
Professor of Occupational Therapy
MD University of Rochester 1974
BA Ohio Wesleyan University 1970

Samantha A Morris, PHD
Assistant Professor of Developmental Biology (primary appointment)
Assistant Professor of Genetics
BS1 University of London 2002
PHD Cambridge University 2007

Stephanie Morris, MD
Instructor in Neurology (primary appointment)
MD University of Phoenix 2011
BS University of Arizona 2007

Aubrey R Morrison, MBBS
Professor of Medicine (primary appointment)
Professor of Developmental Biology
MBBS University of London 1970

Jeremiah J Morrissey, PHD
Professor of Anesthesiology (primary appointment)
PHD Saint Louis University 1974
BA Macmurray College 1969

Michael Justin Morrissey, PHD
Instructor in Clinical Neurology (primary appointment)
PHD Saint Louis University 2005

Nima Mosammaparast, MD, PHD
Assistant Professor of Pathology and Immunology (primary appointment)
MD University of Virginia 2006
PHD University of Virginia 2005
BS University of Rochester 1998

Lisa Mae Moscoso, MD, PHD
Associate Professor of Pediatrics (primary appointment)
Associate Dean for Student Affairs
MD Washington Univ in St. Louis 1998
PHD Washington Univ in St. Louis 1998
BS Univ of Wisconsin Madison 1989

Julian C Mosley, MD
Instructor in Clinical Surgery (General Surgery) (primary appointment)
BS Saint Louis University 2000
MD Washington Univ in St. Louis 1972

Krista L Moulder, PHD
Associate Professor of Neurology (primary appointment)
PHD Washington Univ in St. Louis 2001

Hawnwan P Moy, MD
Instructor in Emergency Medicine in Medicine (primary appointment)
MD Loyola University Chicago 2008

Randi H Mozenter, MA
Instructor in Clinical Medical Psychology in Psychiatry (primary appointment)
Richard Gerard Mrad
Instructor in Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1980
MA Washington Univ in St. Louis 1982

Mike Max Mueckler, PHD
Professor of Cell Biology and Physiology (primary appointment)
Professor of Medicine
BA Univ of Wisconsin Madison 1976
PHD Univ of Wisconsin Madison 1982

Janet Gwen Mueller, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
BA Kansas State University 1985
MD Washington Univ in St. Louis 1992

Kristen L Mueller, MD
Instructor in Emergency Medicine in Medicine (primary appointment)
MD Medical College of Wisconsin 2010

Margaret M Mueller
Instructor in Clinical Pediatrics (primary appointment)

Michael Jeffrey Mueller, PHD, MHSP
Professor of Physical Therapy (primary appointment)
Division Director of Research in Physical Therapy
Professor of Radiology
PHD Washington Univ in St. Louis 1992
BS Washington Univ in St. Louis 1979
MHS Washington Univ in St. Louis 1984

Steven Mueth
Instructor in Clinical Pediatrics (primary appointment)
Faquir Muhammed
Instructor in Clinical Medicine (primary appointment)

Joshua Mutambuki Muia, PHD
Instructor in Medicine (primary appointment)
BA University of Nairobi 2003
PHD Western Michigan University 2010

Daniel Kast Mullady, MD
Associate Professor of Medicine (primary appointment)
MD University of Connecticut 2001

Daniel F Mullen, MS, DDENT
Assistant Professor of Radiation Oncology (primary appointment)
BS University of Missouri 1972
MS University of Missouri 1984
DDENT University of Missouri 1977

Monalisa Mullick
Assistant Professor of Medicine (primary appointment)

Michael E Mullins, MD
Associate Professor of Emergency Medicine in Medicine (primary appointment)
MD Hahnemann University 1987

Steven Robert Mumm, PHD, MS
Associate Professor of Medicine (primary appointment)
BS University of Missouri 1978
PHD Saint Louis University 1992
MS University of Missouri 1984

Nabil A Munfakh, MD
Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
MD University of Michigan 1985
BS University of Michigan 1981

Manohara Munimuddappa
Instructor in Clinical Pediatrics (primary appointment)

Robert F Munsch
Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
BA University of Colorado Boulder 1974

Mark C. Murawski, MD
BS Villanova University 1995
MD Saint Louis University 1999
Nathaniel H Murdock, MD Associate Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD Meharry Med College 1963
BS Howard University 1958
George E Murphy Prof Emeritus Of Psychiatry (primary appointment)
Kenneth M Murphy, MD, PHD Professor of Pathology and Immunology (primary appointment)
Howard Hughes Medical Institute Investigator in Pathology and Immunology
Eugene Opie First Centennial Professor of Pathology and Immunology
MD Johns Hopkins University 1984
PHD Johns Hopkins University 1984
Kevin J Murphy, MD Professor of Clinical Pediatrics (primary appointment)
MD Saint Louis University 1978
BS Birmingham Southern College 1974
Theresa L Murphy, PHD Associate Professor of Pathology and Immunology (primary appointment)
BS University of Arizona 1978
PHD Johns Hopkins University Med 1983
David J Murray, MD Carol B. and Jerome T. Loeb Professor of Anesthesiology (primary appointment)
MD University of Saskatchewan 1978
BS University of Saskatchewan 1973
Nancy Tye Murray Professor of Otolaryngology (primary appointment)
Professor of Audiology and Communication Sciences
Gian Marco Musarra Assistant Professor of Pediatrics (primary appointment)
Guido Musch, MD
MD University of Milan 1993
Amy Musiek, MD Associate Professor of Medicine (Dermatology) (primary appointment)
MD Vanderbilt University 2004
BS College of William and Mary 1999
Erik S Musiek, MD, PHD PMCG Assistant Professor of Neurology (primary appointment)
MD Vanderbilt University 2007
PHD PMCG Vanderbilt University 2005
BS College of William and Mary 1999
Helen I-Yun Mussemann, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA Rice University 1992
MD Beaufort Technical College 1996
David G Mutch, MD Ira C and Judith Gall Professor of Obstetrics and Gynecology (primary appointment)
BA Carleton College 1976
MD Washington Univ in St. Louis 1980
Matthew G Mutch, MD Professor of Surgery (General Surgery) (primary appointment)
MD Washington Univ in St. Louis 1994
BA St Olaf College 1990
Umadevi Muthyala Instructor in Clinical Medicine (primary appointment)
Sasa Mutic, MS Professor of Radiation Oncology (primary appointment)
MS University of Colorado Boulder 1996
BS Cameron University 1994
Terence M. Myckatyn, MD
Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
BS Univ of Northern British Colu 2003
MD Univ of Northern British Colu 1997

John A Myers, MD
Instructor in Clinical Pediatrics (primary appointment)
MD Southern Illinois Universiy S 1997
BA Washington Univ in St. Louis 1993

Raymond I Myers, OD
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Indiana University Bloomington 1970
BS University of Notre Dame 1966

Robert J Myerson, MD, PHD
Professor Emeritus of Radiation Oncology (primary appointment)
Prof Emeritus of Radiation Oncology (primary appointment)
BA Princeton University 1969
MD University of Miami 1980
PHD University of California 1974

Indira U Mysorekar, MS, PHD
Associate Professor of Obstetrics and Gynecology (primary appointment)
Associate Professor of Pathology and Immunology
MS University of Lund 1995
BS University of Lund 1994
PHD Washington Univ in St. Louis 2002

Randall Earl Nacke
Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)

Rakesh Nagarajan, PHD, MD
Adjunct Associate Professor of Pathology and Immunology (primary appointment)
PHD Washington Univ in St. Louis 2002
BA1 University of Virginia 1994
MD Washington Univ in St. Louis 2002
BA University of Virginia 1994

Elna M Nagasako, PHD, MD
Assistant Professor of Medicine (primary appointment)
BS Pomona College 1991
PHD University of Rochester 2001
MD Washington Univ in St. Louis 2007

Peter Nagele
Associate Professor of Anesthesiology (primary appointment)

Associate Professor of Genetics
Venkata S. Nagireddi
Instructor in Clinical Pediatrics (primary appointment)

Robert T Naismith II, MD
Associate Professor of Neurology (primary appointment)
MD Case Western Reserve Univ 1998

Tasnim A Najaf, MD
Assistant Professor of Pediatrics (primary appointment)
MD Dow Medical College Karachi 1991
Ayeshna Najib
Instructor in Clinical Pediatrics (primary appointment)

Rashmi R Nakra
Associate Professor of Clinical Psychiatry (primary appointment)
UNKNOWN Lady Hardings 1970

Ilke Nalbantoglu, MD
Assistant Professor of Pathology and Immunology (primary appointment)
MD Ege University 2000

Jyotirmaya Nanda
Instructor in Clinical Medicine (primary appointment)
Shannon Nanna
Nicola Napoli Adjunct Research Assistant Professor of Medicine (primary appointment)
Vamsi R. Narra Professor of Radiology (primary appointment)
Alison C Nash Professor of Clinical Pediatrics (primary appointment)

Michael J. Naughton, MD Associate Professor of Medicine (primary appointment)
MD State Univ of NY Buffalo 1993
BA Williams College 1989

Rosanne S Naunheim, MD Associate Professor of Emergency Medicine in Medicine (primary appointment)
MD University of Chicago 1978
BA Carleton College 1970

Robert F Nease Jr Adjunct Associate Professor of Medicine (primary appointment)

Philip Needleman, PHD Adjunct Professor of Molecular Biology and Pharmacology (primary appointment)
PHD University of Maryland 1964

Burton M Needles, MD Instructor in Clinical Medicine (primary appointment)
BS City College 1970
MD Loyola University Chicago 1974

John Gail Neely, MD Professor of Otolaryngology (primary appointment)
Professor of Occupational Therapy
BS University of Central Oklahom 1962
MD University of Oklahoma 1965

Lynn G Nelms Instructor in Clinical Pediatrics (primary appointment)

Christopher A Nelson, PHD Instructor in Pathology and Immunology (primary appointment)
PHD Washington Univ in St. Louis 1995
BS Univ of Wisconsin Madison 1985

Clarice Michelle Nelson, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD University of Kansas Medical 2011

Donald Michael Nelson, MD, PHD Virginia Lang Professor of Obstetrics and Gynecology (primary appointment)
MD Washington Univ in St. Louis 1977
BA Cornell College 1971
PHD Washington Univ in St. Louis 1977

Elliot C Nelson, MD Professor of Psychiatry (primary appointment)
MD University of Illinois 1986
BA Johns Hopkins University 1982

J. Roger Nelson, MD Asst Prof Emeritus Of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1953
BA Washington Univ in St. Louis 1949

Jeffrey Jerome Nepple Assistant Professor of Orthopaedic Surgery (primary appointment)
BS Truman State University 2003

Jeanne M Nerbonne, PHD Professor of Medicine (primary appointment)
Alumni Endowed Professor of Molecular Biology and Pharmacology in Developmental Biology
BS Framingham State College 1974
PHD Georgetown University 1978

April Erwin Nesin Instructor in Clinical Pediatrics (primary appointment)
Neal Neuman Instructor in Clinical Surgery (Urologic Surgery) (primary appointment)
Rosalind J Neuman, PHD, MAProf Emeritus of Psychiatry (primary appointment)
PHD Washington Univ in St. Louis 1981
BA Washington Univ in St. Louis 1960
MA Washington Univ in St. Louis 1974
Tara Marie Neumayr, MDAssistant Professor of Pediatrics (primary appointment)
BA Duke University 1999
MD Univ South Dakota Vermillion 2003
Elizabeth P. Newberry, PHDAssistant Professor of Medicine (primary appointment)
PHD Washington Univ in St. Louis 1995
BA Knox College 1988
Rodney D Newberry, MDPроfessor of Medicine (primary appointment)
BA Washington Univ in St. Louis 1987
MD Washington Univ in St. Louis 1991
Jason Guy Newland, MS, MDAssociate Professor of Pediatrics (Pending Executive Faculty Approval) (primary appointment)
MS University of Cincinnati 2011
MD University of Oklahoma 2000
Matthew Newman, MDAssistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BA Vanderbilt University 1956
MD Columbia University 1959
Amy C Ney, MDInstructor in Clinical Medicine (Dermatology) (primary appointment)
MD University of Virginia 2001
BS Mary Washington College 1997
Khai Ngo, MDInstructor in Clinical Pediatrics (primary appointment)
MD School Not Listed 1974
Khanh Nguyen, MDIstructor in Medicine (primary appointment)
MD University of Illinois Chicago 2013
BS Loyola University Chicago 2008
Nguyet Minh Nguyen, MDAssistant Professor of Medicine (primary appointment)
MD Wayne State University 1993
BS1 University of Michigan 1989
BS University of Michigan 1989
Ellen Margaret NicastroInstructor in Clinical Pediatrics (primary appointment)
Jennifer Lynn Nicholas, MA, MD, MHAAssistant Professor of Radiology (Pending Executive Faculty Approval) (primary appointment)
BA Miami University 1991
MA University of Colorado Boulder 1994
MD Duke University 2004
MHA University of North Carolina 2003
Johanna Grant Nicholas, MA, PHDAssociate Professor of Otolaryngology (primary appointment)
Associate Professor of Audiology and Communication Sciences
MA University of Northern Colora 1982
PHD Washington Univ in St. Louis 1990
BA University of Northern Colora 1978
Colin G Nichols, PHDProfessor of Cell Biology and Physiology (primary appointment)
Carl F Cori Professor
BS University of Leeds 1982
Paul F Nichols III, PHD
University of Leeds 1985
Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)

Ginger E. Nicol, MD
Assistant Professor of Psychiatry (Child Psychiatry) (primary appointment)
BA University of Iowa 1998
MD University of Iowa 2002

Ramzi T Nicolas
Adjunct Associate Professor of Pediatrics (primary appointment)

Joan M Niehoff, MD
Associate Professor of Anesthesiology (primary appointment)
MD University of MO Columbia 1982
BA University of MO Kansas City 1982

Carl Helge Nielsen, MD
Professor of Anesthesiology (primary appointment)
MD University of Copenhagen 1979

Susan Searles Nielsen, MA, PHD
Assistant Professor of Neurology (primary appointment)
MA University of Washington 2000
PHD University of Washington 2004

John Hart Niemeyer
Instructor in Clinical Radiology (primary appointment)

Thomas E Niesen, MD
Instructor in Clinical Surgery (General Surgery) (primary appointment)
BS Tulane University 1975
MD Tulane University 1979

Daniel C Nieva, MD
Assistant Professor of Anesthesiology (primary appointment)
MD University of Iowa 2003

Richard James Nissen, DDENT, MS
Assistant Professor of Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)
DDENT University of Iowa 1983
MS Washington Univ in St. Louis 1985
BS Iowa State University 1979

Anne Fagan Niven, PHD
Professor of Neurology (primary appointment)
BA Wellesley College 1984
PHD University of CA San Diego 1992

Bruce L Nock, PHD, MS
Associate Professor of Neurobiology in Psychiatry (primary appointment)
Associate Professor of Neuroscience
PHD Rutgers University 1981
BA Elizabethtown College 1969
MS Bucknell University 1975

Joan P Noelker, MD
Instructor in Emergency Medicine in Medicine (primary appointment)
MD Royal College of Surgeons 2010
BA University of Virginia 2004

Michael Justin Noetzel, MD
Professor of Neurology (primary appointment)
Professor of Pediatrics
Vice Chair of Pediatric and Developmental Neurology
BA Yale University 1973
MD University of Virginia 1977

Kevin K. Noguchi, MA, PHD
Assistant Professor of Psychiatry (primary appointment)
MA University of CA Los Angeles 1998
PHD University of CA Los Angeles 2003
BS University of CA Santa Barbara 1996

Amit Noheria
Assistant Professor of Medicine (primary appointment)

Lemuel Benedict R Non, MD
Instructor in Medicine (primary appointment)
BS Mindanao State University 2003
MD University of the Philippines 2008

Michael L Nonet, PHD
Associate Professor of Neuroscience (primary appointment)
BS University of CA Davis 1984
PHD Mass Inst of Technology (MIT) 1989

Scott Monroe Nordlicht, MD
Professor of Medicine (primary appointment)
BA Columbia University 1969
MD State University of New York 1973

Tracy Wynette Norfleet, MD
Instructor in Clinical Medicine (primary appointment)
MD Louisiana St Univ Hlth Sci 2002

Charles C Norland, MD
Prof Emeritus Of Clinical Medicine (primary appointment)
BS Washington St University 1955
UNKNOWN University of Chicago 1966
MD Washington Univ in St. Louis 1959

David Craig Norman, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
MD School Not Listed 1992
BS University of Illinois 1988

Scott Norris, MD
Assistant Professor of Neurology (primary appointment)
BA Washington Univ in St. Louis 2000
MD University of MO Columbia 2008

Barbara Jean Norton, MHS
Professor of Physical Therapy (primary appointment)
Associate Director for Education Technology in Physical Therapy
Professor of Neurology
MHS Washington Univ in St. Louis 1985
Karen K Norton, MD
Associate Professor of Clinical Pediatrics (primary appointment)
BS Loyola University 1985
MD Louisiana St University 1989

Deborah Veis Novack, PHD, MD
Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology
BA Princeton University 1987
PHD Washington Univ in St. Louis 1995
MD Washington Univ in St. Louis 1995

Thomas John Nowotny, MD
Assistant Professor of Clinical Psychiatry (primary appointment)
MD Washington Univ in St. Louis 1985
BS Washington Univ in St. Louis 1980
Douglaes Susumu Nozaki
Instructor in Clinical Pediatrics (primary appointment)
Anthony Ian Nunez
Instructor in Clinical Surgery (Cardio Surgery) (primary appointment)
Christian J Nunez, MD
Instructor in Pediatrics (primary appointment)
BA Washington Univ in St. Louis 2005
MD University of Illinois 2013
Marlynn Nunez
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Sabrina Nunez, PHD
Assistant Professor of Medicine (primary appointment)
PHD Stony Brook School of Medicine 2007
Ryan M. Nunley, MD
Associate Professor of Orthopaedic Surgery (primary appointment)
MD University of North Carolina 2002
BA Vanderbilt University 1998
Gilbert H Nussbaum, MA
Assoc Prof Emeritus Of Radiation Oncology (primary appointment)
UNKNOWN Harvard University 1962
MA Harvard University 1962
BS City College 1960

**Samuel R Nussbaum, MD**
Professor of Clinical Medicine (primary appointment)
MD School Not Listed 1973

**Brian Nussenbaum, MD**
Christy J. and Richard S. Hawes III Professor of Otolaryngology (primary appointment)
Vice Chair for Clinical Affairs, Department of Otolaryngology
MD New York University 1994
BA State Univ of NY Binghampton 1990

**Oroma Beatrice Afiong Nwanodi**
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD New York University 1994
BA State Univ of NY Binghampton 1990

**Sydney Marie Nykiel-Bailey**
Assistant Professor of Anesthesiology (primary appointment)
BS Saint Louis University 2001

**Laura James Nywening, MD**
Instructor in Obstetrics and Gynecology (primary appointment)
BS University of Florida 2007
MD University of Florida 2011

**Kevin Sullivan O’Bryan, MD**
Instructor in Pediatrics (primary appointment)
MD University of Michigan 2010

**Brendan Joseph O’Connor, MD**
Assistant Professor of Psychiatry (primary appointment)
MD Creighton University 2010
BS Creighton University 2006

**Shawn David O’Connor, MD**
Instructor in Pediatrics (Pending Dean’s Approval) (primary appointment)
MD Medical College Georgia 2010
BS University of Georgia 2006

**G Patrick O’Donnell, MD**
Instructor in Clinical Medicine (primary appointment)
BA University of Kansas 1972
MD School Not Listed 1977

**Regis James O’Keefe, MD, PHD**
Fred C Reynolds Professor of Orthopaedic Surgery (primary appointment)
Head of the Department of Orthopaedic Surgery
MD Harvard University 1985
BA Yale University 1981

**Karen Laurel O’Malley, MS, PHD**
Professor of Neuroscience (primary appointment)
MS Portland St University 1973
BA Sonoma State University 1971
PHD University of Texas Austin 1980

**Julie O’Neal, PHD**
Instructor in Medicine (primary appointment)
BS University of MO Columbia 1999
PHD Washington Univ in St. Louis 2009

**Patricia L O’Neal**
Prof Emeritus Of Clinical Psychiatry (primary appointment)

**Jerome H O’Neil Jr, MD**
Assistant Professor of Clinical Pediatrics (primary appointment)
MD Saint Louis University 1981
BA University of Missouri 1977
Patrick Ross O'Neill, Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)

Nadia Mariana Obeid, MS, MD, Instructor in Surgery (General Surgery) (primary appointment)
BS University of Michigan 2003
MS Wayne State University 2005
MD Wayne State University 2009

Lamar H Ochs, MD, Instructor Emeritus In Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1941
MD Washington Univ in St. Louis 1944

Andrew John Odden, MD, Assistant Professor of Medicine (primary appointment)
BS Gustavus Adolphus College 2003
MD University of Minnesota 2007

Randall Odem, MD, Professor of Obstetrics and Gynecology (primary appointment)
MD University of Iowa 1981

Devin Christopher Odom, MD, Instructor in Medicine (primary appointment)
MD Wake Forest University 2010

Justin O Ogbevden, MBBS, Instructor in Clinical Pediatrics (primary appointment)
MBBS University of Lagos 1982

Margaret A Ogden, MD, Associate Professor of Otolaryngology (primary appointment)
BA Amherst College 1997
MD Washington Univ in St. Louis 2002

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PHD Harvard University 1983
MA Harvard University 1978
BS Brown University 1976
PHD1 Harvard University 1983

Stephen T. Oh, PHD, MD, Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
PHD Northwestern University 2002
MD Northwestern University 2004
BS Harvard University 1996

Kevin Kenneth Ohlemiller, PHD, Associate Professor of Otolaryngology (primary appointment)
Associate Professor of Audiology and Communication Sciences
BS Indiana University Bloomington 1983
PHD Northwestern University 1990

Chukwuma Mbonu Okoroji, Instructor in Clinical Obstetrics and Gynecology (primary appointment)

Edward Okun, MD, Prof Emeritus Of Clinical Ophthalmol & VIs Sci (primary appointment)
BS Dartmouth College 1952
MD University of Vermont 1956

Adewole L. Okunade, PHD, Assistant Professor of Medicine (primary appointment)
BS University of Ibadan 1975
PHD University of Ibadan 1981

Folasade Oladapo, MD, Assistant Professor of Anesthesiology (primary appointment)
MD U Medical-Dental Of New Jersey 2008

George A Oliver, MD, Assistant Professor Emeritus of Clinical Surgery (General Surgery) (primary appointment)
Asst Prof Emeritus of Clin Surg (Gen Surg) (primary appointment)
Asst Prof Emeritus of Clin Surgery (Gen Surg) (primary appointment)
BA Washington Univ in St. Louis 1948
MD Washington Univ in St. Louis 1952
George Charles Oliver, MD Professor Emeritus of Clinical Medicine (primary appointment)
Prof Emeritus of Clinical Medicine (primary appointment)
BA Harvard University 1953
MD Harvard University 1957
Paul D Olivo, PHD, MD Adjunct Assistant Professor of Molecular Microbiology (primary appointment)
PHD University of Florida 1982
BA George Washington University 1972
MD University of Florida 1981
Margaret Olsen, PHD, MPH Professor of Medicine (primary appointment)
Professor of Surgery (Public Health Sciences)
PHD University of Pennsylvania 1986
MPH Saint Louis University 2001
BS Southern Illinois University 1976
Eugene Merle Oltz, PHD Professor of Pathology and Immunology (primary appointment)
PHD Columbia University 1987
BS Cornell University 1982
Gary H Omell, MD Assistant Professor of Clinical Radiology (primary appointment)
MD University of Tennessee 1967
Kenan Rifat Omurtag, MD Assistant Professor of Obstetrics and Gynecology (primary appointment)
MD University of MO Kansas City 2006
BA University of MO Kansas City 2006
Robert F Onder Jr, MD Assistant Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1987
BA Washington Univ in St. Louis 1983
Michael D Onken, PHD Assistant Professor of Biochemistry and Molecular Biophysics (primary appointment)
PHD Washington Univ in St. Louis 2000
BA Washington Univ in St. Louis 1990
Kalu Onuma Instructor in Clinical Psychiatry (primary appointment)
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MD University of MO Columbia 2008
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BA Washington Univ in St. Louis 1960
MD Saint Louis University 1965
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MD University of Miami 1979
BS Yale University 1975
Margaret McCarthy Ormonde Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS University of Missouri 1983
David M Ornitz, PHD, MD Alumni Endowed Professor of Developmental Biology (primary appointment)
Andrea Cohron Orr, Instructor in Clinical Pediatrics (primary appointment)

Valerie Orrico, Instructor in Clinical Pediatrics (primary appointment)

Rachel C. Orscheln, MD, Assistant Professor of Pediatrics (primary appointment)

David William Ortbals, MD, Assistant Professor of Clinical Medicine (primary appointment)

Cynthia M. Ortinau, MD, Assistant Professor of Pediatrics (Pending Executive Faculty Approval) (primary appointment)

Irma I Ortiz-Arroyo, Assistant Professor of Clinical Pediatrics (primary appointment)

Daniel Scott Ory, MD, Professor of Medicine (primary appointment)

Alan A and Edith L Wolff, Professor of Cardiology

Al and Edith L Wolff, Professor of Cardiology

Amir Mordechai Oryan, Visiting Assistant Professor of Pediatrics (primary appointment)

Tiffany Medlin Osborn, M PH, MD, Associate Professor of Surgery (General Surgery) (primary appointment)

Joshua William Osbun, MD, Assistant Professor of Neurosurgery (Pending Executive Faculty Approval) (primary appointment)

Daniel Akwasi Osei, Assistant Professor of Orthopaedic Surgery (primary appointment)

Richard E Ostlund Jr, MD, Professor of Medicine (primary appointment)

Alison H Oswald, Instructor in Clinical Pediatrics (primary appointment)

F. Thomas Ott, MD, Asst Prof Emeritus Of Clin Ophthl & Vls Sci (primary appointment)

Theodore Otti, Instructor in Clinical Medicine (primary appointment)

Jiafu Ou, MD, Assistant Professor of Medicine (primary appointment)

Edgar Turner Overton, MD, Adjunct Assistant Professor of Medicine (primary appointment)

Robert F Owen, MD, Instr Emeritus In Clinical Medicine (primary appointment)
William D Owens, MD Prof Emeritus of Anesthesiology (primary appointment)

Akin K A Owoso, MD Assistant Professor of Psychiatry (primary appointment)

Vani Pachalla, MD Instructor in Clinical Medicine (primary appointment)

Russell Kent Pachynski, MD Assistant Professor of Medicine (primary appointment)

Robert C Packman, MD Professor of Clinical Medicine (primary appointment)

Pamela B Padda, MD Instructor in Clinical Pediatrics (primary appointment)

Camillo Padoa-Schioppa, PhD Associate Professor of Neuroscience (primary appointment)

Jeffrey Robert Padousis, MD Instructor in Clinical Ophthalmology and Visual Science (primary appointment)

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Stephen C Pak, PhD Associate Professor of Pediatrics (Pending Executive Faculty Approval) (primary appointment)

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Hua Pan, MS Assistant Professor of Medicine (primary appointment)

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Peter D Panagos Associate Professor of Emergency Medicine in Medicine (primary appointment)

Associate Professor of Neurology
Jennifer Ann Panasci, Instructor in Clinical Pediatrics (primary appointment)

Anupam S Pande, MBBS, MS, Instructor in Medicine (primary appointment)

Joseph Pangelinan, PhD, Assistant Professor in Medicine (primary appointment)

Parag J. Parikh, MD, Associate Professor of Radiation Oncology (primary appointment)

Sharad P Parikh, Instructor in Clinical Surgery (General Surgery) (primary appointment)

Bijal A. Parikh, PhD, MD, Instructor in Pathology and Immunology (primary appointment)

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Associate Professor of Biomedical Engineering

MD Washington Univ in St. Louis 2001

BS Case Western Reserve Univ 1997

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PHD University of CA Berkeley 2013

ME The Catholic Univ of Korea 2009

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MD Seoul National University 2006

BS Seoul National University 2001

MS Johns Hopkns University Medic 2007

Stephanie Sun-Young Park, Instructor in Clinical Medicine (primary appointment)

Tae Sung Park, MD, Shi Hui Huang, Professor of Neurological Surgery (primary appointment)

Professor of Neuroscience

Professor of Pediatrics

MD Yonsei University 1971

BS Yonsei University 1967

Yikyung Park, PhD, Associate Professor of Surgery (Public Health Sciences) (primary appointment)

MS1 EWHA Womans University 1996

PHD Harvard University 2005

BS EWHA Womans University 1994

Charles L Parks, Instructor in Clinical Surgery (General Surgery) (primary appointment)

BS University of South Dakota 1967

David A Parks, MD, MBA, Associate Professor of Clinical Medicine (primary appointment)

MD Saint Louis University 1994

BS University of MO Rolla 1979

MBA Southern Illinois University 1985

Deborah L Parks, MD, Professor of Medicine (primary appointment)

BA Washington Univ in St. Louis 1978

MD University of Louisville 1982
Laura Anne Parks, MD  
Associate Professor of Obstetrics and Gynecology (primary appointment)  
BA University of Kansas 1998  
BS University of Kansas 1998  
MD University of Kansas 2004

Diana C. Parra Perez, MS, PHD  
Assistant Professor of Physical Therapy (primary appointment)  
Assistant Professor of Surgery (Prevention and Control)  
MS Saint Louis University 2008  
PHD Washington Univ in St. Louis 2013  
BA Universidad del Rosario 2001

Jeffrey Andrew Parres, MD  
Instructor in Clinical Surgery (Urologic Surgery) (primary appointment)  
MD University of Missouri 1987

Shadi Parsaei, DOST  
Instructor in Medicine (primary appointment)  
BS University of Louisville 2002  
DOST Chicago Coll of OsteopathicMed 2007

Matthew S Parsons, MD  
Assistant Professor of Radiology (primary appointment)  
MD University of Cincinnati 2000  
BA Miami University 1995

Robert T Paschall, MD  
Prof Emeritus of Pediatrics (primary appointment)  
MD University of Tennessee 1974  
BS University of Tennessee 1967

Michael K Pasque, MD  
Professor of Surgery (Cardiothoracic Surgery) (primary appointment)  
Professor of Radiology  
Professor of Biomedical Engineering  
MD University of Oklahoma 1978

Pablo Pastor, MD  
Visiting Instructor in Psychiatry (primary appointment)  
MD University of Barcelona 2001  
Dilip H. Patel  
Instructor in Clinical Medicine (primary appointment)

Kamlesh Babulal Patel, MD  
Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)  
MD University of Arizona 2005  
BS University of MO Kansas City 2000

Meera Raman Patel, MD  
Instructor in Clinical Obstetrics and Gynecology (primary appointment)  
MD University of MO Kansas City 1996  
Pravinkumar Manjibhai Patel  
Instructor in Medicine (primary appointment)

Rajiv Nanu Patel, MD  
Instructor in Clinical Medicine (primary appointment)  
MD Saba University School of Med 2001

Rupa R Patel  
Assistant Professor of Medicine (primary appointment)  
BA University of Michigan 2000

Urvi Patel, MD  
Assistant Professor of Medicine (Dermatology) (primary appointment)  
BA Kent St University 2007  
MD University of Tenn Memphis 2011  
Vaiibhav Patel  
Instructor in Medicine (primary appointment)

Anjali K Pathak, MD  
Associate Professor of Ophthalmology and Visual Sciences (primary appointment)  
MD1 West Virginia University 1997  
BA West Virginia University 1993  
BS West Virginia University 1993  
MD West Virginia University 1997
Sheel Jitendra Pathak, Instructor in Clinical Neurology (primary appointment)  
Amanullah Pathan, MS, Instructor in Clinical Medicine (primary appointment)  
UNKNOWN1 School Not Listed 1969  
MS School Not Listed 1969  
Debabrata Patra, PHD, MS, Assistant Professor of Orthopaedic Surgery (primary appointment)  
BS University of Bombay 1985  
PHD University of Pittsburgh 1993  
MS University of Bombay 2005  
Bruce Patterson, PHD, Professor of Medicine (primary appointment)  
PHD University of Illinois 1980  
BS Southern Illinois University 1974  
G. Alexander Patterson, Joseph C Bancroft Professor of Surgery (Cardiothoracic Surgery) (primary appointment)  
Robert Harris Paul, PHD, MS, Adjunct Assistant Professor of Neurology (primary appointment)  
PHD Oklahoma St University 1998  
BS California State Long Beach 1993  
MS Oklahoma St University 1995  
Katrina Paumier, PHD, PHD, Assistant Professor of Neurology (Pending Executive Faculty Approval) (primary appointment)  
PHD University of Cincinnati 2015  
PHD University of Cincinnati 2014  
Slavica Pavlovic Djuranovic, DIP, PHD, Instructor in Cell Biology and Physiology (primary appointment)  
DIP UNIVERSITY OF BELGRADE 2001  
BS UNIVERSITY OF BELGRADE 1999  
PHD University of Tubingen 2006  
Philip Richard Orrin Payne, MA, Professor of Medicine (primary appointment)  
Robert J Terry Professor  
Professor of Computer Science and Engineering  
MA Columbia University 2000  
BA University of CA San Diego 1999  
Jacqueline Elise Payton, PHD, MD, Assistant Professor of Pathology and Immunology (primary appointment)  
PHD University of Illinois 2002  
MD University of Illinois 2004  
BS Bradley University 1996  
Margaret Grace Peak, MA, PHD, Adjunct Assistant Professor of Otolaryngology (Audiology) (primary appointment)  
BS Maryville University 1959  
MA Saint Louis University 1961  
PHD Columbia University 1975  
Alan L Pearlman, MD, Prof Emeritus Of Neurology (primary appointment)  
MD Washington Univ in St. Louis 1961  
BA University of Iowa 1958  
Anthony Craig Pearlstone, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)  
BA Washington Univ in St. Louis 1981  
MD Washington Univ in St. Louis 1985
Chelsea Elizabeth Pearson, MD Instructor in Clinical Medicine (primary appointment)  
MD Washington Univ in St. Louis 2013

Susan E Pearson, MS, PHD, BFA, DOST Instructor in Clinical Medicine (primary appointment)  
MS Central Michigan University 1984  
PHD University of Southwestern Lo 1986  
BFA Southern Methodist University 1977  
DOST School Not Listed 1992

Toni Shih Pearson, B MUS, MD Associate Professor of Neurology (primary appointment)  
B MUS University of Adelaide 2000  
MD University of Adelaide 1998

William A Peck, MD Professor of Medicine (primary appointment)  
Alan A and Edith L Wolff Distinguished Professor  
Director, Center for Health Policy  
Affiliated Professor of Engineering  
MD University of Rochester 1960

Katrina Sophia Pedersen, MS, MD Assistant Professor of Medicine (primary appointment)  
MS University of Iowa 2005  
BA Grinnell College 2003  
MD Southern Illinois University 2009

Jonathan Erik Peelle, BAS, PHD, MS PSYC Assistant Professor of Otolaryngology (primary appointment)  
Assistant Professor of Psychological & Brain Sciences  
BAS Houghton College 1999  
PHD Brandeis University 2005  
MS PSYC Brandeis University 2002

David M Peeples, MD Instructor in Clinical Neurology (primary appointment)  
BA Vanderbilt University 1982  
MD University of Chicago 1986

Patricia A. Penkoske Instructor in Anesthesiology (primary appointment)  
BS Lindenwood University 1969

Michael W Penney, MD Associate Professor of Radiology (primary appointment)  
MD University of AR Little Rock 1996  
BS University of Arkansas 1992

Karen J Pentella, MD Assistant Professor of Clinical Neurology (primary appointment)  
MD Ohio State University 1979  
BS Ohio State University 1975

Jay S Pepose, PHD, MA, MD Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)  
BA Brandeis University 1975  
PHD University of California 1980  
MA Brandeis University 1975  
MD University of CA Los Angeles 1982

Marybeth Pereira Associate Professor of Clinical Medicine (primary appointment)  
BA Swarthmore College 1973

Carlos A Perez Prof Emeritus of Radiation Oncology (primary appointment)

Julio E Perez, MD Professor of Medicine (primary appointment)  
BS University of Puerto Rico 1970  
MD University of Puerto Rico 1973
Enrique Pedro Perinetti, PHD, MD Instructors in Clinical Surgery (Urologic Surgery) (primary appointment)
PHD School Not Listed 1975
MD School Not Listed 1969

Stephanie Mabry Perkins, MD Associate Professor of Radiation Oncology (primary appointment)
BS Union University 2001
MD University of Tenn Memphis 2005

David H Perlmutter, MD Executive Vice Chancellor for Medical Affairs (primary appointment)
Dean of the School of Medicine
Professor of Pediatrics
BS1 University of Rochester 1974
MD Saint Louis University 1978

Joel S Perlmutter, MD Professor of Neurology (primary appointment)
Professor of Radiology
Professor of Occupational Therapy
Professor of Neuroscience
Professor of Physical Therapy
MD University of MO Columbia 1979
BA Princeton University 1975

John Craig Perlmutter, MD Associate Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MD Cornell University 1971
BA Queens College 1967

Monica S Perlmutter, OTD, MA, BSOT Associate Professor of Occupational Therapy (primary appointment)
Associate Professor of Ophthalmology and Visual Sciences
OTD Washington Univ in St. Louis 2012
MA Washington Univ in St. Louis 1989
BSOT University of MO Columbia 1981

Laurence F Perlstein, MD Instructor in Clinical Medicine (primary appointment)
MD University of Louisville 1974
BS Tulane University 1967

Michael James Pernoud, DDENT Instructor in Clinical Otolaryngology (primary appointment)
DDENT University of Missouri 1975
BA Saint Louis University 1971

Richard J. Perrin, MD, PHD Assistant Professor of Pathology and Immunology (primary appointment)
MD Johns Hopkns University Medic 1970
BS Princeton University 1966

Steven E Petersen, PHD James S McDonnell Professor of Cognitive Neuroscience in Neurology (primary appointment)
Professor of Neuroscience
Professor of Radiology
Professor of Psychology
Professor of Biomedical Engineering
Associate Professor of Neurological Surgery (Neuropsychology)
PHD California Institute Technolo 1982
BA University of Montana Missoula 1974

Linda R Peterson, MD
Associate Professor of Medicine (primary appointment)
Associate Professor of Radiology
BS Georgetown University 1986
MD Washington Univ in St. Louis 1990

Lindsay L Peterson, MD
Assistant Professor of Medicine (primary appointment)
BS Tulane University 2000
MD Tulane University 2006

Stephen E Peterson
Instructor in Clinical Psychiatry (Child) (primary appointment)

Timothy Richard Peterson
Assistant Professor of Medicine (primary appointment)
BS University of Michigan 1999

Orlando Petrucci, MD, PHD, MS
Assistant Professor of Surgery (Cardiothoracic Surgery) (Pending Executive Faculty Approval) (primary appointment)
MD University of Campinas 1991
PHD University of Campinas 2004
MS University of Campinas 2001

Allegra Petti
Instructor in Medicine (primary appointment)
BS Lawrence University 2003

John David Pfeifer, MD, PHD
Professor of Pathology and Immunology (primary appointment)
Professor of Obstetrics and Gynecology
Vice Chairman for Clinical Affairs of Pathology and Immunology
MD University of California 1988
PHD University of California 1987
BA University of California 1981

Christine T Pham
Associate Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
BS University of Florida 1981

Benjamin Allen Philip
Instructor in Occupational Therapy (primary appointment)
Instructor in Neurology

Jennifer A Phillips, MD, PHD, PHD
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Molecular Microbiology
MD University of CA San Francisco 2000
PHD University of CA San Francisco 1998
PHD University of CA San Francisco 2015
BA Columbia University 1991

Daniel Phillips
Assistant Professor of Clinical Neurology (primary appointment)

William J Phillips, MD
Assistant Professor of Clinical Medicine (primary appointment)
BA Ohio State University 1959
MD Washington Univ in St. Louis 1963

Jane Phillips Conroy, PHD, MA
Professor of Anatomy (primary appointment)
Professor of Anthropology
PHD New York University 1978
BA Brandeis University 1969
MA New York University 1973
Gordon W Philpott Prof Emeritus Of Surgery (Gen Surg) (primary appointment)
Prof Emeritus Of Surgery (general Surg) (primary appointment)
BS Yale University 1957
Timothy Charles Philpott, MD Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD Washington Univ in St. Louis 1994
Supote Phipatanakul, MD Assistant Professor of Clinical Otolaryngology (primary appointment)
MD Chulalongkorn University 1965
Chia Ling Phuah Assistant Professor of Neurology (primary appointment)
MS1 Cambridge University 2007
Laura Piccio, MD Associate Professor of Neurology (primary appointment)
MD University of Milan 1997
Jay Francis Piccirillo Professor of Otolaryngology (primary appointment)
Vice Chairman for Research, Dept of Otolaryngology
Professor of Medicine
Professor of Occupational Therapy
Professor of Biostatistics
BA University of Vermont 1979
Daniel D Picus, MD Professor of Radiology (primary appointment)
Professor of Surgery (General Surgery)
Vice Chair for Diagnostic Radiology in Radiology
MD University of Chicago 1981
BS1 University of Illinois 1977
BS University of Illinois 1977
Joel Picus, MD Professor of Medicine (primary appointment)
MD Harvard University 1984
BS University of Illinois 1979
BA University of Illinois 1979
Stephen J Pieper, MD Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1988
James Vernon Piepho, MD Instructor in Clinical Radiation Oncology (primary appointment)
MD University of South Carolina 1989
BS Citadel 1985
Brian Pierce, MD Instructor in Medicine (primary appointment)
MD Wayne State University 2013
John A Pierce, MD Prof Emeritus Of Medicine (primary appointment)
MD University of Arkansas 1948
Linda J Pike, PHD Alumni Endowed Professor of Biochemistry and Molecular Biophysics (primary appointment)
PHD Duke University 1980
BS University of Delaware 1975
Aaron Juan Pile, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD School Not Listed 1983
BA Norfolk State University 1980
Zachary Scott Pincus Assistant Professor of Genetics (primary appointment)
Assistant Professor of Developmental Biology
Jorge Pineda, MD Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
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Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Pediatrics
PHS University of Florida 2006
MHS University of Florida 1994

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Associate Professor of Pediatrics (primary appointment)
Associate Professor of Neurology
BS Francisco Marroquin University 1988
MD Francisco Marroquin University 1993

Christopher James Pingel, MD
Instructor in Pediatrics (primary appointment)
BS Washington Univ in St. Louis 2003

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Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 2004

Terrence L Piper, MD
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BA Saint Louis University 1971
MD Saint Louis University 1975

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Instructor in Otolaryngology (Pending Dean's Approval) (primary appointment)
MD University of Gothenburg 2007

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PHD University of Illinois 1989
BS Grinnell College 1984
MS University of Illinois 1985

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BS Oberlin College 1998
MD Washington Univ in St. Louis 2004
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BA St Olaf College 1979
PHD Duke University 1984

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MD Kent St University 1987

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Assistant Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1993
BA Brown University 1988

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BA Brown University 1989
MD University of Rochester 1996

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BA1 Washington Univ in St. Louis 1957
MD University of Missouri 1961
BA Washington Univ in St. Louis 1957

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PHD University of Pierre et Marie 1994

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BS Washington & Lee 1979
Santiago Boye Plurad Jr, MD, Assistant Professor of Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1982
MD School Not Listed 1987

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PHD Washington St University 2011

Doug Pogue, MD, Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1996

Robert Francis Poirier Jr, MD, Assistant Professor of Emergency Medicine in Medicine (primary appointment)
MD American U of Carribean SchMed 1999

Donovan Polack, MD, Assistant Professor of Clinical Medicine (primary appointment)
MD Cornell University 1979

Gregory Polites, MD, Associate Professor of Emergency Medicine in Medicine (primary appointment)
MD University of Illinois Chicago 1996

Mary Politi, M PHIL, Associate Professor of Surgery (General Surgery) (primary appointment)
M PHIL George Washington University 2004
BS Barnard College 2001

Juanita C Polito-Colvin, MD, Associate Professor of Clinical Pediatrics (primary appointment)
BA University of Dallas 1975
MD Southwest Texas State Univers 1979

Alex Politsmakher, MD, Assistant Professor of Medicine (primary appointment)
BA Yeshiva University 1997
MD Ross Univ School of Medicine 2002

David Gerard Politte, MEE, D SC, Assistant Professor of Radiology (primary appointment)
MEE Washington Univ in St. Louis 1983
BS Washington Univ in St. Louis 1981
D SC Washington Univ in St. Louis 1999

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MBBCH University of the Witwatersra 1973

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BS Stanford University 1979
MD Washington Univ in St. Louis 1983

Makawaiwee Pongruangporn, MD, Instructor in Clinical Medicine (primary appointment)
MD Chiang Mai University 2001

Maria Rosana Ponisio, MD, Instructor in Radiology (primary appointment)
MD La Plata University 1990

Harish Ponnuru, MD, Instructor in Clinical Medicine (primary appointment)
BA University of MO Kansas City 1995
MD University of Missouri 1995

Gerald Raymond Popelka, Adjunct Professor of Otolaryngology (primary appointment)

Steven Paul Poplack, MD, Associate Professor of Radiology (primary appointment)
BS Stanford University 1984
MD Boston University 1988

Lee S Portnoff, Assistant Professor of Clinical Medicine (Dermatology) (primary appointment)
Daniel E Potts, MD  Associate Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1972
BS Beaufort Technical College 1968
Lisa Gayle Potts, PHD, MS  Assistant Professor of Otolaryngology (primary appointment)
Assistant Professor of Audiology and Communication Sciences
BS Southern Illinois University 1988
PHD Washington Univ in St. Louis 2006
MS Washington Univ in St. Louis 1991
William G Powderly, MD  J. William Campbell Professor of Medicine (primary appointment)
Director for the Institute of Public Health
MD National University of Ireland 1979
John A Powell  Assistant Professor of Clinical Medicine (Dermatology) (primary appointment)
BS University of Notre Dame 1967
Matthew A Powell, MD  Associate Professor of Obstetrics and Gynecology (primary appointment)
MD Michigan State University 1995
BS Washington St University 1990
Stephanie K Powell, PHD, MS  Instructor in Clinical Neurology (primary appointment)
PHD Univ of Wisconsin Milwaukee 2004
MS Univ of Wisconsin Milwaukee 2000
Jennifer Lynn Powers  Assistant Professor of Medicine (Pending Executive Faculty Approval) (primary appointment)
William John Powers, MD  Adjunct Professor of Neurology (primary appointment)
BA Dartmouth College 1971
MD Cornell University 1975
Diana A Prablek, MD  Instructor in Clinical Medicine (primary appointment)
BA Texas Christian University 1984
MD Southwestern University 1988
Lawrence Prablek, MD  Instructor in Clinical Medicine (primary appointment)
BS Southern Methodist University 1984
MD University of Texas Southwest 1988
Simeon Prager, MD  Assistant Professor of Clinical Medicine (primary appointment)
MD University of California 1991
Vajravel M Prasad  Adjunct Instructor in Medicine (primary appointment)
Heidi Prather, DOST  Professor of Orthopaedic Surgery (primary appointment)
Professor of Neurology
DOST Univ of Health Sciences KC 1991
BA Drury College 1987
David J Prelutsky  Associate Professor of Clinical Medicine (primary appointment)
BA Northwestern University 1975
Arthur L Prensky, MD  Prof Emeritus Of Neurology (primary appointment)
BA Cornell University 1951
MD New York University 1955
Rachel M. Presti, PHD, MD  Assistant Professor of Medicine (primary appointment)
BA Scripps College 1990
PHD Washington Univ in St. Louis 2001
MD Washington Univ in St. Louis 2001
Claudia Preuschoff  Instructor in Clinical Pediatrics (primary appointment)
Elizabeth F Pribor, MD
Associate Professor of Clinical Psychiatry (primary appointment)
BA Emory University 1981
MD Saint Louis University 1985

Joseph L Price, PHD
Prof Emeritus of Anatomy & Neurobiology (primary appointment)
PHD Oxford University 1969
BA1 Oxford University 1966
BA University of the South 1963

Madelon T Price, PHD
Resrch Prof Emeritus Of Neurobiology In Psych (primary appointment)
BA Washington Univ in St. Louis 1953
PHD Washington Univ in St. Louis 1973

Rumi Kato Price, PHD, MA, MPE
Professor of Psychiatry (primary appointment)
PHD University of California 1988
MA University of California 1982
BA Ochanomizu Univ 1976
MPE Washington Univ in St. Louis 1990

Jasmina Profirovic, PHD
Adjunct Assistant Professor of Cell Biology and Physiology (primary appointment)
PHD University of Illinois Chicago 2005
BS University of Belgrade 1997

Michael A Province, MA
Professor of Genetics (primary appointment)
Professor of Biostatistics
BA University of Dallas 1973
MA Washington Univ in St. Louis 1979

John R. Pruett Jr, PHD
Associate Professor of Psychiatry (Child Psychiatry) (primary appointment)
Associate Professor of Radiology
Associate Professor of Psychological & Brain Sciences (Courtesy)
PHD Washington Univ in St. Louis 2000
BA Princeton University 1990

Cassandra Michelle Pruitt, MD
Associate Professor of Pediatrics (primary appointment)
MD Texas Tech University 1999
BA Emory University 1994

Aaron J Pugh
Adjunct Instructor in Medicine (primary appointment)

Debra D Pulley, MD, MME
Associate Professor of Anesthesiology (primary appointment)
BS Vanderbilt University 1978
MD Saint Louis University 1987
MME University of MO Columbia 1982
Laurie Jean Punch
Assistant Professor of Surgery (General Surgery) (primary appointment)

James A Purdy, PHD, MA
Emeritus Professor of Radiation Oncology (primary appointment)
Prof Emeritus of Radiation Oncology (primary appointment)
PHD University of Texas Austin 1971
BS Lamar University 1967
MA University of Texas Austin 1969

Varun Puri, MD, MS
Associate Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
MD Washington Univ in St. Louis 2009
MS Creighton University 2007

Mabel Louise Purkerson, MD
Prof Emeritus Of Medicine (primary appointment)
MD University of South Carolina 1956
<table>
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<tr>
<th>Name</th>
<th>Title</th>
<th>Institution</th>
<th>Year</th>
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<tbody>
<tr>
<td>Edward Puro, PHD, MD, MS</td>
<td>Assistant Professor of Clinical Medicine</td>
<td></td>
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<td></td>
<td>PHD University of Toronto 1970</td>
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<td>Iskra Pusic, MD</td>
<td>Assistant Professor of Medicine</td>
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<td></td>
<td>MD University of Zagreb 1997</td>
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<tr>
<td>Peter J Putnam</td>
<td>Assistant Professor of Clinical Pediatrics</td>
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<td>Jenna M Putzel</td>
<td>Instructor in Clinical Pediatrics</td>
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<td>Carlos Angel Puyo, MD</td>
<td>Assistant Professor of Anesthesiology</td>
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<td></td>
<td>MD Juan N Corpas School of Medici 1989</td>
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<tr>
<td>Usman Qayyum</td>
<td>Instructor in Clinical Medicine</td>
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<td>Mujtaba A Qazi</td>
<td>Instructor in Clinical Ophthalmology and Visual Sciences</td>
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<td>Robert Louis Quaas</td>
<td>Instructor in Clinical Pediatrics</td>
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<td>Nishath Quader, MD</td>
<td>Assistant Professor of Medicine</td>
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<td>MD Northwestern University 2007</td>
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<td>Kimberly S Quayle, MD</td>
<td>Professor of Pediatrics</td>
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<td>MD Washington Univ in St. Louis 1988</td>
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<td>Patricia M Quinley, MD</td>
<td>Instructor in Clinical Medicine</td>
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<td>Jennifer Quinn</td>
<td>Instructor in Clinical Pediatrics</td>
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<td>BA University of Kentucky 1982</td>
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<tr>
<td>James D Quirk, MA</td>
<td>Assistant Professor of Radiology</td>
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<td>BS Mass Inst of Technology (MIT) 1994</td>
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<td></td>
<td>MA Washington Univ in St. Louis 1998</td>
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<td>Abdul H Qureshi, MS</td>
<td>Instructor in Clinical Medicine</td>
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<td>MS School Not Listed 1992</td>
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<td>John S Rabun, MD</td>
<td>Instructor in Clinical Psychiatry</td>
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<td>Brad Alan Racette, MD</td>
<td>Professor of Neurology</td>
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<td>Executive Vice Chair of Clinical Affairs, Department of Neurology</td>
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<td>Susan B. Racette, PHD</td>
<td>Professor of Physical Therapy</td>
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<td>Professor of Medicine</td>
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<td>PHD University of Chicago 1994</td>
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<td></td>
<td>BS Bucknell University 1988</td>
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<td>Janet Sue Rader, MD</td>
<td>MD University of Missouri 1983</td>
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<td></td>
<td>BA Drake University 1978</td>
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<td>Srinivasan Raghavan</td>
<td>Instructor in Clinical Medicine</td>
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<td>Edward Floyd Ragsdale, MD</td>
<td>Instructor in Clinical Radiology</td>
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<td>MD Washington Univ in St. Louis 1964</td>
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<td>BA University of Arkansas 1960</td>
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Mohammad H Rahman
Instructor in Clinical Pediatrics (primary appointment)
UNKNOWN School Not Listed 1960

Jodie Rai, MD
Associate Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD University of Illinois 1988
BA Harvard University 1983

Muhammad Farooq Rai, PHD
Assistant Professor of Orthopaedic Surgery (primary appointment)
PHD Freie University 2008

Marcus E Raichle, MD
Professor of Radiology (primary appointment)
Professor of Neuroscience
Professor of Neurology

Alan A and Edith L Wolff Distinguished Professor of Medicine
Professor of Psychological & Brain Sciences
Professor of Biomedical Engineering
BS University of Washington 1960
MD University of Washington 1964

Rithwick Rajagopal
Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)

Mark S Rallo, OD
Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD University of Missouri 1990
BS Saint Louis University 1986

Vidya Raman
Instructor in Clinical Pediatrics (primary appointment)

Raja Ramaswamy
Assistant Professor of Radiology (primary appointment)
Assistant Professor of Surgery (General Surgery)
BA Emory University 2004

Pathmawathy T Ramesvara, MS
Instructor in Clinical Pediatrics (primary appointment)
MS School Not Listed 1972

Britney Martin Ramgopal, MD
Instructor in Medicine (primary appointment)
BS Oklahoma St University 2008
MD Oklahoma St University 2012

Rajeev Ramgopal, MD
Instructor in Medicine (primary appointment)
MD University of Oklahoma 2012
BS University of Rochester 2005

Roxane M. Rampersad, MD
Associate Professor of Obstetrics and Gynecology (primary appointment)
MD Emory University 1998
BS Emory University 1994

Alex Taylor Ramsey
Instructor in Psychiatry (primary appointment)

Gwendalyn Jan Randolph, PHD
Unanue Distinguished Professor of Immunology (primary appointment)

Prabha Ranganathan, MBBS
Associate Professor of Medicine (primary appointment)
MBBS Kilpauk Medical College 1990

Diane Rankin, MD
Assistant Professor of Clinical Psychiatry (primary appointment)
BA University of Colorado Boulder 1962
MD University of Colorado Boulder 1968

Dabeeru C Rao, PHD, MS
Professor of Biostatistics (primary appointment)
Professor of Biostatistics in Genetics
Director of the Division of Biostatistics
Tenure Held At-Large in the Medical School
Professor of Biostatistics in Psychiatry
Professor of Mathematics
BS Indian Statistical Institute 1967
PHD Indian Statistical Institute 1971
MS Indian Statistical Institute 1968

Lesley Kathryn Rao, MD Assistant Professor of Anesthesiology (primary appointment)
MD Saint Louis University 2006

Prabakar Kumar Rao, MD Professor of Ophthalmology and Visual Sciences (primary appointment)
MD University of Southern Calif 1995
BA University of CA San Diego 1991

Radhika Rao Instructor in Clinical Psychiatry (primary appointment)

Rakesh Rao, MD Assistant Professor of Pediatrics (primary appointment)
MD Maulana Azad Medical College 1996

Ricardo Rao, MD Instructor in Clinical Surgery (General Surgery) (primary appointment)
MD University of Missouri 1987
BA University of CA San Diego 1983

Srinivasan Dubagunta Rao Adjunct Instructor in Medicine (primary appointment)

U. Ramakrishna Rao, PHD Associate Professor of Medicine (primary appointment)
BS Mysore University 1975
PHD University of Bombay 1987

Constantine A Raptis, MD Assistant Professor of Radiology (primary appointment)
BS University of Chicago 1999
MD University of Pennsylvania 2004

Emanuel Rashet, MD Instructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1962
BS University of Illinois 1958

Antonella Luisa Rastelli, MD Associate Professor of Medicine (primary appointment)
Associate Professor of Surgery (General Surgery)
BA University of Verona 1984
MD University of Verona 1991

Rashmi R Rathor, MD Assistant Professor of Anesthesiology (primary appointment)
MD University of Illinois 2007

Gary A Ratkin, MD Associate Professor of Clinical Medicine (primary appointment)
Instructor in Clinical Radiation Oncology
MD Washington Univ in St. Louis 1967
BA Rice University 1963

Jebadurai Ratnaraj, MD Assistant Professor of Anesthesiology (primary appointment)
MD1 Northrhein Westfalen Medical 1985
MD Madurai Kamaraj University 1979

Lee Ratner, MA, PHD Professor of Medicine (primary appointment)
Professor of Molecular Microbiology
Alan A and Edith L Wolff Professor of Oncology
BA Harvard University 1973
MA Harvard University 1973
PHD Yale University 1979
Gregory Ratti, MD
Instructor in Medicine (primary appointment)
MD University of Cincinnati 2013
Valerie Ratts
Professor of Obstetrics and Gynecology (primary appointment)
Associate Dean for Admissions
Daniel Rauch, PHD
Assistant Professor of Medicine (primary appointment)
PHD University of Iowa 2001
BS Augustana College 1996
BS Emory University 1996
V. Nathan Ravi, PHD, MS
Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Energy, Environmental and Chemical Engineering
PHD Virginia Tech 1980
MS University of Bombay 1975
BS University of Bombay 1972
Amy J. Ravin, MD
Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD University of Chicago 1996
Wilson Z Ray
Assistant Professor of Neurological Surgery (primary appointment)
Assistant Professor of Orthopaedic Surgery
Saadia Taufiq Raza, MD
Assistant Professor of Clinical Medicine (Dermatology) (primary appointment)
MD Emory University 1997
Syed A Raza
Assistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)
Babak Razani, PHD, MD
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
PHD Albert Einstein College of Med 2003
MD Albert Einstein College of Med 2003
Sheryl S Ream, MD
Instructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1986
BA Saint Louis University 1982
Timothy Patrick Rearden, MD, MS
Instructor in Clinical Medicine (primary appointment)
BS Southeast Missouri St Univers 1979
MD University of MO Columbia 1985
MS University of MO Columbia 1981
Neil F. Rebbe, PHS, MD
Instructor in Clinical Pediatrics (primary appointment)
BA University of MO St Louis 1978
PHS Washington Univ in St. Louis 1983
MD Saint Louis University 1996
Arhaanth D Reddy
Instructor in Clinical Medicine (primary appointment)
Chandrashekar Reddy
Instructor in Clinical Psychiatry (primary appointment)
Kavitha Reddy
Assistant Professor of Emergency Medicine in Medicine (primary appointment)
Jonathan R Reed, MD
Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
BA Fisk University 1956
MD Meharry Med College 1965
Nanette Rahee Reed, MD
Assistant Professor of Surgery (General Surgery) (Pending Executive Faculty Approval) (primary appointment)
MD Baylor College of Medicine 2004
BS University of Notre Dame 2000
Timothy Reed
Instructor in Clinical Pediatrics (primary appointment)
Katherine Marie Reeder, PHD Adjunct Assistant Professor of Medicine (primary appointment)
PHD University of Iowa 2007

Dominic N Reeds Associate Professor of Medicine (primary appointment)
BA University of Texas Austin 1992
Susan Robinson Reeds Assistant Professor of Medicine (primary appointment)

Lester T Reese, MD Professor of Clinical Medicine (Dermatology) (primary appointment)
BS Tulane University 1962
MD Tulane University 1966

Kara Anne Regan, MD Assistant Professor of Medicine (primary appointment)
BS East Carolina University 2002
MD East Carolina University 2008

David E Reichert, PHD Associate Professor of Radiology (primary appointment)
PHD University of Illinois 1994
BS Roanoke College 1986
Phillip D Reichert Instructor in Clinical Pediatrics (primary appointment)

Angela M. Reiersen, MD, MS PSYC Assistant Professor of Psychiatry (Child Psychiatry) (primary appointment)
MD University of Southern Calif 1999
BS University of CA Davis 1994
MS PSYC Washington Univ in St. Louis 2006

Margaret Reiker, MD, PHD Instructor in Clinical Medicine (primary appointment)
UNKNOWN Saint Louis University 1986
MD Saint Louis University 1993
PHD Saint Louis University 1991

Michael Reilly, MS, PHD Instructor in Radiation Oncology (Pending Dean's Approval) (primary appointment)
MS Univ of IL-Urbana-Champaign 2005
BS Univ of IL-Urbana-Champaign 2003
PHD Univ of IL-Urbana-Champaign 2009

Eduardo Reina, MD Instructor in Anesthesiology (Pending Dean's Approval) (primary appointment)
MD University of Illinois Chicago 2011
Angela Mary Reining Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Daniel B. Reising Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)

David Martin Reisler, M PH, MD Assistant Professor of Clinical Neurology (primary appointment)
M PH Johns Hopkns University Medic 1971
MD Washington Univ in St. Louis 1961
BA Harvard University 1957

Craig K Reiss, MD Professor of Clinical Medicine (primary appointment)
MD University of Missouri 1983
BA University of Missouri 1979

Jacqueline Levy Reiss, MD Instructor in Clinical Medicine (primary appointment)
BA University of MO Kansas City 1989
MD University of Missouri 1990

Maria Sara Remedi, PHD, MS Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
PHD University of Cordoba 1999
MS University of Cordoba 1989
**Catherine R Remus, MD, MSN**
Assistant Professor of Clinical Pediatrics (primary appointment)
MD School Not Listed 1983
BA Luther College 1975
MSN Rush University 1978

**Kenneth Eugene Remy, MD**
Assistant Professor of Pediatrics (primary appointment)
MD Jefferson Medical College 2004

**Dave A Rengachary, MD**
Instructor in Clinical Neurology (primary appointment)
MD Northwestern University 2000

**Marvin Rennard, MD**
Prof Emeritus Of Clinical Ob & Gyn (primary appointment)
MD Washington Univ in St. Louis 1952

**Hilary Elizabeth Lee Reno, MD, MS, PHD**
Assistant Professor of Medicine (primary appointment)
MD University of Illinois 2002
MS University of Illinois 1997
PHD University of Illinois 2000

**Stacey L. Rentschler, MS, PHD, MD**
Assistant Professor of Medicine (primary appointment)
Assistant Professor of Developmental Biology
MS Mount Sinai School of Medicine 2000
PHD Mount Sinai School of Medicine 2002
MD Mount Sinai School of Medicine 2004

**Nicholas R Renz**
Instructor in Emergency Medicine in Medicine (primary appointment)
BA University of MO Columbia 2004

**Michael P Rettig, PHD**
Assistant Professor of Medicine (primary appointment)
BS Illinois State University 1993
PHD Purdue University 2000

**Edward K Rhee**
Adjunct Assistant Professor of Pediatrics (primary appointment)
BA University of Pennsylvania 1986

**Noor Riaz, MD**
Instructor in Pediatrics (primary appointment)
MD Washington Univ in St. Louis 2008

**William M Ricci, MD**
Professor of Orthopaedic Surgery (primary appointment)
MD Duke University 1992
BS Duke University 1986

**John P Rice, MA, PHD**
Professor of Mathematics in Psychiatry (primary appointment)
Professor of Biostatistics
Professor of Genetics
BA Cornell University 1969
MA Washington Univ in St. Louis 1972
PHD Washington Univ in St. Louis 1975

**Micheal Todd Rice, MD**
Assistant Professor of Anesthesiology (primary appointment)
MD Univ of Texas San Antonio 2002

**Treva Kay Rice, MA**
Professor of Biostatistics (primary appointment)
Professor of Psychiatry
BS University of Texas Arlington 1981
MA University of Colorado Boulder 1984

**Charles M Rice III, PHD**
Adjunct Professor of Molecular Microbiology (primary appointment)
PHD California Institute of Technology 1981
BS University of California 1974

**Jason T. Rich, MD** Assistant Professor of Otolaryngology (primary appointment)
MD Ohio State University 2004
BS Brigham Young University 2000

**Keith M Rich, MD** Professor of Neurological Surgery (primary appointment)
Professor of Neuroscience
Professor of Radiation Oncology
BA Taylor University 1974
MD Indiana University Bloomington 1977

**Michael W Rich, MD** Professor of Medicine (primary appointment)
BA University of Illinois 1974
MD University of Illinois 1979

**Lois F. Richard, PHD** Assistant Professor of Medicine (primary appointment)
BS Murray St University 1982
PHD Saint Louis University 1998

**Cheryl Richards, MA, PHD** Assistant Professor of Psychiatry (primary appointment)
Assistant Professor of Medicine
MA University of Illinois 1981
BS Ohio University 1977
PHD University of Illinois 1987

**Frank O Richards** Assistant Professor Emeritus of Clinical Surgery (General Surgery) (primary appointment)

**Asst Prof Emeritus of Clin Surg (Gen Surg)** (primary appointment)

**Asst Prof Emeritus of Clin Surgery (Gen Surg)** (primary appointment)

BA Talladega College 1944

**Thomas F Richardson** Professor of Psychiatry (primary appointment)

**Justin M Richner, PHD** Instructor in Medicine (primary appointment)
BS Washington Univ in St. Louis 2006
PHD University of CA Berkeley 2011

**Clare H Ridley, MD** Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
MD Washington Univ in St. Louis 2008
BA Columbia College of Phy & Surg 2002

**William M Riedesel II** Associate Professor of Clinical Psychiatry (primary appointment)

**Terrence E Riehl, MS, PHD** Associate Professor of Medicine (primary appointment)
MS Rutgers University 1976
BS Rutgers University 1974
PHD Ohio University 1981

**Amy Elizabeth Riek** Assistant Professor of Medicine (primary appointment)

**Robert D Rifkin, MD** Professor of Medicine (primary appointment)
BS Mass Inst of Technology (MIT) 1968
MD New York University 1972

**Shale M Rifkin, MD** Assistant Professor of Clinical Surgery (General Surgery) (primary appointment)
MD Washington Univ in St. Louis 1948

**Caron E Rigden, BFA, MD** Assistant Professor of Medicine (primary appointment)
BFA Tulane University 1996
MD Tulane University 2000
Lee A Rigg, PHD, MDAssociate Professor of Clinical Obstetrics and Gynecology (primary appointment)
BA Arizona State University 1961
PHD University of Colorado Boulder 1965
MD Washington Univ in St. Louis 1971
Joan K. Riley, PHDAssistant Professor of Obstetrics and Gynecology (primary appointment)
Assistant Professor of Pediatrics
Instructor in Medicine
PHD Washington Univ in St. Louis 1998
Julie L Ring, DDENTInstructor in Clinical Otolaryngology (DDS) (primary appointment)
DDENT University of MO Kansas City 1998
Tracy Marie Riordan, MDInstructor in Clinical Medicine (primary appointment)
BA Saint Louis University 1996
MD Saint Louis University 2000
Stephen L. Ristvedt, MA, PHDAssociate Professor of Anesthesiology
Associate Professor of Psychiatry
BA University of Minnesota 1981
MA University of Pennsylvania 1983
PHD University of Pennsylvania 1989
Jon H RitterProfessor of Pathology and Immunology (primary appointment)
Terri L Riutcel, MDAssociate Professor of Neurology (primary appointment)
BS University of MO Columbia 1991
MD Vanderbilt University 1995
Katherine Rivera-Spoljarić, MS, MDAssociate Professor of Pediatrics (primary appointment)
BS University of Puerto Rico 1997
MS Washington Univ in St. Louis 2008
MD University of Puerto Rico 2001
William L. Rives, MSAssistant Professor of Pediatrics (primary appointment)
MS University of Missouri 1992
Robert V Rivlin, MS, DDENTInstructor in Clinical Otolaryngology (DMD) (primary appointment)
MS Fairleigh Dickinson University 1975
DDENT Washington Univ in St. Louis 1979
BA Rutgers University 1972
Syed T RizviAssistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)
Necita L Roa, MDAssoc Prof Emeritus of Anesthesiology (primary appointment)
MD University of the Philippines 1969
Michael Charles RoachAssistant Professor of Radiation Oncology (primary appointment)
BS Vanderbilt University 2007
Elisha D.O. Roberson, PHDAssistant Professor of Medicine (primary appointment)
Assistant Professor of Genetics
BS Western Kentucky University 2004
PHD Johns Hopkins University 2009
Clifford Grant Robinson, MDAssociate Professor of Radiation Oncology (primary appointment)
BS University of Pittsburgh 2000
MD Case Western Reserve Univ 2004
Janis B Robinson, MAAssociate Professor of Clinical Pediatrics (primary appointment)
MA Yale University 1972
Kathryn Ann Robinson, MD Assistant Professor of Radiology (primary appointment)  
MD State Univ of NY Stonybrook 2001

Paul Arthur Robiolio, M PHIL, MD Assistant Professor of Clinical Medicine (primary appointment)  
M PHIL Cambridge University 1985  
MD Washington Univ in St. Louis 1989  
BS Haverford College 1983

Ann Marie Rockamann Instructor in Clinical Obstetrics and Gynecology (primary appointment)  

Toby Andrew Rockefeller, MD Assistant Professor of Pediatrics (Pending Executive Faculty Approval) (primary appointment)  
BS Oklahoma St University 2005  
MD University of Oklahoma 2009

Catherine M Roe, MA Assistant Professor of Neurology (primary appointment)  
MA Southern Illinois University 1990  
BA Purdue University 1986

M. Reza Rofougaran, MD Instructor in Clinical Medicine (primary appointment)  
MD Tehran University 1988

John Deno Rogakos Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)  
BS University of Dayton 1990

Buck Edward Rogers, PHD, MA Professor of Radiation Oncology (primary appointment)  

Professor of Radiology  
BS Loyola University Chicago 1989  
PHD Washington Univ in St. Louis 1995  
MA Washington Univ in St. Louis 1991

Cynthia E Rogers, MD Assistant Professor of Psychiatry (primary appointment)  
BA Harvard University 1998  
MD Washington Univ in St. Louis 2005

H. Bryan Rogers, MD Instructor in Clinical Medicine (primary appointment)  
MD Washington Univ in St. Louis 1965

Sandeep Rohatgi, MD Instructor in Clinical Pediatrics (primary appointment)  
MD U Medical-Dental Of New Jersey 1993  
BA Saint Louis University 1989

Michael Dennis Rohde Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)  
BS Valparaiso University 1983

James R Rohrbaugh, MD Associate Professor of Clinical Neurology (primary appointment)  
Associate Professor of Clinical Pediatrics  
MD Ohio State University 1974  
BA Yale University 1971

John W Rohrbaugh Prof Emeritus of Psychiatry (primary appointment)  
BS Heidelberg College 1968

Chinda Vanasin Rojanasathit, MD Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)  
MD School Not Listed 1967

Evan Ward Roller, MD Assistant Professor of Anesthesiology (Pending Executive Faculty Approval) (primary appointment)  
MD University of Cincinnati 2010

Felice A Rolnick, MD Instructor in Clinical Medicine (primary appointment)  
MD School Not Listed 1987
BS Union College New York 1982
Rizwan Romee, MDAssistant Professor of Medicine (primary appointment)
MD Gov't Gandhi Memorial Sci Coll 2004
Arthur G. RomeroAssociate Professor of Medicine (primary appointment)
BS Johns Hopkins University 1979
Ernesto J RomoInstructor in Emergency Medicine in Medicine (Pending Dean's Approval)
(primary appointment)
Ayelet Rosen, MDInstructor in Pediatrics (primary appointment)
BS Rutgers University 2015
MD Albert Einstein College of Med 2015
Joan Lee RosenbaumProfessor of Pediatrics (primary appointment)
Louis J Rosenbaum, MDAssociate Professor of Clinical Ophthalmology and Visual Sciences
(primary appointment)
MD Washington Univ in St. Louis 1963
Isabel L RosenbloomAssociate Professor of Clinical Pediatrics (primary appointment)
BA Goucher College 1979
Daniel B Rosenbluth, MDPediatrics (primary appointment)
Professor of Pediatrics
Tracey C and William J Marshall Professor of Medicine
MD Mount Sinai School of Medicine 1989
BS Columbia University 1985
Anna RoshalAssistant Professor of Medicine (primary appointment)
BS University of Rochester 1993
Ilana Shaina Rosman, MDAssistant Professor of Medicine (Dermatology) (primary appointment)
Assistant Professor of Pathology and Immunology
MD Washington Univ in St. Louis 2008
Ian RossInstructor in Medicine (primary appointment)
Kelly Ross, MDAssistant Professor of Pediatrics (primary appointment)
BS University of MO Kansas City 1991
MD University of MO Columbia 1996
William J Ross, MDAssociate Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1972
BA Miami University 1968
Willie Ray Ross, M PH, MDAssociate Dean for Diversity (primary appointment)
Professor of Medicine
BS Yale University 1980
M PH Saint Louis University 2007
MD Washington Univ in St. Louis 1984
Bruce J Roth, MDPediatrics (primary appointment)
MD Saint Louis University 1980
Robyn RothInstructor in Cell Biology and Physiology (primary appointment)
BS MO State U (formerly SW MO St) 1979
Robert J Rothbaum, MDCentennial Professor of Pediatrics (primary appointment)
MD University of Chicago 1976
Marcos Rothstein, MDPediatrics (primary appointment)
MD University of Zulia 1974
Mark A Rothstein, MDAssistant Professor of Clinical Ophthalmology and Visual Sciences (primary
appointment)
BA Williams College 1986
MD University of Utah 1991
**Joseph L Roti Roti, PHD**  *Prof Emeritus of Radiation Oncology* (primary appointment)
BS Michigan Tech University 1965
PHD University of Rochester 1972
**Ernest Tuttle Rouse III, MD**  *Instructor in Clinical Medicine* (primary appointment)
MD Washington Univ in St. Louis 1971
**Jeremy Rower, MD**  *Instructor in Clinical Medicine* (primary appointment)
MD University of Cincinnati 1997
BS University of Cincinnati 1993
**Elizabeth Yanik Rowlands, PHD, MD**  *Assistant Professor of Orthopaedic Surgery* (Pending Executive Faculty Approval) (primary appointment)
PHD University of North Carolina 2013
BS University of Maryand 2007
MD Johns Hopkins University 2009
**Tapan Roy, MS**  *Instructor in Clinical Radiation Oncology* (primary appointment)
MS Baroda Medical College 1974
**Henry D Royal, MD**  *Professor of Radiology* (primary appointment)
BS Providence College 1970
MD Saint Louis University 1974
**Ella Rozin**  *Instructor in Clinical Pediatrics* (primary appointment)
**Brian G Rubin, MD**  *Professor of Surgery* (General Surgery) (primary appointment)
**Professor of Radiology**
MD University of Vermont 1984
BA Colgate University 1979
**David A Rubin, MD**  *Professor of Radiology* (primary appointment)
BA Brown University 1984
MD University of Pennsylvania 1988
**Deborah C Rubin, MD**  *Professor of Medicine* (primary appointment)
**Professor of Developmental Biology**
MD Albert Einstein College of Med 1981
BS Mass Inst of Technology (MIT) 1977
**Eugene Harold Rubin, MD**  *Professor of Psychiatry* (primary appointment)
*Professor of Psychological & Brain Sciences (courtesy)*
*Vice Chairman for Education, Department of Psychiatry*
BA University of Rochester 1971
MD Washington Univ in St. Louis 1978
**Joshua Bennett Rubin, MD, PHD, MS**  *Professor of Pediatrics* (primary appointment)
*Professor of Neuroscience*
MD Albert Einstein College of Med 1994
BS Yale University 1982
PHD Albert Einstein College of Med 1994
MS Albert Einstein College of Med 1992
**Myra L. Rubio, MD**  *Associate Professor of Medicine* (primary appointment)
MD Indiana University Bloomington 1998
BA Washington Univ in St. Louis 1994
**Christina M Ruby-Ziegler, MD**  *Assistant Professor of Clinical Pediatrics* (primary appointment)
BS Loyola University 1990
MD Northwestern University Med 1994
Paetra Ruddy, MD Assistant Professor of Medicine (Dermatology) (primary appointment)
BA Bard College 1997
MD University of Iowa 2011
John Conrad Rudersdorf Instructor in Clinical Psychiatry (Child) (primary appointment)
Martin D Rudloff, MD Assistant Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1981
David Rudnick, MD Associate Professor of Pediatrics (primary appointment)
Associate Professor of Developmental Biology
BS University of Illinois 1987
MD Washington Univ in St. Louis 1994
Daniel G. Rudolph, MD Instructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1992
BS Saint Louis University 1988
Karen Elizabeth Ruecker Instructor in Clinical Pediatrics (primary appointment)
Albert F Ruehl, MS, MD Assistant Professor of Clinical Otolaryngology (primary appointment)
BS Washington Univ in St. Louis 1961
MS Washington Univ in St. Louis 1964
MD Saint Louis University 1973
Michael B Rumelt, MD Assistant Professor Emeritus of Clinical Ophthalmology and Visual Sciences (primary appointment)
Asst Prof Emer of Clinical Ophthal & Vis Sci (primary appointment)
BS Lamar University 1962
MD Washington Univ in St. Louis 1966
Emily Lindholm Rumora, MD Instructor in Medicine (primary appointment)
MD Dartmouth College 2013
Brent E Ruoff, MD Associate Professor of Emergency Medicine in Medicine (primary appointment)
BS Graceland College 1977
MD Saint Louis University 1981
Diane Mary Rup, MA, MD Instructor in Clinical Pediatrics (primary appointment)
BA State University of New York 1976
MA State University of New York 1979
MD Case Western Reserve Univ 1986
Michael B Rusche Adjunct Instructor in Medicine (primary appointment)
John Hall Russell Professor of Developmental Biology (primary appointment)
Associate Dean for Graduate Education for the Division of Biology and Biomedical Sciences
BS Juniata College 1968
Sharman M Russell, MD Assistant Professor in Obstetrics and Gynecology (primary appointment)
MD CHICAGO MEDICAL SCHOOL 2010
Tonya D Russell, MD Associate Professor of Medicine (primary appointment)
MD University of Florida 1997
James Rutherford, MD Assistant Professor Emeritus of Clinical Psychiatry (primary appointment)
Asst Prof Emeritus of Clinical Psychiatry (primary appointment)
BA Drake University 1975
MD University of Iowa 1980
Mark A Rutherford, PHD Assistant Professor of Otolaryngology (primary appointment)
BS University of MO St Louis 1999
PHD University of Oregon 2005
Bridget Scheve Rutledge Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Rimma Ruvinskaya, MD Associate Professor of Neurology (primary appointment)
BA School Not Listed 1979
MD Leningrad Inst of Peds Med 1985
Joseph F Ruwitch Jr Professor of Clinical Medicine (primary appointment)
Marianna B Ruzinova, MD, PHD Assistant Professor of Pathology and Immunology (primary appointment)
MD Cornell University 2005
PHD Cornell University 2004
Jo-Ellyn M Ryall, MD Associate Professor of Clinical Psychiatry (primary appointment)
MD Washington Univ in St. Louis 1975
Lisa A Ryan Instructor in Clinical Pediatrics (primary appointment)
Kenneth J Rybicki, MS, MD, PHD Instructor in Clinical Medicine (primary appointment)
MS Southern Illinois University 1980
MD University of Texas Austin 1987
BA Southern Illinois University 1978
PHD University of Texas Austin 1984
Chara Elaine Rydzak, MD, PHD Assistant Professor of Radiology (primary appointment)
MD Harvard University 2010
PHD Harvard University 2010
Robin C Ryther, PHD, MD Assistant Professor of Neurology (primary appointment)
PHD Vanderbilt University 2004
MD Vanderbilt University 2006
BS University of MO Columbia 1998
Nael E. A. Saad, MBBC Associate Professor of Radiology (primary appointment)
Associate Professor of Surgery (General Surgery)
MBBCH Ain Shams University 1998
Raya Saba, MD Instructor in Medicine (primary appointment)
MD Damascus University 2011
Frank Scott Saccone Associate Professor of Psychiatry (primary appointment)
BA Rensselaer Polytechnic Instit 1990
Nancy L. Saccone, PHD, MS Associate Professor of Genetics (primary appointment)
Associate Professor of Biostatistics
PHD Brown University 1993
MS Brown University 1990
Jerome D Sachar, MD Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)
BA Amherst College 2000
MD University of Missouri 1979
Molly Sachdev Assistant Professor of Medicine (primary appointment)
Justin Sadhu, MD Instructor in Medicine (primary appointment)
MD Washington Univ in St. Louis 2007
Adnan Sadiq, MD Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Surgery (Cardiothoracic Surgery)
MD Royal College of Surgeons 2001
BS State Univ of NY Buffalo 1996
J. Evan Sadler, MD, PHD Professor of Medicine (primary appointment)
Professor of Biochemistry and Molecular Biophysics
MD Duke University 1979
PHD Duke University 1978
Mohammed Jaafar Saeed, M PH, MDInstructor in Medicine (primary appointment)
M PH University of Kentucky 2012
MD Baghdad University 2007
Mehrdad Saeed-Vafa, MDInstructor in Clinical Medicine (primary appointment)
MD School Not Listed 2000
Jose Bernardo Saenz, PHD, MDInstructor in Medicine (primary appointment)
BA Cornell University 2003
PHD Washington Univ in St. Louis 2009
MD Washington Univ in St. Louis 2011
Angela K Saettele, MDAssistant Professor of Anesthesiology (primary appointment)
BS Simpson College 2004
MD University of MO Columbia 2008
Shabbir H SafdarProfessor of Clinical Medicine (primary appointment)
UNKNOWN1 School Not Listed 1961
Scott Geoffrey SagettiInstructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
Sonny Satnam SaggarInstructor in Clinical Medicine (primary appointment)
Sudha Saha, MDInstructor in Clinical Obstetrics and Gynecology (primary appointment)
MD School Not Listed 1963
BA Balurghat College 1957
Shirley Ann Sahrmann, MAProfessor Emeritus of Physical Therapy (primary appointment)
Prof Emeritus of Physical Therapy (primary appointment)
BS Washington Univ in St. Louis 1958
MA Washington Univ in St. Louis 1971
Ahmed Sameh Said, PHD, MDInstructor in Pediatrics (primary appointment)
PHD Ain Shams University 2009
MD Ain Shams University 2000
Jacqueline Mitsouko Saito, MDAssistant Professor of Surgery (Pediatric Surgery) (primary appointment)
BS Harvard Radcliff 1989
MD Columbia University 1993
Kaori A. SakuraiInstructor in Clinical Medicine (primary appointment)
Monica Sala-RabanalInstructor in Cell Biology and Physiology (primary appointment)
Berette A Salazar, MDAssistant Professor of Clinical Psychiatry (primary appointment)
MD University of New Mexico 1982
BA Middlebury College 1973
Lawrence B Salkoff, PHDProfessor of Neuroscience (primary appointment)
Professor of Genetics
BA University of CA Los Angeles 1967
PHD University of CA Berkeley 1979
Arghavan Salles, MD, PHDAssistant Professor of Surgery (General Surgery) (Pending Executive Faculty Approval) (primary appointment)
MD Stanford University 2006
BA University of Southern Calif 2002
PHD Stanford University 2014
Mickey L Salmon, Instr Emeritus In Clinical Ophthal & VIs Sci (primary appointment)
BS Centenary College 1955

Alec N Salt, PHD, MS Professor of Otolaryngology (primary appointment)
PHD University of Birmingham 1977
MS University of Birmingham 1974
BS University of East Anglia 1973

Christine Joan Salter, DC Instructor in Clinical Medicine (primary appointment)
BS Reading University 1982
DC Logan College of Chiropractic 1991

Robert J Saltman, MD Associate Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1980

John Mark Samet, MD Instructor in Clinical Medicine (primary appointment)
BS Washington & Lee 1964
MD University of Missouri 1968

Dmitri Samovski, PHD Instructor in Medicine (primary appointment)
PHD Hebrew University 2009

Charles Michael Samson, MD Assistant Professor of Pediatrics (primary appointment)
MD University of Washington 2003
BS University of North Carolina 1998

Lawrence E Samuels Instructor in Clinical Medicine (Dermatology) (primary appointment)
BA University of Texas Austin 1972

Souzan Sanati, MD Assistant Professor of Pathology and Immunology (primary appointment)
MD Iran Univ of Medical Sciences 1993

Guadalupe Sanchez, MD Instructor in Clinical Medicine (Dermatology) (primary appointment)
MD Harvard University 1978
BA Berry College 1974

Luis A Sanchez Professor of Surgery (General Surgery) (primary appointment)

Gregorio A. Sicard Distinguished Professor
Professor of Radiology

Linda J Sandell, PHD, MS Mildred B Simon Research Professor of Orthopaedic Surgery (primary appointment)
Professor of Cell Biology and Physiology
PHD Northwestern University 1980
MS University of Denver 1971

Gretchen A Sander, MD Instructor in Clinical Pediatrics (primary appointment)
BA Vanderbilt University 2000
MD Loyola University Chicago 2004

Heidi L Sandige, MD, MA Instructor in Pediatrics (primary appointment)
BA Northwestern University 1991
MD Washington Univ in St. Louis 2005
MA Yale University 1993
MA1 Washington Univ in St. Louis 2003

Mark Steven Sands, PHD Professor of Medicine (primary appointment)
Professor of Genetics
PHD State Univ of NY Stonybrook 1990
BS Rochester Institute of Techno 1980

Kristen Marie Sanfilippo, MD Assistant Professor of Medicine (primary appointment)
MD University of MO Columbia 2007
Pravesh Sangwan, MD, MBBS
Instructor in Pediatrics (primary appointment)
MD Gauhati Medical College 2009
MBBS Vijayanagara Inst of Med Sci 2015

Daniel Jose Santa Cruz
Instructor in Clinical Medicine (Dermatology) (primary appointment)

Lakshmi Santanam, PHD, MS
Associate Professor of Radiation Oncology (primary appointment)
PHD Wayne State University 2003
BS University of Madras 1991
MS University of Madras 1993

Celia Maria Santi Grau Perez, MD, PHD
Associate Professor of Obstetrics and Gynecology (primary appointment)
MD Instituto de Montevideo 1992
BS Instituto de Montevideo 1979
PHD National Autonomous U of Mex 1998

Paul Santiago, MD
Professor of Neurological Surgery (primary appointment)
Professor of Orthopaedic Surgery
BS Stanford University 1990
MD Yale University 1995

Richard Albert Santos, PHD, MD
Assistant Professor of Medicine (primary appointment)
BS Michigan State University 1994
PHD University of Iowa 2002
MD University of Iowa 2002

Evelio E. Sardina, MD, MS, PHD
Instructor in Clinical Medicine (primary appointment)
MD University of South Florida 1994
MS University of South Florida 1988
PHD University of South Florida 1990
BA Rutgers University 1985

Carolyn E. Sartor, PHD, MS
Adjunct Assistant Professor of Psychiatry (primary appointment)
PHD Palo Alto College 2005
BS Oberlin College 1994
MS Catholic University America 1999

Norman Sartorius
Adjunct Professor of Psychiatry (primary appointment)

Yo Sasaki, PHD, MS
Assistant Professor of Genetics (primary appointment)
BS Tokyo U of Agric & Technology 1991
PHD Gunma University, Med School 1997
MS Tokyo U of Agric & Technology 1994

Diana M Sater-Roukoz
Instructor in Clinical Pediatrics (primary appointment)

Chihiro Sato, PHD, MS
Instructor in Neurology (primary appointment)
PHD University of Tokyo 2008
MS University of Tokyo 2005
BS University of Tokyo 2003

Donald C Sauer, MD
Assistant Professor Emeritus of Clinical Surgery (General Surgery) (primary appointment)
Asst Prof Emeritus of Clin Surg (Gen Surg) (primary appointment)
MD Washington Univ in St. Louis 1960

Scott Saunders, PHD, MD
Associate Professor of Pediatrics (primary appointment)
Associate Professor of Developmental Biology
PHD Stanford University 1990
MD Stanford University 1990
Brian J. Saville, MD  Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
BS University of Minnesota 1983
MD Washington Univ in St. Louis 1997

Blaine M Sayre, M PH, MD  Professor of Clinical Pediatrics (primary appointment)
M PH University of CA Berkeley 1972
MD Washington Univ in St. Louis 1968

Gregory Stephen Sayuk  Associate Professor of Medicine (primary appointment)
BS Washington Univ in St. Louis 1997
MD Washington Univ in St. Louis 2001

Lawrence R Schacht, MD  Instructor in Clinical Medicine (primary appointment)
BA University Wyoming 1971
MD Oregon Health Science Univers 1975

Joseph Schachter, MD  Assistant Professor of Clinical Pediatrics (primary appointment)
MD Indiana University Bloomington 1979
BA Indiana University Bloomington 1974

Anneliese M Schaefer, PHD, BBA  Associate Professor of Neurology (primary appointment)
PHD Washington Univ in St. Louis 2001
BBA Washington Univ in St. Louis 1985

Andras Schafer, MD, PHD  Assistant Professor of Pathology and Immunology (primary appointment)
MD University of Pecs Medical Sch 1993
PHD Cornell University 2001

Jean E. Schafer  Virginia Minnich Distinguished Professor of Medicine (primary appointment)
Professor of Developmental Biology
BA Harvard Radcliff 1982

Gerwin Schalk  Adjunct Assistant Professor of Neurological Surgery (primary appointment)
Richard O. Schamp  Instructor in Clinical Medicine (primary appointment)
Kenneth B Schechtman, MS, MA, PHD  Associate Professor of Biostatistics (primary appointment)

Tenure Held At-Large in the Medical School
BS City University of New York 1967
MS Purdue University 1971
MA Washington Univ in St. Louis 1978
PHD Washington Univ in St. Louis 1978

Tim B Schedl, PHD  Professor of Genetics (primary appointment)
PHD Univ of Wisconsin Madison 1984
BA Lawrence University 1977

Jennifer Lynn Scheer, MD  Instructor in Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1994

Robert F Scheible, MD  Assistant Professor of Clinical Radiology (primary appointment)
BA Johns Hopkins University 1968
MD Washington Univ in St. Louis 1972

Jonathan C Schell, MD  Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
BS Saint Louis University 2001
MD Saint Louis University 2005

Erica Lynn Scheller, DDENT  Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
DDENT University of Michigan 2011
BS Michigan State University 2004
Stefano Schena, Assistant Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Mark Scheperle, MD, Instructor in Clinical Medicine (primary appointment)
BA University of Missouri 1989
MD University of Missouri 1989
Alvin K. Schergen, MD, Instructor in Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1976
MD Saint Louis University 1980
Jeffrey Frank Scherrer, PhD, Adjunct Associate Professor of Psychiatry (primary appointment)
MD Saint Louis University 2004
Thomas Schiff, DDENT, Professor Emeritus of Diagnostic Services (primary appointment)
DDENT University of Alabama 1961
Joel D. Schilling, PhD, MD, Assistant Professor of Medicine (primary appointment)
Assistant Professor of Pathology and Immunology
PHD Washington Univ in St. Louis 2001
MD Washington Univ in St. Louis 2003
Suzanne E. Schindler, PhD, MD, Assistant Professor of Neurology (primary appointment)
PHD Washington Univ in St. Louis 2008
MD Washington Univ in St. Louis 2008
BS Millsaps College 1999
Bradley L. Schlaggar, PhD, MD, Ernest and Jane G. Stein Professor of Neurology (primary appointment)
Professor of Radiology
Professor of Psychiatry
Professor of Pediatrics
Professor of Neuroscience
BS Brown University 1986
PHD Washington Univ in St. Louis 1994
MD Washington Univ in St. Louis 1994
Howard J. Schlansky, MD, Instructor in Clinical Pediatrics (primary appointment)
BA University of MO Kansas City 1976
MD University of MO Kansas City 1978
Milton J. Schlesinger, MS, PhD, Prof Emeritus of Molecular Microbiology (primary appointment)
MS University of Rochester 1953
BS Yale University 1951
PHD University of Michigan 1959
Paul Henry Schlesinger, MD, PhD, Associate Professor of Cell Biology and Physiology (primary appointment)
MD University of Chicago 1970
PHD University of Chicago 1973
BS University of Illinois 1966
Sondra Schlesinger, PhD, Prof Emeritus of Molecular Microbiology (primary appointment)
BS University of Michigan 1956
PHD University of Michigan 1960
Margaret Ann Schmandt, MD, Associate Professor of Clinical Pediatrics (primary appointment)
BA University of Iowa 1982
Tania L Schmid, MDInstructor in Clinical Medicine (primary appointment)
MD University of Mississippi 1985
BA University of Mississippi 1981
Robert Edward Schmidt, PHD, MDProfessor of Pathology and Immunology (primary appointment)
PHD Washington Univ in St. Louis 1976
BA Washington Univ in St. Louis 1969
MD Washington Univ in St. Louis 1976
Richard Urban Schmidt JrInstructor in Emergency Medicine in Medicine (primary appointment)
David Schnadower, M PH, MDAssociate Professor of Pediatrics (primary appointment)
M PH Columbia University 2005
MD National Autonomous U of Mex 1993
John Stone Schneider, MD, BBA, M PPAssistant Professor of Otolaryngology (primary appointment)
MD University of Chicago 2007
BBA University of Chicago 1997
M PP University of Chicago 2007
Robert Jay Schneider, MDAssistant Professor of Clinical Medicine (primary appointment)
MD Johns Hopkins University 1976
BA Johns Hopkins University 1973
Jacquelyn C Schnidman, MDInstructor in Clinical Pediatrics (primary appointment)
BA University of Missouri 1975
MD Saint Louis University 1979
Erin R. Schockett, MDInstructor in Clinical Medicine (primary appointment)
MD Brown University 2005
Perry Lee Schoenecker, MDProfessor of Orthopaedic Surgery (primary appointment)
BS Univ of Wisconsin Madison 1964
MD Univ of Wisconsin Madison 1968
James R SchreiberProf Emeritus of Ob & Gyn (primary appointment)
BA Rice University 1968
Robert D Schreiber, PHDAlumni Endowed Professor of Pathology and Immunology (primary appointment)
Professor of Molecular Microbiology
PHD State University of New York 1973
BA State University of New York 1968
Richard E Schrick, MDInstructor in Clinical Otolaryngology (primary appointment)
BS University of Missouri 1968
MD University of Missouri 1977
Charles R Schrock, MDAssociate Professor of Anesthesiology (primary appointment)
MD University of MO Columbia 1991
Mark Andrew Schroeder, MDAssistant Professor of Medicine (primary appointment)
MD University of Cincinnati 2003
BS University of Toledo 1999
Douglas J Schuerer, MDProfessor of Surgery (General Surgery) (primary appointment)
BS Allegheny College 1991
MD University of Pittsburgh 1995
Richard B Schuessler, MS, PHDProfessor of Surgery (Cardiothoracic Surgery) (primary appointment)
Laura Graves Schuettpelz, PHD  
**Assistant Professor of Pediatrics (primary appointment)**  
**Assistant Professor of Developmental Biology**  
PHD Northwestern University 2000  

Alexander E Schuetz, MD  
**Instructor in Clinical Medicine (primary appointment)**  
MD Saint Louis University 1996  
BA Saint Louis University 1991  

Maryls E Schuh, MD  
**Instructor in Clinical Surgery (General Surgery) (primary appointment)**  
BS University of North Dakota 1977  
BS University of North Dakota 1973  
MD Washington Univ in St. Louis 1979  

Jeffrey I Schulman, MD, MBA  
**Instructor in Clinical Psychiatry (Child Psychiatry) (primary appointment)**  
BA Yale University 1970  
MD University of Kentucky 1974  
MBA Washington Univ in St. Louis 1988  

Earl R Schultz, MD  
**Professor of Clinical Neurology (primary appointment)**  
Associate Professor of Clinical Psychiatry  
MD Washington Univ in St. Louis 1955  
BS University of Missouri 1953  
BA Southeast Missouri St Univers 1952  
Stephen Schuman  
**Instructor in Clinical Medicine (primary appointment)**  

Frederick W Schwagger, OD  
**Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)**  
BS Illinois College of Optometry 1957  
BS1 Washington Univ in St. Louis 2000  
OD Illinois College of Optometry 1957  

Alan L Schwartz, PHD, MD  
**Alumni Endowed Professor of Pediatrics (primary appointment)**  
Professor of Developmental Biology  
PHD Case Western Reserve Univ 1974  
MD Case Western Reserve Univ 1976  

Benjamin D Schwartz, PHD, MD  
**Professor of Clinical Medicine (primary appointment)**  
Adjunct Professor of Medicine  
BA Columbia College 1965  
PHD School Not Listed 1971  
MD School Not Listed 1972  

David B Schwartz, PHD, MD  
**Associate Professor of Medicine (primary appointment)**  
PHD Washington Univ in St. Louis 1986  
BS University of Michigan 1980  
MD Washington Univ in St. Louis 1987  

Evan Stuart Schwarz, MD  
**Assistant Professor of Emergency Medicine in Medicine (primary appointment)**  
MD University of Texas Austin 2005  
BA University of Texas Austin 2001  

Julie K Schwarz, MD, PHD  
**Associate Professor of Radiation Oncology (primary appointment)**
Associate Professor of Cell Biology and Physiology
MD Washington Univ in St. Louis 2004
PHD Washington Univ in St. Louis 2004
Sally J Schwarz Professor of Radiology (primary appointment)
George G. Schweitzer, MS Instructor in Medicine (primary appointment)
MS Southern Ill Univ Edwardsville 2007
BS Washington Univ in St. Louis 2004
Allen Sclaroff, DDENT Professor of Clinical Otolaryngology (Oral Surgery) (primary appointment)
BA University of Colorado Boulder 1968
DDENT Temple University 1972
Leslie A Scott Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Mitchell G Scott, MS Professor of Pathology and Immunology (primary appointment)
Clinical Research Assistant Professor of Medicine
MS University of Missouri 1977
Lynne M Seacord Associate Professor of Medicine (primary appointment)
Homayoun Sedighi, DDENT Assistant Professor of Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)
BA Indiana University Bloomington 1983
DDENT Washington Univ in St. Louis 1987
Colleen Erika Seematter Instructor in Clinical Pediatrics (primary appointment)
Christopher G Seep, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BA University of Missouri 1971
OD University of MO St Louis 1984
Adelita Segovia Langley Assistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)
Jennifer K Sehn, MD Assistant Professor of Pathology and Immunology (primary appointment)
MD Washington Univ in St. Louis 2011
BS Georgia Tech 2007
David Brian Seibel Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
Karen Seibert, MA Professor of Anesthesiology (primary appointment)
Professor of Pathology and Immunology
Professor of Genetics
BS Northwestern University 1981
MA University of Toledo 1983
David Seltzer Assistant Professor of Emergency Medicine in Medicine (primary appointment)
Jay R Seltzer, MD Assistant Professor of Clinical Medicine (primary appointment)
MD University of Missouri 1987
BA University of Missouri 1987
Clay F Semenkovich, MD Irene E and Michael M Karl Professor of Endocrinology and Metabolism in Medicine (primary appointment)
Professor of Cell Biology and Physiology
BA University of Virginia 1977
MD Washington Univ in St. Louis 1981
Janice Semenkovich, MD Associate Professor of Radiology (primary appointment)
MD Washington Univ in St. Louis 1981
Deepali Prabir Sen, MD, MBBS Assistant Professor of Medicine (primary appointment)
Robert M Senior, MD, MLA Prof Emeritus of Medicine (primary appointment)
MD George Washington University 1961
MLA Washington Univ in St. Louis 1997
BA Oberlin College 1957
Debra L Seoane, MD Instructor in Clinical Surgery (General Surgery) (primary appointment)
MD University of Miami 1986
Diane S Sepich, PHD Assistant Professor of Developmental Biology (primary appointment)
PHD University of Oregon 1994
BS University of San Diego 1981
Joseph Michael Seria Instructor in Clinical Medicine (primary appointment)
BS St Vincent College 1964
James Serot Assistant Professor of Anesthesiology (primary appointment)
Harvey Serota, MD Instructor in Clinical Medicine (primary appointment)
MD Johns Hopkins University 1982
BA Johns Hopkins University 1976
James F Sertl, MD Instructor in Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1962
MD Saint Louis University 1966
Donald G Sessions Prof Emeritus Of Otolaryngology (primary appointment)
Martha Papay Sewall, MD Instructor in Clinical Pediatrics (primary appointment)
MD University of Missouri 1985
BA University of Missouri 1983
Bryan Norbert Sewing, DOST Instructor in Psychiatry (Pending Dean's Approval) (primary appointment)
DOST Kirksville College of Osteopat 1998
BS Texas Christian University 1991
Anne R Seyer, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA Saint Louis University 2002
MD Saint Louis University 2006
Gary D Shackelford, MD Prof Emeritus Of Radiology (primary appointment)
MD Washington Univ in St. Louis 1968
BA Northwestern University 1964
Penelope G Shackelford, MD Prof Emeritus Of Pediatrics (primary appointment)
BS Univ of Wisconsin Madison 1964
MD Washington Univ in St. Louis 1968
Cherilynn Maria Reynolds Shadding Academic Rank held in Genetics (primary appointment)
Assistant Professor of Genetics
Gaurav Kirit Shah, MD Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MD University of Illinois 1993
Purvi Shah, MD Assistant Professor of Pediatrics (primary appointment)
MD Baylor University 2000
BA Rice University 1996
Rajiv K Shah, MD Assistant Professor of Anesthesiology (Pending Executive Faculty Approval) (primary appointment)
MD University of Rochester 2010
Snehal Paresh Shah, MD Instructor in Pediatrics (primary appointment)
MD Ross Univ School of Medicine 2010
BA Boston College 2003
Shabana Shahanavaz, MDAssistant Professor of Pediatrics (primary appointment)
MD Kasturba Medical College 2002
Sonia Malhotra Shahrawat, MDInstructor in Anesthesiology (primary appointment)
MD Bharati Vidyapeeth Med College 2000
BS Tufts University 2001
Rachel E. Shakofsky, MDInstructor in Pediatrics (primary appointment)
BS University of MO Columbia 2003
MD University of MO Columbia 2007
Courtney Shands III, MDInstructor in Clinical Surgery (Urologic Surgery) (primary appointment)
MD Vanderbilt University 1982
BA Stanford University 1978
Karl Shanker, DDENTInstructor in Clinical Otolaryngology (DDS) (primary appointment)
DDENT University of Missouri 1978
BA Washington Univ in St. Louis 1975
William D Shannon, PhD, MSProf Emeritus of Biostatistics in Medicine (primary appointment)
PHD University of Pittsburgh 1995
MS University of Massachussetts 1989
BS School Not Listed 1985
Jieya Shao, PHDAssistant Professor of Medicine (primary appointment)
PHD Oklahoma St University 2002
BS Nankai University 1996
Larry J Shapiro, MDSpencer T and Ann W Olin Distinguished University Professor (primary appointment)
Executive Vice Chancellor and Dean Emeritus
BS Washington Univ in St. Louis 1968
MD Washington Univ in St. Louis 1971
Anshuman Sharma, MDPровessor of Anesthesiology (primary appointment)
MD Institute of Medical Science 1990
BA Government Medical College 1987
Aseem Sharma, MBBSAssociate Professor of Radiology (primary appointment)
MBBS All-India Inst of Medical Sci 1992
Girdhar G SharmaAssistant Professor of Radiation Oncology (primary appointment)
PHD1 Banaras Hindu University 2000
MS1 Banaras Hindu University 1992
BS1 Banaras Hindu University 1990
Rajiv Kumar SharmaAdjunct Instructor in Medicine (primary appointment)
Vijay Sharma, MS, PHDProfessor of Radiology (primary appointment)
MS Panjab University 1983
PHD Panjab University 1987
Gerald Stephen Shatz, MDAssistant Professor of Clinical Medicine (primary appointment)
BA Northwestern University 1970
MD Washington Univ in St. Louis 1974
Andrey S Shaw, MDAdjunct Professor of Pathology and Immunology (primary appointment)
BA Columbia University 1979
MD Columbia University 1984
Eleanor Maria Shaw Assistant Professor of Clinical Pediatrics (primary appointment)
BA University of Missouri 1978
Paul Joseph Shaw, MA, PHD Associate Professor of Neuroscience (primary appointment)
BA Niagara University 1985
MA San Jose State University 1990
PHD University of Chicago 1996
Nidal Shawahin, MD Instructor in Clinical Medicine (primary appointment)
MD University of Jordan 1988
Kathleen C Sheehan, PHD Assistant Professor of Pathology and Immunology (primary appointment)
BS University of Notre Dame 1980
PHD Saint Louis University 1986
Vidal T. Sheen, MD Instructor in Clinical Medicine (primary appointment)
MD University of Louisville 1995
BA Johns Hopkins University 1991
Paul W Sheffner Assistant Professor of Clinical Psychiatry (primary appointment)
David M. Sheinbein, MD Associate Professor of Medicine (Dermatology) (primary appointment)
MD Saint Louis University 1995
Christian T Sheline, PHD Adjunct Research Associate Professor of Neurology (primary appointment)
BA Dartmouth College 1983
PHD University of California 1989
Megan Elizabeth Shelton Instructor in Clinical Pediatrics (primary appointment)
Hua Shen, MS, PHD Instructor in Orthopaedic Surgery (primary appointment)
MS Chinese Academy of Med Science 1996
PHD University of Konstanz 2002
Jie Shen, MS, PHD Assistant Professor of Orthopaedic Surgery (primary appointment)
MS University of Rochester 2011
PHD University of Rochester 2012
BS Nanjing University 2005
Mounir M Shenouda Instructor in Clinical Medicine (primary appointment)
Shalini Shenoy, MD, MBBS Professor of Pediatrics (primary appointment)
MD Kasturba Medical College 1985
BS M.G.R. Medical University 1981
MBBS Kasturba Medical College 1981
Surendra Shenoy, MD Professor of Surgery (General Surgery) (primary appointment)
BS Kasturba Medical College 1980
MD Kasturba Medical College 1984
Andrew John Shepherd, PHD Instructor in Anesthesiology (primary appointment)
PHD University of Manchester 2006
Ross William Shepherd, MD, MBBS Adjunct Professor of Pediatrics (primary appointment)
MD University of Queensland 1979
MBBS University of Queensland 1970
James Banks Shepherd III, MD Associate Professor of Ophthalmology and Visual Sciences (primary appointment)
BA Amherst College 1992
MD Columbia University 1997
John Joseph Sheridan, MD  Instructor in Clinical Orthopaedic Surgery (primary appointment)
MD Washington Univ in St. Louis 1969

Anup Shashindra Shetty, MD  Instructor in Radiology (primary appointment)
BS Duke University 2003
MD University of Texas Southwest 2007

Priya Saigal Shetty, MD  Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
MD University of Michigan 2007

Arsham Sheybani, MD  Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
MD Washington Univ in St. Louis 2008

Steven M Shields, MD  Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BS Washington Univ in St. Louis 1981
MD Washington Univ in St. Louis 1986

Alan Shiels, PHD  Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Genetics
PHD University of London 1983
BS School Not Listed 1979

Adrian Shifren, MBBCH, MS  Assistant Professor of Medicine (primary appointment)
MBBCH University of the Witwatersra 1996
MS Washington Univ in St. Louis 2011
BS University of the Witwatersra 1993

Joshua S Shimony, MD, PHD  Associate Professor of Radiology (primary appointment)
MD University of Illinois 1995
BS Technion - Israel Inst. of Tec 1982
PHD University of Tennessee 1988

Haina Shin, PHD  Assistant Professor of Medicine (primary appointment)
BA Northwestern University 2004
PHD University of Pennsylvania 2009

Jimann Shin  Instructor in Developmental Biology (primary appointment)
BS Kyung Pook National University 2002

Marwan Shinawi, MD  Professor of Pediatrics (primary appointment)
MD Technion - Israel Inst. of Tec 1996

Cara L Shirai, MS  Instructor in Medicine (primary appointment)
MS Southeast Missouri St Univers 2005

Min-Yi Katherin Shiu  Instructor in Clinical Pediatrics (primary appointment)
BS Washington Univ in St. Louis 1992

Kooresh Isaac Shoghi, MS, PHD  Associate Professor of Radiology (primary appointment)
MS University of CA Los Angeles 2000
PHD University of CA Los Angeles 2005
BS University of CA Los Angeles 1996

Monica Shokeen, PHD  Assistant Professor of Radiology (primary appointment)
PHD Washington Univ in St. Louis 2006
BS School Not Listed 1997

Bernard L Shore  Professor of Clinical Medicine (primary appointment)

Howard Newton Short, MD  Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
Mary Ann Shortal, Adjunct Instructor in Audiology and Communication Sciences (primary appointment)

BS Washington Univ in St. Louis 1976

Michael Shoykhet, MD, PHD, Assistant Professor of Pediatrics (primary appointment)
BA Cornell University 1996
MD University of Pittsburgh 2005
PHD University of Pittsburgh 2003

Hui Hua Shu, MD, Instructor in Radiology (primary appointment)
BA University of MO Kansas City 1987
MD University of MO Kansas City 1986

Gordon L Shulman, MS, PHD, Professor of Neurology (primary appointment)
BA Yale University 1975
MS University of Oregon 1977
PHD University of Oregon 1979

Robert B Shuman, Associate Professor of Clinical Medicine (primary appointment)
BA Brandeis University 1977

Sherry E Shuman, MD, Associate Professor of Clinical Medicine (primary appointment)
BS University of Michigan 1978
MD Wayne State University 1982

Eli R Shuter, MD, Associate Professor of Clinical Neurology (primary appointment)
BA University of MO Kansas City 1960

Laurence David Sibley, PHD, Professor of Molecular Microbiology (primary appointment)

Barry Alan Siegel, Professor of Radiology (primary appointment)
BA Washington Univ in St. Louis 1966

Cary Lynn Siegel, MD, Professor of Radiology (primary appointment)
BA Davenport University 1987
BS Davenport University 1983

Marlyn J Siegel, Professor of Radiology in Pediatrics

Carla J Siegfried, MD, Professor of Radiology in Ophthalmology (primary appointment)
BA University of MO Kansas City 1989
MD University of MO Kansas City 1989

Jeffrey E Siegler, Instructor in Emergency Medicine in Medicine (primary appointment)

Christine A Sigman, Instructor in Clinical Medicine (primary appointment)

Charles D Signorelli, OD, Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD School Not Listed 1957
BS School Not Listed 1957

Jennifer N Silva Assistant Professor of Pediatrics (primary appointment)
BA Union College New York 1997

Matthew J Silva, ME, PHD Julia and Walter R Peterson Professor of Orthopaedic Research (primary appointment)

Assistant Professor of Biomedical Engineering
ME Cornell University 1984
PHD Mass Inst of Technology (MIT) 1996
BS Cornell University 1982

Gary Arthur Silverman, PHD, MD Harriet B Spoehrler Professor of Pediatrics (primary appointment)

Head of the Department of Pediatrics
BS Washington Jefferson College 1978
PHD University of Chicago 1982
MD University of Chicago 1984

Todd B Silverman Instructor in Clinical Neurology (primary appointment)

Barbara Sue Silverstein, PHD Assistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)
PHD Saint Louis University 1992
BS University of Missouri 1978

Julie Martha Silverstein, MD Assistant Professor of Medicine (primary appointment)

Assistant Professor of Neurological Surgery
MD Drexel University 2007
BA New York University 2004

Randy B Silverstein, MD Instructor in Clinical Medicine (primary appointment)
MD University of Missouri
Nicholas James Silvestros Instructor in Ophthalmology and Visual Sciences (primary appointment)

Matthew Leon Silviera, MD Assistant Professor of Surgery (General Surgery) (primary appointment)
MS1 Temple University 2010
BS Pennsylvania State University 2001
MD Temple University 2005

Connie Darlene Simmons Instructor in Clinical Pediatrics (primary appointment)

Nathan M Simon, MS, MD Professor Emeritus of Clinical Psychiatry (primary appointment)
Prof Emeritus of Clinical Psychiatry (primary appointment)
MS Yale University 1950
MD Washington Univ in St. Louis 1955
BS Yale University 1949

Paul S Simons, MD Associate Professor of Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1967
BA University of Texas Austin 1963

Joseph Rogers Simpson, PHD Professor Emeritus of Radiation Oncology (primary appointment)
Prof Emeritus of Radiation Oncology (primary appointment)

PHD University of Chicago 1967

Kathleen Elizabeth Simpson, MD Assistant Professor of Pediatrics (primary appointment)
MD University of MO Kansas City 2006

Reed Earl Simpson, MD Assistant Professor of Clinical Psychiatry (primary appointment)
BA Wabash College 1972
MD Washington Univ in St. Louis 1976
David R Sinacore, MHS, PHD Professor of Physical Therapy (primary appointment)
Professor of Medicine
MHS Washington Univ in St. Louis 1983
PHD West Virginia University 1992
BS State University of New York 1979
Robert W Sindel, MD Instructor in Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1969
MD Washington Univ in St. Louis 1975
Sanford S Sineff, MD Assistant Professor of Emergency Medicine in Medicine (primary appointment)
BS Harvard University 1992
MD Brown University 1996
Barry A. Singer Assistant Professor of Clinical Neurology (primary appointment)
Gary Singer, MD Assistant Professor of Clinical Medicine (primary appointment)
MD University of Toronto 1987
Gautam K Singh, MBBS, MD Professor of Pediatrics (primary appointment)
MBBS Ranchi University 1977
MD Patna Medical College 1982
Gurcharan J Singh, MD Instructor in Clinical Medicine (primary appointment)
BS Delhi University 1968
MD Delhi University 1975
Itender Singh, PHD Assistant Professor of Neurological Surgery (primary appointment)
PHD UNIVERSITY OF DELHI 2004
Jasvindar Singh, MD Associate Professor of Medicine (primary appointment)
MD Fiji School of Medicine 1988
Carl Jeffrey Sippel, MD, PHD Assistant Professor of Clinical Pediatrics (primary appointment)
MD Saint Louis University 1983
BA University of Missouri 1975
PHD Saint Louis University 1980
David Siroospour, MD Assistant Professor of Clinical Surgery (General Surgery) (primary appointment)
MD School Not Listed 2000
Bryan Anthony Sisk Instructor in Pediatrics (primary appointment)
James C Sisk, MD Assoc Prof Emeritus of Clin Medicine (Derm) (primary appointment)
BA Washington Univ in St. Louis 1943
MD Washington Univ in St. Louis 1946
Kelsey Alayne Sisti, MD Instructor in Pediatrics (primary appointment)
MD University of Arkansas 2009
BS University of Alaska 2005
Harold B Sitrin, MD Assistant Professor of Clinical Pediatrics (primary appointment)
BA University of Rochester 1966
MD Saint Louis University 1971
Clayton D. Skaggs Adjunct Instructor in Obstetrics and Gynecology (primary appointment)
BS Southwest Missouri St Universi 1984
Judith Ann Skala, RN, RN, MA, PHD Instructor in Psychiatry (Pending Dean's Approval) (primary appointment)
RN St Louis Community College 1981
RN 1981
MA Washington Univ in St. Louis 1992
PHD Washington Univ in St. Louis 2001
BS Washington Univ in St. Louis 1989

James B Skeath, PHD Professor of Genetics (primary appointment)
BA Haverford College 1988
PHD Univ of Wisconsin Madison 1993

Celette Sugg Skinner, MA Adjunct Assistant Professor of Radiology (primary appointment)
BA Furman University 1980
MA Wheaton College 1982

Donald A Skor, MD Professor of Clinical Medicine (primary appointment)
MD Rush University 1978
BA Washington Univ in St. Louis 1973

Alan Joseph Skoultchi, MD Instructor in Clinical Pediatrics (primary appointment)
BS Duke University 1989
MD U Medical-Dental Of New Jersey 1995

Eduardo Slatopolsky Prof Emeritus of Medicine (primary appointment)
BS School Not Listed 1952

Stacy Lynn Smallfield, MS, MD Assistant Professor of Occupational Therapy (Pending Executive Faculty Approval) (primary appointment)
BS Gustavus Adolphus College 1995
MS Washington Univ in St. Louis 1996
MD Nova Southeastern University 2007

Bradley Thomas Smith, MD Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
MD University of AL Birmingham 2002

Carl Hugh Smith, MD Prof Emeritus of Pediatrics (primary appointment)
BA Swarthmore College 1955
MD Yale University 1959

Carolyn Anne Delaney Smith Assistant Professor of Pediatrics (primary appointment)
BA Rice University 1996

Emily Louise Smith, MD Asst Prof Emeritus of Radiology (primary appointment)
BA Washington Univ in St. Louis 1964
MD Washington Univ in St. Louis 1968

Gordon Ian Smith, PHD, MS Assistant Professor of Medicine (primary appointment)
PHD University of Aberdeen 2006
MS University College Chichester 2002

James B Smith, MD Assoc Prof Emeritus Of Clinical Psychiatry (primary appointment)
BA University of Missouri 1963
MD University of Missouri 1967

Jennifer H. Smith Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS University of California 1995

Joshua C Smith Instructor in Clinical Pediatrics (primary appointment)

Matthew Vernon Smith, MD Assistant Professor of Orthopaedic Surgery (primary appointment)
MD Virginia Comm University 2002

Morton Edward Smith, MD Professor Emeritus of Ophthalmology and Visual Sciences (primary appointment)
Prof Emeritus of Ophthalmol & Vis Sci (primary appointment)
Lecturer in Ophthalmology and Visual Sciences
Lecturer in Pathology and Immunology
Associate Dean Emeritus for Post-Graduate Education
BS University of Maryland 1956
MD University of Maryland 1960

Nancy Bloom Smith, DPT
Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
DPT Washington Univ in St. Louis 2002
BS Washington Univ in St. Louis 1984
BA University of Virginia 1976

Peter Gaillard Smith, ME, PHD
Assistant Professor of Clinical Otolaryngology (primary appointment)
BS Clemson University 1967
ME Purdue University 1970
PHD Purdue University 1972

Raymond P Smith, MD
Instructor in Clinical Medicine (primary appointment)
BA Vassar College 1980
MD University of Virginia 1984

Stacey L Smith, MD
Assistant Professor of Clinical Psychiatry (primary appointment)
BA Northwestern University 1986
MD Northwestern University 1991

Timothy Robert Smith, MD
Instructor in Clinical Medicine (primary appointment)
MD University of Mississippi 1989
BS University of Mississippi 1983

Timothy W. Smith, MD, PHD
Associate Professor of Medicine (primary appointment)
MD Duke University 1993
PHD Oxford University 1989
BS Duke University 1986

Christopher D Smyser
Assistant Professor of Neurology (primary appointment)

Matthew D Smyth, MD
Professor of Neurological Surgery (primary appointment)
Professor of Pediatrics
MD University of CA San Francisco 1996
BA Cornell University 1992

Barbara Joy Snider, MD
Professor of Neurology (primary appointment)
MD University of Texas Southwest 1989

Jules M Snitzer, DDS
Instructor in Clinical Otolaryngology (DDS) (primary appointment)
DDSNT Washington Univ in St. Louis 1955

Claud Randall Snowden, OD
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Illinois College of Optometry 1974
BS Illinois College of Optometry 1972

Abraham Z Snyder, MD, PHD
Professor of Radiology (primary appointment)

Jason Andrew Snyder
Assistant Professor of Surgery (General Surgery) Pending Executive Faculty Approval (primary appointment)
Lawrence H Snyder, AB, PHD, MD, MS Professor of Neuroscience (primary appointment)
Professor of Psychological & Brain Sciences
AB Princeton University 1982
PHD University of Rochester 1992
MD University of Rochester 1992
MS University of Rochester 1992
Michael C Snyder Adjunct Instructor in Medicine (primary appointment)
Alison K Snyder-Warwick, MD Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
MD Washington Univ in St. Louis 2004
Allen D Soffer, MD Instructor in Clinical Medicine (primary appointment)
BA Emory University
MD University of Missouri 1983
Richard S Sohn Assoc Prof Emeritus of Neurology (primary appointment)
BS Brooklyn College 1964
Nareshkumar J Solanki Assistant Professor of Clinical Pediatrics (primary appointment)
UNKNOWN University of Nairobi 1975
Lilianna Solnica-Krezel, MS Professor of Developmental Biology (primary appointment)
Head of the Department of Developmental Biology
Alan A and Edith L Wolff Professor of Developmental Biology
MS Medical University of Warsaw 1985
Stephanie Rose Solomon, PHD Adjunct Assistant Professor of Medicine (primary appointment)
PHD Emory University 2008
BS Ohio State University 2001
Steven Lee Solomon, MD Assistant Professor of Clinical Radiology (primary appointment)
MD University of Chicago 1985
BA Northwestern University 1981
Rand Washburn Sommer, MD Associate Professor of Clinical Medicine (primary appointment)
BS Davidson College 1976
MD Washington Univ in St. Louis 1980
Mitchell S. Sommers, PHD Professor of Psychological & Brain Sciences (primary appointment)
Chair, Human Research Protection Office
PHD University of Michigan 1990
BS Georgetown University 1982
Richard Brian Sommerville, MD Assistant Professor of Neurology (primary appointment)
MD Columbia University 2005
BS Harvard University 1999
Sheng-Kwei Song, MS, PHD Professor of Radiology (primary appointment)
MS University of Alabama 1986
PHD Washington Univ in St. Louis 1990
BS Tamkang University 1981
Tammy Shim Sonn, MD Associate Professor of Obstetrics and Gynecology (primary appointment)
MD Rush University 2004
BS University of Chicago 1999
Umang Sood Instructor in Pediatrics (primary appointment)
BS University of MO Kansas City 2003
Andrea Soranno Assistant Professor Biochemistry and Molecular Biophysics (Pending Executive Faculty Approval) (primary appointment)
Craig H Sorce, OD  Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD University of Missouri 1992
BA Southern Illinois University 1988

Florentina Soto Lucas, PHD  Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
PHD University of Alicante 1992

Hani Charles Soudah, MD, PHD  Associate Professor of Clinical Medicine (primary appointment)
MD School Not Listed 1983
PHD School Not Listed 1988

William F Southworth, MD  Assistant Professor of Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1969
MD Washington Univ in St. Louis 1975

James Joseph Spadaro Jr  Assistant Professor of Clinical Medicine (primary appointment)

Michael L Spearman, MD  Instructor in Clinical Medicine (primary appointment)
BS Kansas State University 1978
MD University of Kansas Medical 1982

Andrej Spec  Instructor in Medicine (primary appointment)
MD University of Illinois 2010

Gershon J Spector, MD  Prof Emeritus of Otolaryngology (primary appointment)
MD University of Maryland 1964
BA Johns Hopkns University Medic 1960

William Marshall Spees, PHD  Assistant Professor of Radiology (primary appointment)
BS Truman State University 1993
PHD Washington Univ in St. Louis 1999

Christopher Spencer, MD, MA, BAS  Adjunct Instructor in Radiation Oncology (primary appointment)
MD Saint Louis University 2010
MA Truman State University 2006
BAS Truman State University 2005

David H. Spencer, MD, PHD  Assistant Professor of Medicine (primary appointment)
MD University of Washington 2010
BS University of Washington 2001
PHD University of Washington 2008

John Spertus  Adjunct Professor of Medicine (primary appointment)

Tara V. Spevack, MS, PHD  Instructor in Clinical Neurology (primary appointment)
BS McGill University 1987
MS University of Florida 1994
PHD University of Florida 1997

Robert D Spewak, MD  Instructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1979
BA Drake University 1975

Michael Spezial  Instructor in Clinical Medicine (primary appointment)

Craig A Spiegel, MD  Assistant Professor of Clinical Pediatrics (primary appointment)
MD Case Western Reserve Univ 1982
BA Washington Univ in St. Louis 1978

Timothy Eric Spiegel, MD  Assistant Professor of Psychiatry (Child Psychiatry) (primary appointment)
Philip Charles Spinella, MD
Associate Professor of Pediatrics (primary appointment)
MD New York Medical College 1995
BS Tufts University 1991

John Charles Spitler, MD
Assistant Professor of Anesthesiology (primary appointment)
BS University of MO Columbia 1998
MD University of MO Columbia 2003

Dirk M Spitzer, PhD
Assistant Professor of Surgery (General Surgery) (primary appointment)
BS School Not Listed 1995
PHD Technische U Braunschweig 1999

Theresa M Spitznagle, DPT, MHS
Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Obstetrics and Gynecology
DPT Washington Univ in St. Louis 2006
MHS Washington Univ in St. Louis 1994
BS Marquette University 1986

Jennifer E. Sprague, PhD, MD
Assistant Professor of Pediatrics (primary appointment)
BS Indiana University Bloomington 2000
PHD Washington Univ in St. Louis 2007
MD Washington Univ in St. Louis 2007

Mark H Spurrier, MD
Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
MD Washington Univ in St. Louis 1980
BA Kansas State University 1976

Mythili Srinivasan, MS
Associate Professor of Pediatrics (primary appointment)
MS Madurai Kamaraj University 1983

Chotchai Srisuro, MD
Associate Professor of Clinical Obstetrics and Gynecology (primary appointment)
MD School Not Listed 1967

Danielle R St Leger
Instructor in Clinical Pediatrics (primary appointment)

Erik Christian Stabell
Instructor in Clinical Medicine (primary appointment)

Robert Peter Stachecki, MD
Instructor in Radiology (primary appointment)
BS University of Notre Dame 2003
MD Georgetown University 2007

Kristin Voellinger Stahl
Instructor in Clinical Neurology (primary appointment)

Philip Damien Stahl, PhD
Edward Mallinckrodt Jr Prof Emeritus (primary appointment)
BS West Liberty St College 1964
PHD West Virginia University 1967

Klaus J Staisch, MD
Assoc Prof Emeritus of Clinical Ob & Gyn (primary appointment)
MD School Not Listed 1966

Christina Leigh Stallings, MS, MA, PhD
Assistant Professor of Molecular Microbiology (primary appointment)
MS Columbia University 2002
MA Columbia University 2001
PHD Columbia University 2005
BS Mary Washington College 1999

Sarah A Stanage
Instructor in Pediatrics (primary appointment)
BS Washington Univ in St. Louis 2001
Thaddeus S. Stappenbeck, PHD, MD
Conan Professor of Laboratory and Genomic Medicine
(primarily appointment)
Professor of Developmental Biology
BA Northwestern University 1987
PHD Northwestern University 1994
MD Northwestern University 1995

Susan L Stark, PHD, MS
Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Neurology
PHD University of MO Columbia 1998
BS Alma College 1988
MS Washington Univ in St. Louis 1989

Ashley L. Steed, MD, PHD
Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
MD Washington Univ in St. Louis 2008
PHD Washington Univ in St. Louis 2008
BS Duke University 2001

Norman P Steele
Instructor in Clinical Pediatrics (primary appointment)

Alan Joel Stein, MD
Assistant Professor of Clinical Surgery (Urologic Surgery) (primary appointment)
BS Univ of Wisconsin Madison 1972
MD Wayne State University 1976

Paul M Stein, MD
Professor of Clinical Medicine (primary appointment)
MD Saint Louis University 1971
BA University of Rochester 1967

Phyllis K Stein, PHD
Associate Professor of Medicine (primary appointment)
BA Barnard College 1962
PHD University of Virginia 1990

Richard Ian Stein, PHD
Associate Professor of Medicine (primary appointment)
PHD Arizona State University 2000

Joseph H Steinbach, PHD
Prof Emeritus of Anesthesiology (primary appointment)
PHD University of CA San Diego 1973
BA Reed College 1968

Emily Steiner, MD
Instructor in Medicine (primary appointment)
MD University of Toledo 2013

Holly L Steiner
Assistant Professor of Obstetrics and Gynecology (primary appointment)
BS Southern Ill Univ Edwardsville 2005

Leena Lata Stemler, MD
Instructor in Pediatrics (primary appointment)
BA Brown University 2003
MD Brown University 2007

James Derek Stensby, MD
Assistant Professor of Radiology (primary appointment)
MD Emory University 2008
BS Emory University 2003

William F Stenson
Dr Nicholas V Costrini Professor of Medicine (primary appointment)
BS Providence College 1967

Barbara B Sterkel
Adjunct Associate Professor of Medicine (primary appointment)

Randall S Sterkel
Assistant Professor of Clinical Pediatrics (primary appointment)
BA Duke University 1989

Karin Sterl, MD
Instructor in Medicine (primary appointment)
MD Luliu Hatieganu U of Med 2007
Kara Ellen Sternhell-Blackwell, MA, MDAssistant Professor of Medicine (Dermatology) (primary appointment)
MA Washington Univ in St. Louis 2003
MD Washington Univ in St. Louis 2005
BA Washington Univ in St. Louis 1999
Tracey Wagner StevensAssistant Professor of Anesthesiology (primary appointment)
Sheila Stewart-Wigglesworth, PHDProfessor of Cell Biology and Physiology (primary appointment)

Professor of Medicine
BS University of Minnesota 1990
PHD University of CA Los Angeles 1996

Arthur Waldo Stickel Jr, MDAsst Prof Emeritus Of Clin Ophthal & VIs Sci (primary appointment)
Asst Prof Emeritus Of Clin Ophthalmol & VIs Sc (primary appointment)
MD University of Oklahoma 1943

Anita R Stiffelman, MDAssociate Professor of Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1983
MD New York Medical College 1987

Wayne A StillingsAssistant Professor of Clinical Psychiatry (primary appointment)

Jennifer S Stith, MSW, MS, PHDProfessor of Physical Therapy (primary appointment)
Associate Director of Professional Curriculum in Physical Therapy
Division Director for Education in Physical Therapy

Professor of Neurology
BS University of California 1976
MSW Washington Univ in St. Louis 2006
MS University of Southern Calif 1979
PHD Washington Univ in St. Louis 1994

Nathan O. StitzielAssistant Professor of Medicine (primary appointment)

Assistant Professor of Genetics
BA1 Washington Univ in St. Louis 1998

Marissa Christine Stock, MD
MD University of MO Kansas City 2002

Keith Evan Stockerl-Goldstein, MDAssociate Professor of Medicine (primary appointment)
MD University of CA Los Angeles 1991
BA Washington Univ in St. Louis 1986

Daniel Charles StoeckelInstructor in Clinical Surgery (primary appointment)

James Andrew Stokes, MDInstructor in Clinical Medicine (primary appointment)
MD University of Missouri 1984
BA Stanford University 1976

Jeffrey R StokesProfessor of Pediatrics (Pending Executive Faculty Approval) (primary appointment)

Janis Marie Stoll, MDAssistant Professor of Pediatrics (primary appointment)
MD Eastern Virginia Med School 2004

Michael Gary Stone, MDInstructor in Clinical Medicine (primary appointment)
MD Kansas Cty Univ Med/Bioscience 2008

Stephen I Stone, MDInstructor in Pediatrics (Pending Dean's Approval) (primary appointment)
BS University of Illinois Chicago 2005
MD Rosalind Franklin University 2010

John A Stopple, MDInstructor in Clinical Obstetrics and Gynecology (primary appointment)
Gregory A Storch, MD
Ruth L. Siteman Professor of Pediatrics (primary appointment)
Professor of Molecular Microbiology
Professor of Medicine
MD New York University 1973
BA Harvard University 1969
Gary D Stormo, PhD, MA
Professor of Genetics (primary appointment)
Joseph Erlanger Professor
Professor of Computer Science
Professor of Biomedical Engineering
PHD University of Colorado Boulder 1981
BS California Institute Technolo 1972
MA University of Colorado Boulder 1975
Molly Jean Stout, MD
Assistant Professor of Obstetrics and Gynecology (primary appointment)
BA Bryn Mawr College 2002
MD Loyola University Chicago 2007
James Stowe, PhD, MS
Instructor in Medicine (primary appointment)
PHD Columbia, MO 2014
BA Kansas State University 2006
MS Kansas State University 2009
Jennifer Mae Strahle, MD
Asst Prof of Neurological Surgery (primary appointment)
Asst Prof of Orthopaedic Surgery
Asst Prof of Pediatrics
MD University of Minnesota 2008
BS Bates College 2002
Eric A Strand, MD
Associate Professor of Obstetrics and Gynecology (primary appointment)
MD Johns Hopkns University Medic 1995
Steven M Strasberg, MD
Pruett Professor of Surgery (General Surgery) (primary appointment)
Associate Professor of Cell Biology and Physiology
MD University of Toronto 1963
Robert H Strashun, MD, MA
Associate Professor of Clinical Pediatrics (primary appointment)
MD New York University 1982
BA Yeshiva University 1978
MA Yeshiva University 1978
William L Straube, MEE
Associate Professor of Radiation Oncology (primary appointment)
MEE Washington Univ in St. Louis 1992
M. Anne Street, MD
Assistant Professor of Clinical Pediatrics (primary appointment)
MD University of Illinois 1976
James W Strickland, MD
Visiting Professor of Orthopaedic Surgery (primary appointment)
BS Indiana University Bloomington 1958
MD Indiana University 1962
James F Strieter, MBA, OD
Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
MBA Southern Ill Univ Edwardsville 1988
BS School Not Listed 1953
OD School Not Listed 1954
Catherine Striley
Adjunct Assistant Professor of Psychiatry (primary appointment)
Cristina Strong Assistant Professor of Medicine (Dermatology) (primary appointment)
Malcolm H Stroud, MD Prof Emeritus Of Otolaryngology (primary appointment)
UNKNOWN Birmingham University 1945
UNKNOWN Peabody School Not Listed 1952
MD University of Birmingham 1945
Judith M. Stucki-Simeon, MD Instructor in Clinical Pediatrics (primary appointment)
MD Univ of Wisconsin Madison 1987
Christopher Michael Sturgeon, PHD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Developmental Biology
PHD University of British Columbia 2006
Xinming Su Instructor in Medicine (primary appointment)
Christopher Michael Sturgeon, PHD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Developmental Biology
PHD University of British Columbia 2006
Xiong Su, PHD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Cell Biology and Physiology
PHD Washington Univ in St. Louis 2004
BS Beijing University 1998
Yi Su, PHD Assistant Professor of Radiology (primary appointment)
BS University of Science & Tech 1999
PHD Mayo Clinic 2006
Brian K Suarez, PHD, MA Prof Emeritus of Psychiatry (primary appointment)
PHD University of CA Los Angeles 1974
MA University of CA Los Angeles 1972
Rosa M Suarez-Solar Instructor in Clinical Pediatrics (primary appointment)
BA University of Puerto Rico 1990
Hamsa Subramanian Instructor in Clinical Medicine (primary appointment)
BS St. Joseph's Convent - Trichy 1986
Kanagaraj Subramanian, PHD, MS Instructor in Medicine (primary appointment)
PHD Heidelberg University 2007
MS Heidelberg University 2000
Abbe L Sudvarg Instructor in Clinical Obstetrics and Gynecology (primary appointment)
Lisa Suffian, MD Instructor in Clinical Pediatrics (primary appointment)
MD University of MO Kansas City 1996
BS University of MO Kansas City 1990
Toshifumi Sugatani, PHD, DDENT Instructor in Pediatrics (primary appointment)
PHD Meiji University 2003
DDENT Meiji University 1991
Alexander L Sukstansky, MS, D SC Associate Professor of Radiology (primary appointment)
MS Kharkov State University 1971
D SC Donetsk State University 1991
Hani Suleiman, MD Instructor in Medicine (primary appointment)
MD Regensburg University 2007
Kaharu Sumino, PHD, M PA, MD Associate Professor of Medicine (primary appointment)
PHD Yokohama City Univ Sch Med 1999
M PA Johns Hopkins University 2008
MD Yokohama City Univ Sch Med 1992
William Craig Summers, MD Instructor in Clinical Medicine (primary appointment)
MD University of AL Birmingham 1999
BS University of Alabama 1994
Brian Patrick Sumner Adjunct Instructor in Ophthalmology and Visual Sciences (primary
Walton Sumner II, MD
Associate Professor of Medicine (primary appointment)
MD Southwestern University 1985
BA Rice University 1981
Baozhou Sun, PHD, MS
Assistant Professor of Radiation Oncology (primary appointment)
PHD College of William and Mary 2005
BS Jilin Medical University 2000
MS College of William and Mary 2002
Peng Sun, PHD, MS
Instructor in Radiology (primary appointment)
PHD Beijing University 2005
MS Beijing Inst Of Technology 2002
BS Harbin Engineering University 1999
Yun Ju Sung
Associate Professor of Biostatistics (primary appointment)
Herbert Sunshine, MD
Instructor in Clinical Surgery (Urologic Surgery) (primary appointment)
BA Washington Univ in St. Louis 1950
MD Washington Univ in St. Louis 1954
In Sook Sunwoo, MD
Instr Emeritus in Neurology (primary appointment)
MD School Not Listed 1959
Rama Suresh, MBBS
Assistant Professor of Medicine (primary appointment)
MBBS University of Madras 1993
Jagdish C Suri, MD
Assistant Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)
UNKNOWN School Not Listed 1959
BS School Not Listed 1954
MD School Not Listed 1964
Vinod Suri
Instructor in Clinical Psychiatry (Child Psychiatry) (Full-Time at Hawthorn Children's Psychiatric Hospital) (primary appointment)
UNKNOWN Punjab University 1962
Noah Susman, MD
Prof Emeritus Of Clinical Radiology (primary appointment)
MD Washington Univ in St. Louis 1952
BA Washington Univ in St. Louis 1948
Siobhan Sutcliffe, MHS, PHD, MS
Associate Professor of Surgery (Public Health Sciences) (primary appointment)
MHS Johns Hopkins University 2001
BS Princeton University 1998
PHD Johns Hopkins University 2005
MS Johns Hopkins University 2004
Rudee Suwannasri, MD
Instructor in Clinical Medicine (primary appointment)
MD Chiang Mai University 1973
BS Chiang Mai University 1971
Bridgette B Svancarek
Assistant Professor of Emergency Medicine in Medicine (primary appointment)
Dragan M Srakic, MD, PHD
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MD University of Belgrade 1978
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Sanjay Joshua Swamidass, PHD, MA, MD
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PHD University of California 2007
MA University of California 2006
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BS University of California 2000
Kenneth V Swanson Instructor in Clinical Ophthalmology and Visual Sciences (primary appointment)
Robert A Swarm Professor of Anesthesiology (primary appointment)
Wojciech A. Swat, MS, PHD Associate Professor of Pathology and Immunology (primary appointment)
MS University of Warsaw 1989
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Stuart C Sweet, PHD W. Mckim O. Marriott Professor of Pediatrics (primary appointment)
PHD University of Michigan 1989
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MS Medical Academy Lodz 1975
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Chad M Sylvester, PHD, MD Instructor in Psychiatry (Child) (primary appointment)
PHD Washington Univ in St. Louis 2009
MD Washington Univ in St. Louis 2009
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Chandrakant Tailor, MD Assistant Professor of Clinical Radiology (primary appointment)
MD Medical College of India 1970
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BS University of the Philippines 1985
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Associate Professor of Neuroscience
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PHD Saint Louis University 2006  
MD Saint Louis University 2008

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MD Washington Univ in St. Louis 1957  
BS Haverford College 1953

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Instructor in Clinical Obstetrics and Gynecology (primary appointment)

MD School Not Listed 1972

**Jeffrey Bryant Thompson, MD**  
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BS Vanderbilt University 1989  
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**M. Bryant Thompson**  
Associate Professor of Clinical Obstetrics and Gynecology (primary appointment)

BA Eastern New Mexico University 1957

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Professor of Cell Biology and Physiology  
Professor of Radiology

BA Hope College 1979  
MD University of Michigan 1983

**Wade L Thorstad, MD**  
Associate Professor of Radiation Oncology (primary appointment)

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**Dinesh Thotala, PHD, MS**  
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BS Bangalore University 1990  
MS Bangalore University 1993

**Jean Holowach Thurston, MD**  
Prof Emeritus Of Pediatrics (primary appointment)

BA University of Alberta 1938  
MD University of Alberta 1941

**Erik P Thyssen, MD**  
Assistant Professor of Clinical Medicine (primary appointment)

MD University of Copenhagen 1984  
BS University of Copenhagen 1980

**LinLin Tian, PHD**  
Instructor in Emergency Medicine in Medicine (primary appointment)

PHD Beijing Institute of Radiation 2009  
BS Hebei Medical University 2004

**Lawrence S Tierney, MD**  
Associate Professor of Clinical Medicine (primary appointment)

BS University of Illinois 1984
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Primary Appointment</th>
<th>University/Institution, Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jeffrey P Tillinghast, MD</td>
<td>Associate Professor of Clinical Medicine</td>
<td></td>
<td>MD University of Illinois, 1988</td>
</tr>
<tr>
<td>Mary A Tillman</td>
<td>Professor of Clinical Pediatrics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amaris Renee Tippey</td>
<td>Assistant Professor of Clinical Radiation Oncology</td>
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<tr>
<td>Jeffrey B. Titus, MA, PHD</td>
<td>Assistant Professor of Clinical Neurology</td>
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<tr>
<td>Mary A Tillman</td>
<td>Professor of Clinical Pediatrics</td>
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<td>Amaris Renee Tippey</td>
<td>Assistant Professor of Clinical Radiation Oncology</td>
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<tr>
<td>Wael Toama, MD</td>
<td>Instructor in Medicine</td>
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<tr>
<td>Albro C Tobey, MD</td>
<td>Assistant Professor of Clinical Obstetrics and Gynecology</td>
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<tr>
<td>Malcolm Tobias</td>
<td>Instructor in Radiology (Pending Dean's Approval)</td>
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<tr>
<td>Garry S Tobin, MD</td>
<td>Professor of Medicine</td>
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<tr>
<td>Albro C Tobey, MD</td>
<td>Assistant Professor of Clinical Obstetrics and Gynecology</td>
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<tr>
<td>Randall W Tobler</td>
<td>Assistant Professor of Clinical Obstetrics and Gynecology</td>
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<tr>
<td>Alexandre Todorov, M ED</td>
<td>Professor of Psychiatry</td>
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<tr>
<td>Robert W Tolan Jr., MA, MD</td>
<td>Instructor in Clinical Pediatrics</td>
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<tr>
<td>Niraj Harish Tolia, PHD</td>
<td>Associate Professor of Molecular Microbiology</td>
<td>Associate Professor of Biochemistry and Molecular Biophysics</td>
<td>PHD Watson Sch of Biological Scien, 2004</td>
</tr>
<tr>
<td>Douglas M Tollefsen, MD</td>
<td>Professor of Medicine</td>
<td></td>
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<tr>
<td>Michael H. Tomasson, MD</td>
<td>Adjunct Assistant Professor of Medicine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silvestre A Tomeldan Jr, MD</td>
<td>Instr Emeritus in Anesthesiology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adetunji Toriola, PHD</td>
<td>Assistant Professor of Surgery (General Surgery)</td>
<td></td>
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<tr>
<td>Ralph J Torrence, MD</td>
<td>Assistant Professor of Surgery (Urologic Surgery)</td>
<td></td>
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<tr>
<td>Robert R Townsend, MD, PHD, MS</td>
<td>Professor of Medicine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alexander Townsend, MD</td>
<td>Professor of Cell Biology and Physiology</td>
<td></td>
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</tr>
</tbody>
</table>
Elizabeth A Tracy, MD, Instructor in Clinical Medicine (primary appointment)
BS Marquette University 1982
MD Univ of Wisconsin Milwaukee 1986

Scott A. Trail, MD, Instructor in Clinical Pediatrics (primary appointment)
BA Saint Louis University 1985
MD University of MO Columbia 1990

Erica J Traxel, MD, Assistant Professor of Surgery (Urologic Surgery) (primary appointment)
BS Texas A&M University 1998
MD Beaufort Technical College 2002

Yvonne Perle Treece, AA, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
AA Pellissippi St Technical Coll 1997

Indi Trehan, MD, MPH, Assistant Professor of Pediatrics (primary appointment)
MD Northwestern University 2004
MPH Northwestern University 2004
BS University of CA Berkeley 1998

Norman Edwin Trevathan III, MS, MD, Adjunct Professor of Neurology (primary appointment)
MS Emory University 1982
BS David Lipscomb University 1977
MD Emory University 1982

Doris Janet Tribune-Brown, Instructor in Clinical Medicine (primary appointment)

Sandeep Kumar Tripathy, PhD, Assistant Professor of Medicine (primary appointment)
PHD University of Chicago 1995

Shamik Bharat Trivedi, MD, Instructor in Pediatrics (Pending Dean's Approval) (primary appointment)
MD University of Toledo 2009
Heather L. True, Professor of Cell Biology and Physiology (primary appointment)

Elbert P Trulock III, MD, Rosemary and I Jerome Flance Professor of Pulmonary Medicine in Medicine (primary appointment)
MD Emory University 1978
BS Emory University 1968

Linda Mei-Lin Tsai, MD, Associate Professor of Ophthalmology and Visual Sciences (primary appointment)
MD Northwestern University 1995

Garland R Tschudin, MD, Instructor in Clinical Pediatrics (primary appointment)
BA University of Missouri 1971
MD University of Missouri 1975

Thomas F Tse, MD, Instructor in Clinical Medicine (primary appointment)
BS University of Nebraska 1972
MD Univ of Nebraska at Omaha 1976

Christina Irene Tsien, MD, Professor of Radiation Oncology (primary appointment)
MD McGill University 1995

Zhude Tu, MS, PhD, Associate Professor of Radiology (primary appointment)
MS Beijing Normal University 1991
PHD Beijing Normal University 1995
MS1 University of St Thomas 2000
Garth D Tubbs, Asst Prof Emeritus Of Occupational Therapy (primary appointment)
David J Tucker, Assistant Professor of Clinical Medicine (primary appointment)
Dolores R Tucker, MD, Assistant Professor of Clinical Medicine (Dermatology) (primary appointment)
MD Washington Univ in St. Louis 1974
BS Saint Mary's College 1958
Stacey S Tull, MD, M PH, Assistant Professor of Clinical Medicine (Dermatology) (primary appointment)
MD Duke University 1997
M PH Duke University 1997
Thomas H Tung, Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
John W Turk, PHD, MD, Professor of Medicine (primary appointment)
Alan A and Edith L Wolff Professor of Endocrinology
Professor of Pathology and Immunology
BA Washington Univ in St. Louis 1970
PHD Washington Univ in St. Louis 1976
MD Washington Univ in St. Louis 1976
Michael P Turmelle, MD, Associate Professor of Pediatrics (primary appointment)
MD Johns Hopkins University 1998
BA Bowdoin College 1994
Yumirle Padron Turmelle, MD, AA, Associate Professor of Pediatrics (primary appointment)
MD University of Florida 2000
AA Miami Dade Community College 1993
BA University of Miami 1995
Isaiah Turnbull, MD, MS, Assistant Professor of Surgery (General Surgery) (primary appointment)
MD Washington Univ in St. Louis 2008
MS Washington Univ in St. Louis 2008
BS University of Oregon 1998
Jacqueline Sue Turner, MD, Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Tulane University 1983
BA Mass Inst of Technology (MIT) 1979
Peter G Tuteur, Assoc Prof Emeritus of Medicine (primary appointment)
BA Johns Hopkins University Medic 1962
Methodius Gamuo Tuuli, M PH, Associate Professor of Obstetrics and Gynecology (primary appointment)
M PH University of California 2003
BS University of Ghana 1997
Robert Lawrence Tychsen, Professor of Ophthalmology and Visual Sciences (primary appointment)
Professor of Neuroscience
Professor of Ophthalmology and Visual Sciences in Pediatrics
John F Hardesty MD, Distinguished Professor of Ophthalmology and Visual Sciences
BS Georgetown University 1975
Stacy Lynne Tylka, DPT, MS, Associate Professor of Physical Therapy (primary appointment)
Associate Professor of Orthopaedic Surgery
Associate Professor of Obstetrics and Gynecology
BS Saint Louis University 2000
DPT Washington Univ in St. Louis 2009
Ellen Twining Tyson, MA, Asst Prof Emeritus Of Occupational Therapy (primary appointment)
MA Syracuse University 1950
BA Syracuse University 1949
April L Tyus, Instructor in Clinical Pediatrics (primary appointment)
BA Washington Univ in St. Louis 1995
Rosalie May Uchanski, MS, PHD, Assistant Professor of Otolaryngology (primary appointment)
Assistant Professor of Audiology and Communication Sciences
BS University of Illinois Chicago 1978
MS Mass Inst of Technology (MIT) 1981
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MD Saint Louis University 1980
Jason Daniel Ulrich, Assistant Professor of Neurology (primary appointment)
Emil Raphael Unanue, MD, Paul and Ellen Lacy Professor of Pathology and Immunology (primary appointment)
BS Institute of Secondary Educati 1952
MD Havana University 1960
Fumihiko Urano, MD, Samuel E Schechter Associate Professor of Medicine (primary appointment)
Associate Professor of Pathology and Immunology
MD Keio University 1994
Mwiza Ushe, MD, MS, Assistant Professor of Neurology (primary appointment)
MD Washington Univ in St. Louis 2007
MS Washington Univ in St. Louis 2007
Elizabeth C Utterson, MD, Assistant Professor of Pediatrics (primary appointment)
BA University of Notre Dame 1994
MD Creighton University 1998
Geoffrey L Uy, MD, Associate Professor of Medicine (primary appointment)
BA1 Cornell University 1996
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MD Washington Univ in St. Louis 2001
Akshaya J Vachharajani, MBBS, MD, Associate Professor of Pediatrics (primary appointment)
MBBS Topiwala National Med College 1984
MD University of Bombay 1986
Justin Marinus Vader, MD, Assistant Professor of Medicine (primary appointment)
MD University of Texas Southwest 2006
Brij R Vaid, MD, Instructor in Clinical Medicine (primary appointment)
MD Rush University 1992
Lora Maureen Valente, Associate Professor of Otolaryngology (primary appointment)
Associate Professor of Audiology and Communication Sciences
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BS University of Illinois 1974
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MS Adelphi Univ 1972
PHD University of Illinois 1975
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Professor of Biomedical Engineering
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BS1 Minnesota State University 1986
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MD Creighton University 2007
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MD University of MO Columbia 2006

Stanley G Vriezelaar, MD Instructor in Clinical Medicine (primary appointment)
MD University of Iowa 1981

James J Wachter, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD Illinois College of Optometry 1991
BS Illinois College of Optometry 1990

Kathryn Kerr Wade, MD Instructor in Clinical Pediatrics
BS Saint Louis University 2000
MD Loyola University Chicago 2005

Harry Lee Wadsworth, MD Instructor in Clinical Medicine (primary appointment)
MD Texas Tech University 1983
BS Texas Tech University 1978

Daniel G Wagner Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA1 Holy Cross College 1985

Jason Cass Wagner, MD Assistant Professor of Emergency Medicine in Medicine (primary appointment)
MD University of Colorado Denver 2001

Jean V Wagner Instructor in Clinical Pediatrics (primary appointment)

Richard L Wahl, MD Elizabeth E Mallinckrodt Professor of Radiology (primary appointment)
Director of the Edward Mallinckrodt Institute of Radiology
Head of the Department of Radiology
Professor of Radiation Oncology
MD Washington Univ in St. Louis 1978
Gabriel Waksman, MS, PHD Adjunct Professor of Biochemistry and Molecular Biophysics (primary appointment)
BS School Not Listed 1979
MS School Not Listed 1980
PHD School Not Listed 1982

Stanley M Wald, MD Associate Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1946

Mary C. Waldron Adjunct Assistant Professor of Psychiatry (primary appointment)

Howard S Walker, MD Instructor in Clinical Surgery (Cardiothoracic Surgery) (primary appointment)
BA Citadel 1971
MD Beaufort Technical College 1974

J. Leslie Walker, MD Asst Prof Emeritus Of Clinical Ob & Gyn (primary appointment)
MD University of Tennessee 1960
BA Vanderbilt University 1957

Sara Walker, MD Instructor in Clinical Psychiatry (primary appointment)
MD University of South Florida 2001

Leonard Lewis Wall, MD, MS, PHD Selina Okin Kim Conner Professor in Arts & Sciences and Professor of Anthropology (primary appointment)
Professor of Obstetrics and Gynecology
Professor of Obstetrics and Gynecology
Professor of Obstetrics and Gynecology
MD University of Kansas 1983
BA University of Kansas 1972
MS Monash University 2001
PHD Oxford University 1983
BS Oxford University 1974

Lindley Bevelle Wall, MD Assistant Professor of Orthopaedic Surgery (primary appointment)
MD Washington Univ in St. Louis 2006
BA Duke University 2002

Colleen M Wallace, MD Assistant Professor of Pediatrics (primary appointment)
Director, Humanities Program
MD Washington Univ in St. Louis 2001
BS University of Notre Dame 1997

David Wallace, MD Instructor in Clinical Medicine (primary appointment)
BA Saint Anselm College 1980
MD Saint Louis University 1984

Jerold W Wallis, MS, MD Associate Professor of Radiology (primary appointment)
Associate Professor of Biomedical Engineering
MS Stanford University 1981
MD Stanford University 1981
BS Yale University 1976

David A Walls, MD Instructor in Clinical Medicine (primary appointment)
MD Southern Illinois University 1982
BA Southern Illinois University 1979

Sarah N. Walsh Instructor in Clinical Medicine (Dermatology) (primary appointment)
Matthew John Walter Associate Professor of Medicine (primary appointment)
Associate Professor of Genetics
William Lee Walter, MD Assistant Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
MD Ohio State University 1954
BA De Paul University 1950

Donald E Walter Jr, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
BS University of Houston 1971
OD University of Houston 1972

Richard Coburn Walters, MD Instructor in Clinical Medicine (Dermatology) (primary appointment)
BS University of Illinois 1969
MD Washington Univ in St. Louis 1973

Stephen R Waltman, MD, MBA Professor of Clinical Ophthalmology and Visual Sciences (primary appointment)
BS Mass Inst of Technology (MIT) 1961
MD Yale University 1964
MBA Washington Univ in St. Louis

Bruce J Walz, MD Associate Professor of Clinical Radiation Oncology (primary appointment)
BA Washington Univ in St. Louis 1962
MD Washington Univ in St. Louis 1966

Jennifer Anne Wambach, MD Assistant Professor of Pediatrics (primary appointment)
BS Vanderbilt University 1997
MD Vanderbilt University 2001

Caihong Wang, PHD Instructor in Obstetrics and Gynecology (primary appointment)
BS Laiyang Agricultural College 1993
PHD China Agriculture University 1998

David Wang, PHD Associate Professor of Molecular Microbiology (primary appointment)
Associate Professor of Pathology and Immunology
BS Stanford University 1992
PHD Mass Inst of Technology (MIT) 1998

Guoqiao Wang, MA Assistant Professor of Biostatistics (primary appointment)
MA University of Alabama-Tuscaloosa 2010

Jean S Wang, PHD Associate Professor of Medicine (primary appointment)
Associate Professor of Surgery (General Surgery)
PHD John Hopkins University 2009

Lawrence L. Wang, MD, PHD Instructor in Clinical Medicine (Dermatology) (primary appointment)
BA Harvard University 1993
MD Washington Univ in St. Louis 2001
PHD Washington Univ in St. Louis 2001
Sarah Qian Wang Instructor in Medicine (primary appointment)

Shizhen Wang, PHD Instructor in Cell Biology and Physiology (primary appointment)
PHD Tsinghua University, China 2007

Ting Wang, PHD, MS Associate Professor of Genetics (primary appointment)
Associate Professor of Computer Science and Engineering
Associate Professor of Biostatistics
BS School Not Listed 1997
PHD Washington Univ in St. Louis 2006
MS Washington Univ in St. Louis 2001

Xiaoli Wang, PHD Assistant Professor of Pathology and Immunology (primary appointment)
Xiaowei Wang, PHD, Associate Professor of Radiation Oncology (primary appointment)
PHD Tufts University 2000
BS Nankai University 1993
Yong Wang, Assistant Professor of Obstetrics and Gynecology (primary appointment)
Associate Professor of Radiology
Andrea Wang-Gillam, MD, Associate Professor of Medicine (primary appointment)
MD University of AR Little Rock 2001
BS Ouachita Baptist University 1993
BS1 Ouachita Baptist University 1993
Saiamma Naheed Waqar, MD, Assistant Professor of Medicine (primary appointment)
MD Aga Khan University 2001
Mark Edward Warchol, PhD, Professor of Otolaryngology (primary appointment)
Professor of Audiology and Communication Sciences
Professor of Neuroscience
Jeffrey Peter Ward, MD, PHD, Instructor in Medicine (primary appointment)
MD SUNY - Empire State College 2010
BS Wilkes University 2002
PHD SUNY - Empire State College 2010
Barbara B. Warner, MS, MD, Professor of Pediatrics (primary appointment)
MS University of Massachusetts 1981
MD University of Cincinnati 1985
BS University of Dayton 1976
Brad W. Warner, Jessie L. Ternberg, M.D., PhD, Distinguished Professor of Pediatric Surgery in
Surgery (Pediatric Surgery) (primary appointment)
Corinna Hendrell Warren, MD, Instructor in Clinical Medicine (primary appointment)
MD University of Illinois Chicago 1994
BS Southern III Univ Edwardsville 1990
David K. Warren, MD, MPH, Professor of Medicine (primary appointment)
MD University of Pittsburgh 1994
MPH Saint Louis University 2005
BS Pennsylvania State University 1990
James C Warren, MD, PHD, Prof Emeritus Of Ob & Gyn (primary appointment)
MD University of Kansas 1954
PHD University of Nebraska 1961
BA School Not Listed 1950
Wesley Charles Warren, MS, PHD, Academic Rank held in Genetics (primary appointment)
Associate Professor of Genetics
MS Clemson University 1986
BS Oklahoma St University 1984
PHD University of Missouri 1990
Lukas Delbert Wartman, MD, Assistant Professor of Medicine (primary appointment)
BS Univ of Wisconsin Madison 1998
MD Washington Univ in St. Louis 2005
Andrzej J. Wasiak, PhD, MD, Assistant Professor of Clinical Medicine (primary appointment)
PHD Szczecin Medical School 1980
MD Szczecin Medical School 1972

**Gary Michael Wasserman, MD** Assistant Professor of Clinical Obstetrics and Gynecology (primary appointment)

MD University of Missouri 1980

**Mark S Wasserman, MD** Instructor in Clinical Obstetrics and Gynecology (primary appointment)

BA University of Missouri 1980

MD University of Missouri 1984

BS University of Missouri

**Scott P Wasserstrom, MD, MA** Instructor in Clinical Medicine (primary appointment)

MD Washington Univ in St. Louis 1995

BS University of Illinois 1990

MA Washington Univ in St. Louis 1995

**Erika Waters, M PH, MS PSYC** Associate Professor of Surgery (Public Health Sciences) (primary appointment)

M PH Johns Hopkns University Medic 2007

MS PSYC Rutgers University 2003

BS Arizona State University 1999

**Mark A Watson, PHD, MD** Associate Professor of Pathology and Immunology (primary appointment)

PHD Washington Univ in St. Louis 1992

MD Washington Univ in St. Louis 1992

BA University of Pennsylvania 1985

**Michael S Watson, MS, PHD** Adjunct Professor of Pediatrics (primary appointment)

MS University of Alabama 1978

PHD University of Alabama 1981

Andrew M. Wayne Instructor in Clinical Neurology (primary appointment)

**Michael J. Weaver, MD** Instructor in Medicine (primary appointment)

MD Loyola University Chicago 2013

**Jason Dean Weber, PHD** Associate Professor of Medicine (primary appointment)

Associate Professor of Cell Biology and Physiology

BS Bradley University 1993

PHD Saint Louis University 1997

Marysia Weber Instructor in Clinical Psychiatry (primary appointment)

**H. James Wedner, MD** Phillip & Arleen Korenblat Professor of Allergy and Immunology in Medicine (primary appointment)

BS Cornell University 1963

MD Cornell University 1967

**Ling Wei, MD** Adjunct Research Assistant Professor of Neurology (primary appointment)

MD Beijing Medical University 1977

**Xiaochao Wei, PHD** Instructor in Medicine (primary appointment)

PHD University of Rochester 2007

**Conrad Christian Weihl, PHD, MD** Associate Professor of Neurology (primary appointment)

PHD University of Chicago 1998

BS University of Illinois 1993

MD University of Chicago 2001

**Kevin D Weikart, MD** Instructor in Clinical Medicine (primary appointment)

MD American Univ of the Caribbean 1979

**Gary J Weil, MD** Professor of Medicine (primary appointment)
Professor of Molecular Microbiology
MD Harvard University 1975
BA Harvard University 1971
Katherine N Weilbaecher, MD Professor of Medicine (primary appointment)
Professor of Pathology and Immunology
Professor of Cell Biology and Physiology
BA Harvard University 1987
MD Stanford University 1992
Carla Joy Weinheimer, MS Associate Professor of Medicine (primary appointment)
MS Washington Unv in St. Louis 1997
BS University of Illinois 1984
Ashley Brooke Weinhold, MD Instructor in Anesthesiology (primary appointment)
MD University of Arkansas 2011
David L Weinstein Associate Professor of Clinical Obstetrics and Gynecology (primary appointment)
Leonard B Weinstock Associate Professor of Clinical Medicine (primary appointment)
Assistant Professor of Clinical Surgery (General Surgery)
BA University of Vermont 1977
Benjamin David Weintraub Instructor in Clinical Pediatrics (primary appointment)
Steven Jay Weintraub, MD, MS Assistant Professor of Medicine (primary appointment)
BA State Univ of NY Binghampton 1978
MD University of Virginia 1985
MS University of Virginia 1981
Edmond Weisbart Assistant Professor of Clinical Medicine (primary appointment)
Judith L. Weisenberg Assistant Professor of Neurology (primary appointment)
BS Barnard College 1998
Alan N Weiss, MD Professor of Medicine (primary appointment)
BA Ohio State University 1963
MD Ohio State University 1966
Calvin H Weiss, DDENT Instructor in Clinical Otolaryngology (DDS) (primary appointment)
DDENT Saint Louis University 1946
BA University of Missouri 1943
Don Weiss, MS, MD Instructor in Clinical Pediatrics (primary appointment)
MS Saint Louis University 1996
BS Dickinson College 1979
MD School Not Listed 1986
Edward P Weiss, PHD, MS Adjunct Research Assistant Professor of Medicine (primary appointment)
BS Southern Illinois University 1989
PHD University of Maryland 2003
MS Southern Illinois University 1992
Howard I Weiss Assistant Professor of Clinical Neurology (primary appointment)
Michael D Weiss, MD Assistant Professor of Surgery (General Surgery) (primary appointment)
MD Ohio College of Podiatric Medi 1981
BS1 Ohio State University 1977
Peter Douglas Weiss, MD Instructor in Clinical Medicine (primary appointment)
MD Case Western Reserve Univ 1980
BA Harvard University 1975
John Sutton Welch, PHD, MD Assistant Professor of Medicine (primary appointment)
PHD University of CA San Diego 2002
MD San Diego St University 2004
BS Brigham Young University 1995
Timothy P Welch, MD Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Pediatrics
MD University of Cincinnati 2004
Valerie B. Welch, MD Instructor in Clinical Pediatrics (primary appointment)
BA Baylor University 1994
MD University Texas San Antonio 1998
Reuben R Welch II, PHD, M ED Associate Professor of Psychiatry (primary appointment)
PHD University of Missouri 1988
M ED University of Missouri 1982
BA Point Loma Nazrene College 1980
Jason R Wellen Assistant Professor of Surgery (General Surgery) (primary appointment)
BS Emory University 1998
Lynn Ellis Welling Adjunct Associate Professor of Medicine (primary appointment)
Samuel A Wells Jr, MD Prof Emeritus of Surgery (primary appointment)
MD Emory University 1961
Zila Welner, MD Associate Professor of Clinical Psychiatry (Child Psychiatry) (primary appointment)
MD School Not Listed 1961
Jie Wen, PHD Instructor in Radiology (primary appointment)
PHD University of Science & Tech 2012
Michael C Wendl Academic Rank held in Genetics (primary appointment)
Assistant Professor of Genetics
Assistant Professor of Genetics
Assistant Professor of Mechanical Engineering & Materials Science
Assistant Professor of Mathematics
Assistant Professor of Genetics
Pamela M. Wendl, DPT Assistant Professor of Physical Therapy (primary appointment)
Assistant Professor of Orthopaedic Surgery
BS North Park College 1991
DPT Washington Univ in St. Louis 2007
Alvin S Wenneker, MD Professor of Clinical Medicine (primary appointment)
BA Washington Univ in St. Louis 1949
MD Washington Univ in St. Louis 1953
Nicole Joy Werner, PHD, MS Associate Professor of Neurology (primary appointment)
PHD Saint Louis University 2004
MS Saint Louis University 2000
BS Univ of Minnesota Twin Cities 1997
Jennifer Marie Wessels, MD Instructor in Clinical Medicine (primary appointment)
MD Saint Louis University 2009
Brian T Wessman, MD Assistant Professor of Anesthesiology (primary appointment)
Assistant Professor of Emergency Medicine in Medicine
MD Commonwealth College 2005
BS College of William and Mary 2000
Jennifer Corinne Wessman, MD Instructor in Pediatrics (primary appointment)
MD Commonwealth College 2005

Peter Westervelt, MD, PHDPresident of Medicine (primary appointment)

MD Washington Univ in St. Louis 1992

PHD Washington Univ in St. Louis 1992

Richard D WetzelProfessor Emeritus of Psychiatry (primary appointment)

BA Concordia University 1960

Stephen Alan WexlerProfessor of Clinical Ophthalmology and Visual Sciences (primary appointment)

BA Concordia University 1977

Philip J Weyman, MDAssociate Professor of Clinical Radiology (primary appointment)

BA Yale University 1968

MD Yale University 1972

Alexander Weymann, MDAssistant Professor of Pediatrics (primary appointment)

MD Witten Herdecke University 1999

Alison J Whelan, MDProfessor of Medicine (primary appointment)

Senior Associate Dean for Education

Professor of Pediatrics

MD Washington Univ in St. Louis 1986

Andrew J White, MDJames P Keating Professor of Pediatrics (primary appointment)

Vice Chair of Medical Education in Pediatrics

MD University of Texas Southwest 1994

Brad C White, MDInstructor in Clinical Surgery (Urologic Surgery) (primary appointment)

BS Illinois State University 1986

MD Loyola University Chicago 1993

Bruce I WhiteInstructor in Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)

Frances V White, MD, MSAssociate Professor of Pathology and Immunology (primary appointment)

Associate Professor of Pediatrics

MD University of North Carolina 1989

MS University of North Carolina 1978

BA Princeton University 1975

Michael Aaron White, PHD, MSAssistant Professor of Genetics (primary appointment)

BA Brigham Young University 2000

PHD University of Rochester 2006

MS University of Rochester 2004

Neil Harris White, MDProfessor of Pediatrics (primary appointment)

Professor of Medicine

MD Albert Einstein College of Med 1975

BS State Univ of NY at Albany 1971

Nicole Izetta WhiteInstructor in Clinical Pediatrics (primary appointment)

Patrick White, MDAssistant Professor of Medicine (primary appointment)

BS Notre Dame College 2002

MD Ohio State University 2007

Karen WhitesideInstructor in Clinical Pediatrics (primary appointment)

John Bair WhitfieldAdjunct Instructor in Psychiatry (primary appointment)

Michael Peter Whyte, MDProfessor of Medicine (primary appointment)

Professor of Pediatrics
Professor of Genetics
MD State University of New York 1972
BA New York University 1968
Burton M Wice, PHD Associate Professor of Medicine (primary appointment)
PHD Washington Univ in St. Louis 1992
Martin B Wice, MD, MS Associate Professor of Neurology (primary appointment)
MD Northwestern University 1977
BS Grinnell College 1972
MS University of Washington 1983
Cynthia A Wichelman Associate Professor of Emergency Medicine in Medicine (primary appointment)
Course Director for the Mini-Medical School
Course Director for the Mini-Medical School
Course Director for the Mini-Medical School
PhD Washington Univ in St. Louis 1992
Martin B Wice, MD, MS Associate Professor of Neurology (primary appointment)
MD Northwestern University 1977
BS Grinnell College 1972
MS University of Washington 1983
Cynthia A Wichelman Associate Professor of Emergency Medicine in Medicine (primary appointment)
Course Director for the Mini-Medical School
Course Director for the Mini-Medical School
Course Director for the Mini-Medical School
BA University of California 1982
Karen Mori Wickline, MD Associate Professor of Pediatrics (primary appointment)
MD Saint Louis University 1986
BS University of Hawaii 1978
Richard Harris Wieder, MD Assistant Professor of Ophthalmology and Visual Sciences (primary appointment)
MD University of Illinois 1986
BS University of Illinois 1982
John F Wiedner, MD Instructor in Clinical Medicine (primary appointment)
BA Knox College 1982
MD School Not Listed 1985
Kimberly N Wiele, MD Assistant Professor of Radiology (primary appointment)
BA University of MO Kansas City 1981
MD University of MO Kansas City 1981
Deborah A Wienski, MD Instructor in Clinical Medicine (primary appointment)
BA Smith College 1979
MD Tufts University 1983
Walter G Wiest, PHD Prof Emeritus Of Biochem In Ob & Gyn (primary appointment)
PHD Univ of Wisconsin Madison 1952
Tanya M Wildes, MD Assistant Professor of Medicine (primary appointment)
MD Washington Univ in St. Louis 2002
BS Illinois Wesleyan University 1998
Troy S Wildes, MD Associate Professor of Anesthesiology (primary appointment)
BS Illinois Wesleyan University 1998
MD Washington Univ in St. Louis 2002
Katherine Anne Henzler Wildman, PHD Adjunct Associate Professor of Biochemistry and Molecular Biophysics (primary appointment)
PHD University of Michigan 2003
Denise Wilfliey, PHD Professor of Psychiatry (primary appointment)
Professor of Medicine
Professor of Psychological & Brain Sciences
Professor of Pediatrics
Scott Rudolph University Professor
PHD University of Missouri Columbi 1989
Robert S Wilkinson, MA, PHD Prof Emeritus of Cell Biology/Physiol (primary appointment)
MA University of Texas Austin 1970
PHD University of Texas Austin 1974

Denise Michelle Willers, MD Associate Professor of Obstetrics and Gynecology (primary appointment)
MD Southern Illinois University 2000
BS Drake University 1996

Kristine G Williams, MD, MPH Assistant Professor of Pediatrics (primary appointment)
MD Georgetown University 1994
MPH Saint Louis University 2001

Nancy J Williams Instructor in Clinical Medicine (primary appointment)
BA Dartmouth College 1982

Timothy John Williams, MD Instructor in Medicine (primary appointment)
BA McKendree College 2008
MD University of Cincinnati 2012

George A Williams III, MD, MA Assistant Professor of Clinical Medicine (primary appointment)
MD Univ of Wisconsin Madison 1972
MA Columbia University 1968
BA University of Notre Dame 1967

R. Jerome Williams Jr Associate Professor of Clinical Medicine (primary appointment)
BA Harvard University 1973

Marcia Christine Willing, MS, MD, D SC Professor of Pediatrics (primary appointment)
BS Goucher College 1973
MS University of Michigan 1976
MD University of Virginia 1982
D SC George Washington University 1981

David B Wilson, PHD Professor of Pediatrics (primary appointment)
Professor of Developmental Biology
PHD Washington Univ in St. Louis 1986

Matthew Stewart Wilson Instructor in Clinical Psychiatry (primary appointment)

Monita Elaine Wilson, MS, PHD Associate Professor of Medicine (primary appointment)
MS Southern Illinois University 1984
BS Southern Illinois University 1981
PHD Brandeis University 1992

Richard K Wilson, PHD Adjunct Professor of Genetics (primary appointment)
BA Miami University 1981
PHD University of Oklahoma 1986

Patrick H Win Instructor in Clinical Medicine (primary appointment)

David William Windus, MD Professor of Medicine (primary appointment)
BS Iowa State University 1974
MD Creighton University 1978

Brooke Allison Winner, MD Assistant Professor of Obstetrics and Gynecology (primary appointment)
MD University of Washington 2008

Anke Christiane Winter, MD, MS Assistant Professor of Surgery (Public Health Sciences) (primary appointment)
Assistant Professor of Anesthesiology
MD RWTH Aachen University, 2006
MS Harvard University 2010
Karen Winters, MD Associate Professor of Medicine (primary appointment)
Director of the Student and Employee Health Service - Medical Campus
BS Illinois State University 1975
MD Southern Illinois University 1983
Franz J Wippold II, MD Professor of Radiology (primary appointment)
BA Westminster College 1973
MD Saint Louis University 1977
Paul Edward Wise, MD Associate Professor of Surgery (General Surgery) (primary appointment)
BS Georgetown University 1992
MD John Hopkins University 1996
Chad Alan Witt, MD Assistant Professor of Medicine (primary appointment)
MD University of Texas Southwest 2005
BS Texas Tech University 2001
Eric Nicholas Wittrick, DOST Instructor in Psychiatry (Child) (primary appointment)
DOST Kansas State University 2011
Keith Frederic Woeltje, MD, PHD Professor of Medicine (primary appointment)
MD Texas Southern University 1991
PHD Texas Southern University 1991
BS University of Dallas 1984
Mary Kaye Wojczynski Assistant Professor of Genetics (primary appointment)
Anna Wolaniuk, PHD, MD Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BS University of Lodz 1974
PHD Medical Academy Lodz 1975
MD Medical Academy Lodz 1979
Loralee Jane Wold, MD Instructor in Clinical Pediatrics (primary appointment)
MD Saint Louis University 1997
BA Saint Louis University 1993
Michael L Wolf, OD Adjunct Instructor in Ophthalmology and Visual Sciences (primary appointment)
OD University of Missouri 1987
BS University of Missouri 1979
Timothy J Wolf Adjunct Assistant Professor of Occupational Therapy (primary appointment)
Edward M Wolfe, MD Instructor in Clinical Medicine (Dermatology) (primary appointment)
BA Hobart College 1956
MD Washington Univ in St. Louis 1960
Brett D Wolff, MD Associate Professor of Anesthesiology (primary appointment)
BA Indiana University Bloomington 1981
MD Indiana University Bloomington 1985
Gerald Wolff, MD Assistant Professor of Clinical Medicine (primary appointment)
MD Washington Univ in St. Louis 1961
BA Harvard University 1955
Patricia Ann Wolff, MD Professor of Clinical Pediatrics (primary appointment)
MD University of Minnesota 1972
BA University of Minnesota 1968
Edwin D Wolfgram, MD Assistant Professor of Clinical Psychiatry (primary appointment)
BS Iowa State University 1954
MD University of Iowa 1959
Nathan E Wolins, Assistant Professor of Medicine (primary appointment)
Fay Yeh Womer, MD, Associate Professor of Psychiatry (primary appointment)
BS Washington Univ in St. Louis 1999
MD University of Connecticut 2003
Lily Wong, MD
BS Wellesley College 2006
MD University of Massachusetts 2012
Michael Wong, MD, PHD, Allen P and Josephine B Green Professor of Pediatric Neurology (primary appointment)
Professor of Pediatrics
Professor of Neuroscience
MD University of Texas Southwest 1995
PHD University of Texas Southwest 1995
BA Princeton University 1987
Ming-Fong Agnes Wong, MD, PHD, Adjunct Professor of Ophthalmology and Visual Sciences (primary appointment)
BA Boston University 1990
MD McGill University 1994
PHD University of Toronto 2001
Terrence N Wong, MD, PHD, Instructor in Medicine (primary appointment)
MD Dartmouth College 2009
PHD University of Chicago 2007
Wing Kai Wong, Assistant Professor of Occupational Therapy (primary appointment)
Assistant Professor of Neurology
John A Wood, MD, Associate Professor of Clinical Medicine (primary appointment)
MD University of Oklahoma 1968
Matthew D Wood, MS, PHD, Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
MS Washington Univ in St. Louis 2008
BS Saint Louis University 2005
BS Washington Univ in St. Louis 2009
PHD Washington Univ in St. Louis 2009
Pamela K Woodard, MD, Professor of Radiology (primary appointment)
BA Duke University 1986
MD Duke University 1990
Terry A Woodford-Thomas, PHD, MS, Adjunct Research Assistant Professor of Pathology and Immunology (primary appointment)
PHD Va Polytechnic Inst & State U 1982
BS Eastern Illinois University 1975
MS Purdue University 1977
Thomas A Woolsey, MD, Prof Emeritus of Neurological Surgery (primary appointment)
BS Univ of Wisconsin Madison 1965
MD Johns Hopkins University Medic 1969
Parker H Word, MD, Instr Emeritus In Clinical Ob & Gyn (primary appointment)
BS Virginia State University 1941
MD Howard University 1944
David F Wozniak, MA  Professor of Psychiatry (primary appointment)
Adjunct Associate Professor of Psychological & Brain Sciences
MA Connecticut College 1977

Megan Elizabeth Wren, MD  Associate Professor of Medicine (primary appointment)
BA Washington Univ in St. Louis 1981
MD Washington Univ in St. Louis 1985

Brenton Alan Wright, MD  Assistant Professor of Neurology (primary appointment)
BS University of Virginia 2004
MD University of Louisville 2008

Jeffrey M Wright, MD  Assistant Professor of Clinical Medicine (primary appointment)
Assistant Professor of Clinical Pediatrics
BS Vanderbilt University 1975
MD Washington Univ in St. Louis 1979

Neill Marshall Wright, MD  Herbert Lourie Professor of Neurological Surgery (primary appointment)
Professor of Orthopaedic Surgery
MD University of California 1993

Rick Wayne Wright, MD  Jerome J Gilden MD Distinguished Professor of Orthopaedic Surgery (primary appointment)
BS University of Missouri 1984
MD University of Missouri 1988

Stephanie Wrobel Goldberg, MD  Assistant Professor of Neurology (primary appointment)
MD University of Rio de Janeiro 2007

Gregory Frederick Wu, MD, PhD  Assistant Professor of Neurology (primary appointment)
Assistant Professor of Pathology and Immunology
MD University of Iowa 2001
BS Washington Univ in St. Louis 1993
PHD University of Iowa 2001

Xiaobo Wu, MD  Assistant Professor of Medicine (primary appointment)
MD Tongji University 1986

Heather E. Wuebker  Instructor in Clinical Obstetrics and Gynecology (primary appointment)
BA University of MO Kansas City 1996

Kathie R Wuellner  Associate Professor of Clinical Pediatrics (primary appointment)
BS University of Illinois 1973

Christopher Wuretz, MD  Assistant Professor of Clinical Psychiatry (primary appointment)
MD University of Illinois 1984

Hayley Wurzel, MD  Assistant Professor of Clinical Pediatrics (primary appointment)
MD Washington Univ in St. Louis 1999
BS Brown University 1995

Kristine M Wylie, PhD  Assistant Professor of Pediatrics (primary appointment)
BA Southern Ill Univ Edwardsville 1996
PHD Saint Louis University 2009

Todd N Wylie  Assistant Professor of Pediatrics (primary appointment)
BS Southern Ill Univ Edwardsville 1995

Xiaoming Xia, PhD  Assistant Professor of Anesthesiology (primary appointment)
BS Fudan University 1984
PHD Vollum Institute OHSU 1998

Yan Xie, MD, MS  Instructor in Medicine (primary appointment)
Chengjie Xiong, PhD, MSProfessor of Biostatistics (primary appointment)
Professor of Neurology
Professor of Mathematics
PHD Kansas State University 1997
BS Xinjiang University 1983
MS Peking University 1989
Jinbin Xu, MEinstructor in Radiology (primary appointment)
BS Taiyuan University of Tech 1991
ME Taiyuan University of Tech 1994
Mai Xu, PhD, MS, MDMInstructor in Medicine (primary appointment)
PHD China Medical University 1992
MS China Medical University 1983
MD China Medical University 1981
Dmitriy A Yablonskiy, D SC, PhD, MSProfessor of Radiology (primary appointment)
Adjunct Professor of Physics
D SC Institute for Physics and Eng 1981
PHD Institute for Physics and Eng 1973
MS Kharkov State University 1970
Christina Marie YadaoInstructor in Clinical Pediatrics (primary appointment)
Tatyana Aleksandrovna Yakusheva, PhD, MSAssistant Professor of Otolaryngology (primary appointment)
PHD Russian U of Friendship of Ppl 2002
MS Saratov State University 1997
Naga M Yalla, MDMInstructor in Medicine (primary appointment)
MD SRTR Medical College 2005
Ken Yamaguchi, MD, MSProfessor of Orthopaedic Surgery (primary appointment)
MD George Washington University 1989
BA University of California 1983
MS University of California 1985
Heping Yan, MDMAssistant Professor of Radiation Oncology (primary appointment)
MD West China University 1979
MS West China University 1982
BS West China University 1979
Yan Yan, MHS, MDProfessor of Surgery (Public Health Sciences) (primary appointment)
Professor of Biostatistics
MHS Johns Hopkins University 1995
MD Nanjing Medical University 1983
Deshan Yang, MS, PHDAssociate Professor of Radiation Oncology (primary appointment)
MS Illinois Institute of Technol 2001
BS Tsinghua University, China 1992
PHD Univ of Wisconsin Madison 2005
Qin Yang, PHD, MDAssociate Professor of Radiation Oncology (primary appointment)
PHD Heidelberg University 1997
MD West China University 1983
Hiroko Yano, PHD, MSAssistant Professor of Neurological Surgery (primary appointment)
Assistant Professor of Genetics
Assistant Professor of Neurology
PHD University of Tokyo 1996
MS University of Tokyo 1993
BS Science University of Tokyo 1991
Motoyo Yano, MD, PHD Assistant Professor of Radiology (primary appointment)
BS Tufts University 2000
MD University of Chicago 2007
PHD University of Chicago 2005
Mona Yassin, MD Instructor in Clinical Pediatrics (primary appointment)
MD School Not Listed 1979
William D Yates, MD Instructor in Clinical Surgery (General Surgery) (primary appointment)
MD Northwestern University 1985
BA Northwestern University 1983
Timothy Teng-Kay Yau, MD Assistant Professor of Medicine (primary appointment)
MD Saint Louis University 2005
Branden Edward Yee, MD Assistant Professor of Anesthesiology (primary appointment)
BS Tufts University 2004
MD Tufts University 2008
Xiaobin Yi, MD Associate Professor of Anesthesiology (primary appointment)
MD Hunan Medical University 1985
Yongjun Yin, PHD Instructor in Developmental Biology (primary appointment)
PHD Hebrew University 2004
Wayne M Yokoyama, MD Sam and Audrey Loew Levin Professor of Medicine (Rheumatology) (primary appointment)
Howard Hughes Medical Institute Investigator in Medicine
Professor of Pathology and Immunology
BA University of Rochester 1974
MD University of Hawaii 1978
Andrew Seungjo Yoo, PHD, MS Assistant Professor of Developmental Biology (primary appointment)
PHD Columbia University 2005
BS McGill University 1995
MS University of British Columbia 1997
Jun Yoshino, PHD, MD Assistant Professor of Medicine (primary appointment)
Assistant Professor of Developmental Biology
PHD Keio University 2004
MD Keio University 2000
Mihoko Yoshino, PHD, MD Instructor in Medicine (primary appointment)
PHD Shimane Medical University 2006
MD Keio University 2000
Zhongsheng You, MS Associate Professor of Cell Biology and Physiology (primary appointment)
Associate Professor of Medicine
MS Shanghai Inst of Biochemistry 1997
BS Zhejiang Medical University 1994
Alexander H Young, MD Assistant Professor of Anesthesiology (primary appointment)
MD University of Arkansas 1990
BA University of Mississippi 1986
Anna Rebecca Young Assistant Professor of Anesthesiology (primary appointment)
Catherine A Young, JD
Instructor in Radiology (primary appointment)
JD University of Texas Austin 1995

Julia Catherine Young
Instructor in Clinical Pediatrics (primary appointment)

Omar M. Young, MD
Assistant Professor of Obstetrics and Gynecology (primary appointment)
MD Columbia University 2008

Robert A Young, MD, MS, JD
Instructor in Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)
MD Ohio State University 1978
MS Ohio State University 1975
BA University of Michigan 1973
JD Saint Louis University 1997

Haifaa Tawifiq Younis, MD
Instructor in Clinical Obstetrics and Gynecology (primary appointment)
MD Baghdad University 1984

Cecilia H Yu
Assistant Professor of Clinical Pediatrics (primary appointment)

Jinsheng Yu
Instructor in Genetics (primary appointment)
BS Tongji University 1984

Simon Yu, MD
Instructor in Clinical Medicine (primary appointment)
MD University of MO Columbia 1984

Liya Yuan, PHD, MS
Instructor in Neurological Surgery (primary appointment)
PHD Tongji University 1994
MS Tongji University 1987

Peng Yuan
Assistant Professor of Cell Biology and Physiology (primary appointment)

Carla Marie Zayed, PHD
Assistant Professor of Neurology (primary appointment)
PHD University of MO St Louis 2006

Roger D. Yusen, MPH, MD
Associate Professor of Medicine (primary appointment)
BS University of Illinois 1986
MPH Saint Louis University 2002
MD University of Illinois 1990

Sean H Yutzy
Adjunct Professor of Psychiatry (primary appointment)

Craig Mitchell Zaidman
Associate Professor of Neurology (primary appointment)

Assistant Professor of Pediatrics

Alan Zajarias, MD
Associate Professor of Medicine (primary appointment)
Associate Professor of Surgery (Cardiothoracic Surgery)
MD National Autonomous U of Mex 2000

Sandra G.H. Zakroff
Instructor in Clinical Obstetrics and Gynecology (primary appointment)

John F. Zalewski
Instructor in Clinical Medicine (primary appointment)

Paul Battista Zanaboni, PHD, MD
Associate Professor of Anesthesiology (primary appointment)
PHD Saint Louis University 1990
MD Saint Louis University 1992

Mohamed A Zayed, PHD, MD
Assistant Professor of Surgery (General Surgery) (primary appointment)
BS University North Carolina 2002
PHD University of North Carolina 2007
MD University of North Carolina 2009

Allyson R Zazulia, MD
Professor of Neurology (primary appointment)

Associate Dean for Continuing Medical Education

Professor of Radiology

BS University of Maryland 1990
Lukas P Zebala, MD
**Assistant Professor of Orthopaedic Surgery** (primary appointment)
**Assistant Professor of Neurological Surgery**
BS Northwestern University 1998
MD University of Chicago 2004

John M Zempel, MD, PHD
**Associate Professor of Neurology** (primary appointment)
**Associate Professor of Pediatrics**
MD Washington Univ in St. Louis 1995
PHD Washington Univ in St. Louis 1995
BS Univ of Wisconsin Madison 1985

Jessica Ann Zenga, MD
**Assistant Professor of Anesthesiology** (primary appointment)
MD Saint Louis University 2006
Aurora Denise Zertuche-Sanchez
**Instructor in Clinical Pediatrics** (primary appointment)

Bo Zhang
**Assistant Professor of Developmental Biology** (primary appointment)
BS Inner Mongolia University 2004

Haixia Zhang, MD, PHD
**Assistant Professor of Cell Biology and Physiology** (primary appointment)
MD Weifang Medical College 1998
PHD Chinese Academy of Med Science 2004

Tiezhi Zhang, MS, PHD
**Assistant Professor of Radiation Oncology** (primary appointment)
BS Jilin Medical University 1994
MS Drexel University 1999
PHD Univ of Wisconsin Madison 2004

Yong Zhang, MD, PHD, MS
**Instructor in Medicine** (primary appointment)
MD Anhui Medical University 1978
PHD Albert Ludwig University 1999
MS Sun Yat-Sen University 1983

Guoyan Zhao, PHD, MS
**Assistant Professor of Pathology and Immunology** (primary appointment)
PHD Washington Univ in St. Louis 2003
BS School Not Listed 1995
MS School Not Listed 1998

Shiyling Zhao, PHD, MME
**Adjunct Associate Professor of Radiology** (primary appointment)
PHD University of South Carolina 1991
BA University of Science & Tech 1982
MME Shanghai jiao Tong University 1984

Tianyu Zhao
**Assistant Professor of Radiation Oncology** (primary appointment)

Jie Zheng, PHD
**Associate Professor of Radiology** (primary appointment)
PHD University of Cincinnati 1994
BS Beijing University 1986

Amy Wei Wei Zhou, MD
**Instructor in Medicine** (primary appointment)
MD Wayne State University 2009

Dong Zhou, PHD, MS
**Instructor in Radiology** (primary appointment)
BS1 Shandong University 1990
PHD Washington Univ in St. Louis 2004
MS1 Shandong University 1995
MS School Not Listed 1995
BS School Not Listed 1990

Li Zhou, MD
**Instructor in Medicine** (primary appointment)
MD Vanderbilt University 2013
Yu Zhou, PHD, MS Instructor in Anesthesiology (primary appointment)
PHD State Univ of NY Buffalo 2005
MS Zhejiang Medical University 1999
BS Wuhan University 1996

Jian Zhu, PHD Instructor in Medicine (primary appointment)
PHD Oklahoma St University 2004

Lirong Zhu, MD, PHD Assistant Professor of Clinical Neurology (primary appointment)
MD Fudan University 2000
PHD Baylor College of Medicine 2006

Robert E Ziegler, PHD, MD Assistant Professor of Clinical Medicine (Dermatology) (primary appointment)
PHD Duke University 1980
MD Duke University 1980
BA University of Colorado Boulder 1972

Amy Christine Zimmermann, MD Instructor in Clinical Pediatrics (primary appointment)
MD University of MO Columbia 2003
BS University of MO Columbia 1998

Darryl Thomas Zinck Instructor in Clinical Obstetrics and Gynecology (primary appointment)

Bernd Heinrich Zinselmeyer, PHD Assistant Professor of Pathology and Immunology (primary appointment)
PHD University of Strathclyde 2006

Gregory Joseph Zipfel, MD Professor of Neurological Surgery (primary appointment)
Professor of Neurology
BS University of Illinois 1991
MD Northwestern University Med 1995

Imran Zoberi, MD Professor of Radiation Oncology (primary appointment)
MD Washington Univ in St. Louis 1996
BS University of South Dakota 1992

Jacqueline Esthappan Zoberi, PHD Associate Professor of Radiation Oncology (primary appointment)
PHD University of Chicago 2000
BA University of Chicago 1995

Bridget Bilyeu Zoeller, MD Assistant Professor of Pediatrics (primary appointment)
MD Southern Illinois University 2007
BS University of Illinois 2003

Charles F Zorumski Samuel B. Guze Professor of Psychiatry (primary appointment)
Professor of Neuroscience
Head of the Department of Psychiatry
BA Saint Louis University 1974

Dequan Zou, D SC, MS, ME Professor of Physical Therapy (primary appointment)
Professor of Radiology
BS Harbin Engineering University 1982
D SC Washington Univ in St. Louis 1993
MS Washington Univ in St. Louis 1991
ME Harbin Engineering University 1984

Wei Zou, MA Assistant Professor of Pathology and Immunology (primary appointment)
MA Qingdao University 1994

Andrew C. Zuckerman Instructor in Clinical Pediatrics (primary appointment)
Darryl Adam Zuckerman, MD
Assistant Professor of Radiology (primary appointment)
Assistant Professor of Surgery (General Surgery)
MD State Univ of NY Syracuse 1983
BA New York University 1979
Gary R Zuckerman
Assoc Prof Emeritus of Medicine (primary appointment)
Jorge Sergio Zwir, PHD, BSCS, MS
Assistant Professor of Psychiatry (primary appointment)
PHD University of Granada 2001
BSCS Universidad del Buenos Aires 1991
MS Universidad del Buenos Aires 1995
No entries found

Medical Students

Alphabetical listing

Note: This may not be a complete listing. Some students may have elected to withhold directory information.

Search

by Last Name
A B C D E F G H I K L M N O P Q R S T U V W X Y Z

Program:
No entries found

Class Officers

Fourth-year class officers
President
Miriam Ben Abdallah

Medical Education Representative (MER)
Chad Donahue

Representative to the Organization of Student Representatives (OSR Rep)
Mikhail Roubakha

Representative to the Graduate Professional Council (GPC Rep)
Ashley Osborne

**Third-year class officers**

President
Jorge Zarate Rodriguez

Medical Education Representative (MER)
Jacob Groenendyk

Representative to the Organization of Student Representatives (OSR Rep)
Shamaita Majumdar

Representative to the Graduate Professional Council
Abby Rosenberg

**Second-year class officers**

President
Joshua Page

Medical Education Representative (MER)
Brian Cusworth
Representative to the Organization of Student Representatives (OSR Rep)
Nirbhay Jain

Representative to the Graduate Professional Council
Rina Amatya

**First-year class officers**

President
Avery Strong

Medical Education Representative (MER)
Katie Goodenberger

Representative to the Organization of Student Representatives (OSR Rep)
Natasha Kafai

Representative to the Graduate Professional Council
Linh Vuong

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**Summary of Students in the School of Medicine**

**2015-2016**

Doctor of Medicine (MD) (as of October 1, 2015)

Graduating Class Level: 73
Five-Year Research Program or equivalent: 8
Third-Year Class: 107
Second-Year Class: 101
First-Year Class: 104

Doctor of Medicine and Doctor of Philosophy (MD/PhD)
Graduating Class Level: 18
Clinical/Third-Year Class: 26
Ninth-Year Research: 1
Eighth-Year Research: 0
Seventh-Year Research: 0
Sixth-Year Research: 4
Fifth-Year Research: 9
Fourth-Year Research: 19
Third-Year Research: 25
Second-Year Research: 28
First-Year Research: 17
Second-Year Class: 21
First-Year Class: 19

Doctor of Medicine and Master of Arts (MD/MA)
Graduating Class Level: 1
First-Year/Early Level(s): 7

Doctor of Medicine and Master of Population Health Sciences (MD/MPHS)
Graduating Class Level: 5
First-Year/Early Level(s): 1

Doctor of Medicine and Master of Science in Clinical Investigation (MD/MSCI)
Graduating Class Level: 2
First-Year/Early Level(s): 2

**Doctor of Physical Therapy**

Graduating Class Level: 77
Second-Year Class: 80
First-Year Class: 84

**Doctor of Occupational Therapy**

Graduating Class Level: 13
Third-Year Class: 21
Second-Year Class: 28
First-Year Class: 25

**Doctor of Audiology**

Graduating Class Level: 14
Third-Year Class: 14
Second-Year Class: 15
First-Year Class: 12

**Master of Science in Occupational Therapy**

Graduating Class Level: 64
Second-Year Class: 61
First-Year Class: 64

**Master of Science in Population Health Sciences**

Second-Year Class: 13
First-Year Class: 5
Master of Science in Genetic Epidemiology

Certificate/SNCD: 4

Master of Science in Biostatistics

Second-Year Class: 22
First-Year Class: 13

Master of Science in Deaf Education

Graduating Class Level: 8
First-Year Class: 8

Master of Science in Clinical Investigation

Graduating Class Level: 6
Second-Year Class: 13
First-Year Class: 16
Certificate: 4
SNCD: 53

Master of Science in Applied Behavior Research

First-Year Class: 8
Certificate: 1
SNCD: 4

Med-School Total: 1,348
(598 MD of all types; 750 in Allied Health Programs)
Staff

For an online staff directory, visit the Washington University School of Medicine Directory.

Washington University Directories

For access to online directories for Washington University, Washington University Physicians and BJC HealthCare, please visit the Washington University School of Medicine website’s Directories page.
Bulletin Appendix

This appendix includes information referenced in the Bulletin that can be found on external websites.

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Chairman, Hunter Engineering

David W. Kemper
Vice Chair
Chairman and CEO
Commerce Bancshares, Inc.

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Molecular & Integrative Neurosciences Department
The Scripps Research Institute
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Chairman of the Board
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Washington University in St. Louis

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Kansas City, Missouri

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Former Chief Scientist, Pharmacia & Monsanto/Searle;
Former Professor and Head,
Department of Pharmacology
Washington University School of Medicine;
Interim President
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Chairman
Site Oil Company of Missouri

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William Tao & Associates
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Chairman
Cornes & Co. Ltd.
Hong Kong
**WUSTL Sexual Harassment Policy**

**Introduction and Policy Statement**

Washington University is committed to having a positive learning and working environment for its students, faculty and staff and will not tolerate sexual harassment.

Sexual harassment is an attack on the dignity of individuals and the integrity of the University as an institution of learning. Academic freedom can exist only when every person is free to pursue ideas in a non-threatening, non-coercive atmosphere of mutual respect. Sexual harassment is reprehensible and threatening to the careers, educational experience and wellbeing of all members of our community.

Sexual harassment is a form of discrimination that violates University policy. It is also illegal under state and federal law.

This policy applies to all members of the Washington University community. It allocates responsibilities for helping to ensure that University policy is fairly applied, explains the process by which complaints of sexual harassment may be brought forward and provides sanctions for sexual harassment, which may range from reprimands to termination or dismissal, depending upon the severity of the offense. If you believe you have been sexually harassed, Sections IV and V describe options about what you can do and where you can get help. If you believe you have been falsely accused of sexual harassment, the procedures described below are also available to you. Those charged with implementation of this Policy will, whenever
appropriate, encourage and assist individuals who believe they may have been sexually harassed to pursue the assorted means outlined in the policy for securing the cessation of unwelcome and offensive conduct.

What is Sexual Harassment?

For the purposes of this statement, Washington University has adapted the Equal Employment Opportunity Commission (EEOC) definition of sexual harassment for an academic community: Sexual harassment is defined as any unwelcome sexual advance, request for sexual favor or other unwelcome verbal or physical conduct of a sexual nature, including sexual violence, whether committed on or off campus, when:

1. submission to such conduct is made, either explicitly or implicitly, a term or condition of an individual's employment or academic advancement;
2. submission to or rejection of such conduct by an individual is used as the basis or threatened to be used as the basis for employment or academic decisions or assessments affecting an individual; or
3. such conduct has the purpose or effect of unreasonably interfering with an individual's work or educational performance or creating an intimidating or hostile environment for work or learning. Such conduct will typically be directed against a particular individual or individuals and will either be abusive or severely humiliating or will persist despite the objection of the person targeted by the speech or conduct.

Sexual violence is a prohibited form of sexual harassment and includes physical sexual acts perpetrated against a person's will or where it would be apparent to a reasonable observer that a person is incapable of giving consent due to the victim's use of drugs and/or alcohol or due to an intellectual or other disability.

Sexual harassment includes but is not limited to situations where one person has authority over another. In such situations, sexual harassment is particularly serious because it may unfairly exploit the power inherent in a faculty member's or supervisor's position.

Sexual harassment can be verbal, visual, physical or communicated in writing or electronically. Some conduct obviously constitutes sexual harassment -- such as a threat that a grade or promotion will depend on submission to a sexual advance. But whether particular conduct constitutes sexual harassment will often depend upon the specific context of the situation, including the participants' reasonable understanding of the situation, their past dealings with each other, the nature of their professional relationship (e.g., supervisor-subordinate, colleague, etc.) and the specific setting. The inquiry can be particularly complex in an academic community, where the free and open exchange of ideas and viewpoints preserved by the concept of academic freedom may sometimes prove distasteful, disturbing or offensive to some.

Examples of conduct which may constitute sexual harassment include but are not limited to:

- requests for sexual favors
- hugging, rubbing, touching, patting, pinching or brushing another's body
- inappropriate whistling or staring
- veiled suggestions of sexual activities
- requests for private meetings outside of class or business hours for other than legitimate mentoring purposes
• use in the classroom of sexual jokes, stories or images in no way germane to the subject of the class
• remarks about a person's body or sexual relationships, activities or experience
• use of inappropriate body images to advertise events
• sexual violence, including but not limited to rape, sexual assault, sexual battery, and sexual coercion

Members of the University community can expect to be free from sexual harassment and thus all members of the University community should guard against it. The fact that someone did not intend to sexually harass an individual is generally not considered a sufficient defense to a complaint of sexual harassment, although the reasonableness or the accuser's perceptions may be considered. In most cases, it is the effect and characteristics of the behavior on the complainant and whether a reasonable person similarly situated would find the conduct offensive that determine whether the behavior constitutes sexual harassment.

Confidentiality

The University will strive to protect, to the greatest extent possible, the confidentiality of persons reporting harassment and of those accused of harassment. Because the University has a legal obligation to address sexual harassment, however, the University cannot guarantee complete confidentiality where it would conflict with the University's obligation to investigate meaningfully or, where warranted, take corrective action. Even when some disclosure of the University's information or sources is necessary, it will be limited to the extent possible. The University will, to the extent permitted by law, keep confidential all records of complaints, responses and investigations. The records maintained by the Sexual Harassment Response Coordinator shall be available only to the Coordinator and, to the extent necessary, to administrators and other supervisors charged with responding to allegations of harassment. Allegations of sexual harassment shall not be placed in student records or personnel files unless, after appropriate investigation, such allegations have been sustained. Records of allegations maintained by the Coordinator which do not lead to formal hearings or personnel actions will be discarded after five years unless there are additional, more recent complaints against the same person. Any records maintained by the Coordinator concerning an allegation about which an accused person was not given reasonably timely notice and an opportunity to respond shall not be used to justify or enhance a sanction, other than an oral or written warning, imposed for a different instance of harassment.

If you want to discuss possible harassment in a more confidential setting or clarify your feelings about whether and how you wish to proceed, you may want to consult a social worker, therapist or member of the clergy, who is permitted, by law, to assure greater confidentiality. Clergy and counseling resources on campus are listed in Bearings, Ternion, and the University's Safety and Security brochure available at www.police.wustl.edu. In addition, any member of the University community may contact the Student Counseling Services at 935-5980 for a confidential discussion and, if desired, referral to off-campus resources.

Seeking Advice; Making a Complaint

If you believe that you have been sexually harassed, you have a number of response options, both formal and informal. Some people may wish to pursue informal means instead of or before making a formal complaint; others will not. If an informal procedure is ineffective, the formal procedures will remain open to you. You should select the route you feel most appropriate for your circumstances. However you wish to proceed, you may consult at any time with the University's Title IX Sexual Harassment Response Coordinator or Advisors (listed in the Appendix), whose responsibilities include assisting students, faculty and staff with sexual harassment issues, be they general or specific, formal or informal. You may wish to work with the Coordinator or Advisors to select an approach.
Informal Procedures

If you feel comfortable dealing with the situation without assistance, you can:

1. Clearly say “no” to the person whose behavior is unwelcome.
2. Communicate either orally or in writing with the person whose behavior is unwelcome. The most useful communication will have three parts:
   - A factual description of the incident(s) including date, time, place and specific action.
   - A description of the writer’s feelings, including any consequences of the incident.
   - A request that the conduct cease.

Frequently, such a communication will cause the unwelcome behavior to stop, particularly where the person may not be aware that the conduct is unwelcome or offensive.

If you would like to proceed informally, but with the assistance of someone else, you may:

1. Ask the person’s supervisor, e.g., department chair, dean, director, housing office representative, academic advisor or resident advisor, to speak to the person whose behavior was unwelcome. The purpose of such conversations is the cessation of unwelcome behavior.
2. Consult with the Coordinator or one of the Sexual Harassment Response Advisors listed in the Appendix and specifically charged with responding to sexual harassment inquiries and complaints.
3. These individuals are thoroughly familiar with University policy on sexual harassment and are available to consult with victims of sexual harassment, those charged with sexual harassment, witnesses and supervisors of parties to a complaint. They can provide information about informal actions that might remedy the situation and discuss University policy on sexual harassment and procedures for resolving complaints.
4. With the exception of allegations of sexual violence, ask the Coordinator to mediate or arrange for mediation. Mediation is discussion and negotiation, with the help of a third party, designed to permit the parties to reach a mutually agreeable resolution of a dispute. If a person complaining of sexual harassment seeks mediation, the person accused of harassment agrees and the Coordinator concludes that the mediation would be consistent with the University’s legal obligations in responding to and preventing sexual harassment, the Coordinator may mediate or arrange for mediation.

Formal Procedures

Whether or not you have attempted to resolve a sexual harassment claim through informal means, you may initiate a formal sexual harassment grievance proceeding by filing a written complaint. This process may
lead to a formal hearing at which evidence will be considered and witnesses heard. If this is the course you wish to take, the Coordinator can assist you in filing a complaint.

Complaints, prepared with or without the assistance of the Coordinator, can be filed with the following Committees, with a copy to the Coordinator for your campus:

Complaints against faculty or staff:

- Discrimination, Discriminatory or Sexual Harassment Grievance Committee (complaints by faculty and administrators)
- Discriminatory Harassment and Title IX Grievance Committee (complaints by students)
- Human Resources Advisory Committee (complaints by staff)

All of these committees may be contacted at:

c/o Office of Human Resources
North Brookings Hall, Room 126
Campus Box 1184
935-5990

Hearing procedures are set forth in the Washington University Discrimination and Sexual Harassment Hearing Procedures. These procedures may be obtained from the Office of Human Resources or from any Sexual Harassment Response Coordinator or Advisor.

Note that complaints against a student or student groups alleging sexual violence are governed by the University Sexual Assault Investigation Board policy available on line at:
http://www.wustl.edu/policies/sexualassault.html

Complaints against students or student groups:

Office of the Judicial Administrator
Residential Life Center
South 40 House
Campus Box 1250
935-4174
935-7776 (fax)

Hearing procedures for complaints alleging sexual harassment that does not involve sexual violence are set forth in the University Judicial Code, which can be found in the Washington University Faculty Information Handbook and online: http://www.wustl.edu/policies/judicial.html. These procedures may also be obtained from the University Judicial Administrator or from the Title IX Sexual Harassment Response Coordinator or Advisors. The procedures for complaints against students alleging sexual violence are set forth in the University Sexual Assault Investigation Board policy, available on line at:
http://www.wustl.edu/policies/sexualassault.html

Whether or not you choose to file a complaint, the University may be required, or may otherwise deem it necessary and protective of the University community, to commence its own investigation and hearing procedure.

Inquiries regarding Title IX may be referred to the:

University's Title IX Sexual Harassment Response Coordinator
Jessica Kennedy
Protection of Rights

The University will not tolerate retaliation or discrimination against persons who report or charge sexual harassment or against those who testify, assist or participate in any investigation, proceeding or hearing involving a complaint of sexual harassment. In this context, retaliation means speech or conduct that adversely affects another’s terms or conditions of employment or education and is motivated by an intent to harm the targeted person because of his or her participation in the filing or investigation of an allegation of sexual harassment. Any such retaliation -- or any encouragement of another to retaliate -- is a serious violation of University policy and law; independent of whether the particular claim of sexual harassment is substantiated. If you believe you have been subjected to retaliation in violation of this rule, you may use the procedures described above to complain and seek redress.

The University seeks to protect the rights of all persons, accusers and accused, to fair procedures. Accusations of sexual harassment typically have injurious far-reaching effects on the careers and lives of accused individuals. Allegations of sexual harassment must be made in good faith and not out of malice. Knowingly making a false or frivolous allegation of sexual harassment, whether in a formal or informal context, will be treated as a serious offense under this policy and, where it applies, the University Judicial Code. If you believe you have been falsely accused of sexual harassment you may use the procedures of this policy or the University Judicial Code, where applicable, to seek redress. See Section IV.

Obligations of Vigilance and Reporting

The University can respond to specific instances and allegations of harassment only if it is aware of them. The University therefore encourages anyone who believes that he or she has experienced sexual harassment to promptly come forward with inquiries, reports or complaints and to seek assistance from the University. In addition, any University employee who becomes aware of instances or allegations of sexual harassment by or against a person under his or her supervisory authority must report it to those charged with responding to such allegations and reports: the appropriate dean, director or department head or other similar administrator or to the Sexual Harassment Response Coordinator or one of the Advisors. It shall be the responsibility of these individuals to respond to allegations and reports of sexual harassment or refer them to other University officials for such response.

Any dean, director or department head or other similar administrator who becomes aware of information indicating a significant likelihood of sexual harassment must report such information to the Title IX Sexual Harassment Response Coordinator. These administrators must respond not only when they receive a specific complaint or report alleging improper activity, but also when such matters come to their attention informally. Unconfirmed or disputed allegations should be clearly labeled as such and reports should indicate any steps already taken to investigate or otherwise respond. Administrators may wish to consult with the Coordinator or any of the Advisors prior to investigating or otherwise responding to any situation involving alleged harassment.
Possible Sanctions

Possible sanctions for a person found guilty of behavior in violation of this policy include but are not limited to the following:

- oral or written reprimand, placed in the personnel file
- required attendance at a sexual harassment sensitivity program
- an apology to the victim
- oral or written warning
- loss of salary or benefit, such as sabbatical or research or travel funding
- transfer or change of job, class or residential assignment or location (i.e., removing the person from being in a position to retaliate or further harass the victim.)
- fine
- demotion
- suspension, probation, termination, dismissal or expulsion

While counseling is not considered a sanction, it may be offered or required in combination with sanctions. Where alcohol is involved in the sexual harassment, such counseling may include an alcohol abuse program.

If students or student groups are guilty of sexual harassment, any of the sanctions set forth in the University Judicial Code may also be invoked.

Education

The best way to deal with sexual harassment is to prevent it. Education is essential to eliminating sexual harassment. To this end, Washington University has developed an ongoing training program. Please call a Sexual Harassment Response Coordinator or Advisor to find out more about these programs, what sexual harassment is, how to respond to it and what to do when someone asks for advice about sexual harassment.

Approved by the Washington University Senate Council, October 19, 1995.
Approved by the Washington University Senate, April 22, 1996.
Revision approved by the Washington University Senate, April 28, 1997.
Revision approved by the Washington University Faculty Senate Council, November 15, 2011; modified per Title IX Dear Colleague Letter clarifications.
Policy updated to be consistent with the University Sexual Assault Investigation Board policy, January 25, 2013.

(This policy supersedes prior University Policies on Sexual Harassment).

Appendix: Title IX Coordinator/Sexual Harassment Coordinator and Advisors

(as of July 2014)

Danforth Campus

<table>
<thead>
<tr>
<th>Name</th>
<th>Complaints Handled</th>
<th>Contact Number</th>
</tr>
</thead>
</table>

Coordinator:

<table>
<thead>
<tr>
<th>Name</th>
<th>Complaints Handled</th>
<th>Contact Number</th>
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</thead>
<tbody>
<tr>
<td>Apryle Cotton</td>
<td>Faculty, staff and others</td>
<td>935-8095</td>
</tr>
</tbody>
</table>

School of Medicine Campus

<table>
<thead>
<tr>
<th>Name</th>
<th>Complaints Handled</th>
<th>Contact Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legail Chandler</td>
<td>Faculty, staff and others</td>
<td>362-4900</td>
</tr>
</tbody>
</table>

Title IX Coordinator on both campuses

<table>
<thead>
<tr>
<th>Name</th>
<th>Complaints Handled</th>
<th>Contact Number</th>
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</thead>
<tbody>
<tr>
<td>Jessica Kennedy</td>
<td>Faculty, staff and students</td>
<td>935-3118</td>
</tr>
</tbody>
</table>

WUSTL Drug & Alcohol Policy

Introduction and Policy Statement

Washington University is committed to maintaining a safe and healthful environment for members of the University community by promoting a drug-free environment as well as one free of the abuse of alcohol. Violations of this policy will be handled according to existing policies and procedures concerning the conduct of faculty, staff and students.

This policy is adopted in accordance with the Drug-Free Workplace Act and the Drug-Free Schools and Communities Act.

Standards of Conduct

Washington University strictly prohibits the unlawful manufacture, sale, distribution, dispensation, possession or use of controlled substances or alcohol on University property or as a part of any University activity. All faculty, staff and students must comply with this policy as a condition of their employment or enrollment. Faculty and staff members are prohibited from reporting to work under the influence of alcohol, chemicals, or drugs, including legally obtained prescription drugs, which impair one’s ability to perform normal work activities. All faculty and staff members must notify their immediate supervisor(s) within five (5) days of any criminal drug statute conviction for a violation occurring in the workplace or in the conduct of University business.
Violations

Violations of the standards of conduct will be dealt with on a case-by-case basis following the policies and procedures applicable to, as appropriate, faculty, staff or students. Sanctions may include, among other things, reprimand, warning, suspension, probation, expulsion or termination. Referral to an appropriate assistance or rehabilitation program also may be appropriate. Referral for prosecution will occur for serious violations.

The Drug-Free Workplace Act requires the University: (1) within 10 days after receiving notice that an employee has been convicted of any criminal drug statute violation occurring in the workplace or in the conduct of University business, to notify appropriate government agencies of such conviction; and (2) within 30 days after receiving such notice, to take appropriate personnel action against such employee up to and including termination and/or to require the employee to satisfactorily participate in a drug abuse assistance or rehabilitation program.

Drug and Alcohol Counseling, Treatment or Rehabilitation or Re-Entry Programs

Early recognition and treatment of drug or alcohol abuse are important for successful rehabilitation, and for reduced personal, family and social disruption. Washington University encourages the earliest possible diagnosis and treatment for drug and alcohol abuse, however, the decision to seek diagnosis and accept treatment for drug or alcohol abuse is the responsibility of the individual.

The University encourages faculty, staff and students to seek assistance in dealing with a substance abuse problem, or those problems of a family member, by contacting available resources. University resources include Student Health Services (Danforth Campus, 314-935-6666); Student and Employee Health (School of Medicine, 314-362-3523), the Psychological Service Center (314-935-6555), the Department of Psychiatry (314-362-7002), and the Employee Assistance Program (844-365-4587 - toll-free).

Numerous non-University counseling programs exist in the St. Louis metropolitan area. Many programs advertise extensively in local media. Consultation with one’s personal physician is advised prior to self-referral to such non-University programs. For further information regarding referral to such programs, contact Student Health Services, the School of Medicine Student and Employee Health, or your private physician.

Health Risks

Drugs: A detailed description of the health risks associated with abuse of controlled substances is provided in the chart, Drug Uses and Effects, published by the U.S. Department of Justice’s Drug Enforcement Administration as found in Appendix A (pdf).

Alcohol: Abuse of alcohol can produce severe health risks, including death. Alcohol consumption causes a number of marked changes in behavior. Even low doses significantly impair the judgment and coordination required to drive a car safely, increasing the likelihood that the driver will be involved in an accident. Low-to-moderate doses of alcohol also increase the incidence of a variety of aggressive acts, including spouse and child abuse. Moderate-to-high doses of alcohol cause marked impairments in higher mental functions, severely altering a person's ability to learn and remember information. Very high doses cause respiratory depression and death. If combined with other depressants of the central nervous system, much lower doses of alcohol will produce the effects just described.

Repeated use of alcohol can lead to dependence. Sudden cessation of alcohol intake is likely to produce withdrawal symptoms, including severe anxiety, tremors, hallucinations, and convulsions. Alcohol withdrawal can be life threatening. Long-term consumption of large quantities of alcohol, particularly when
combined with poor nutrition, can also lead to permanent damage to vital organs such as the brain and the liver.

Women who drink alcohol during pregnancy may give birth to infants with fetal alcohol syndrome. These infants have irreversible physical abnormalities and mental retardation. In addition, research indicated that children of alcoholic parents are at greater risk than other youngsters of becoming alcoholics.

**Legal Sanctions**

Drugs: The manufacture, possession, sale, distribution, and use of controlled substances are prohibited by federal, state and local law; punishments range from fines to life imprisonment.

Section 195.214 of the Missouri statutes makes it a class A felony to distribute or deliver controlled substances on or near University property. Persons convicted of this offense can be sentenced to imprisonment for not less than 10 years.

The Federal Controlled Substances Act prohibits the knowing, intentional, and unauthorized manufacture, distribution, or dispensing of any controlled substance or the possession of any controlled substance with intent to manufacture, distribute, or dispense. A detailed description of the penalties associated with illegal drug trafficking is provided in the chart, Federal Trafficking Penalties, published by the U.S. Department of Justice’s Drug Enforcement Administration as found in [Appendix B](#) (pdf).

Alcohol: Missouri’s Liquor Control Law makes it illegal, among other things, for a person under the age of 21 years to purchase, attempt to purchase, or possess any intoxicating liquor (R.S.Mo. Section 311.325). Violation of this provision can result in a fine between $50 and $1000 and/or imprisonment for a maximum term of one year. County and municipality ordinances contain similar prohibitions and sanctions.

**Loss of Workers’ Compensation Benefits**

The Missouri Workers’ Compensation Act requires the forfeiture of benefits or compensation otherwise payable to an employee when the use of alcohol or non-prescribed controlled drugs is the proximate cause of the employee’s injury. At a minimum, the Act provides for a reduction in benefits or compensation when the employee is injured while using alcohol or non-prescribed controlled drugs.

**Testing Requirement for Commercial Drivers Licenses (CDLs)**

To meet requirements of the U.S. Department of Transportation (DOT), the University has established a drug and alcohol testing program for its employees who are drivers of its commercial motor vehicles requiring commercial drivers licenses (CDLs), and who perform safety-sensitive functions, e.g., operate a vehicle requiring the display of hazardous material placards. This drug and alcohol testing program also applies to applicants selected for hire for designated safety-sensitive positions. Participation in the drug and alcohol testing program is a condition of employment for these positions.

This program requires pre-employment drug testing as well as DOT mandated random testing of current employees who are required to have CDLs.

Questions regarding this requirement may be directed to the Designated Employee Representative for this program or to Human Resources.
**Accidents Involving University-Owned Vehicles**

The University reserves the right to require that an employee undergo immediate drug and/or alcohol testing if the employee is involved in a vehicular accident while driving a University-owned vehicle.

**Inspections**

When the University has reasonable grounds to suspect that an employee unlawfully manufactured, distributed, possessed or used controlled substances, alcohol or drug paraphernalia on University property or at any of its activities, the University reserves the right to inspect the employee’s locker, desk, or other University property under the control of the employee.

The School of Medicine maintains additional requirements. For information see the School of Medicine Human Resources web site, Drug & Alcohol Policy, (http://medschoolhr.wustl.edu/Policies/Documents/WUSM%20Drug%20and%20Alcohol%20Policy.pdf) or contact the Executive Director for Human Resources at 362-4900.

Updated April 2012

**WUSTL Computer Use Policy**

**Statement of Policy**

Washington University in St. Louis (WashU) is committed to conducting all university activities in compliance with all applicable laws, regulations and university policies. WashU has adopted this policy to outline the security measures required to protect electronic information systems and related equipment from unauthorized use.

**Objectives**

This policy provides direction for appropriate use by students, faculty and staff of computer systems, network and data at Washington University in St. Louis (WashU). This applies to systems connected to WashU in any method and from any location.

This policy seeks to protect the integrity of the WashU information systems themselves: the computing or networking resources need to be accessible and secure for appropriate use consistent with the mission of WashU; the usurpation of these resources for personal gain, commercial gain or without authorization is unacceptable.

To manage systems and networks at WashU, comply with regulatory requirements and enforce the various Information Security Policies, WashU may log, review, retain, prohibit, or in any manner utilize any data or information stored or transmitted via WashU assets.

**Relationship to WashU Policies**

All WashU policies listed below apply to information technology as well as to other forms of communication and activity. In addition, these policies are fully recognized by the WashU Computer Use Policy. All users are responsible for being aware of and complying with regulations and Information Security Policies. Use of WashU systems or network that violates any of these policies will be investigated and sanctions may be applied, including termination.
WashU students will reference the Student Technology Services Network Use Policy http://sts.wustl.edu/policies/network-use-policy/. When in a faculty or staff position, students are expected to adhere to department and/or school policies for network use.

**Use of WashU Resources**

WashU resources are shared resources available for students, faculty and staff to further educational, research, medical, service and university-related activities and missions. Staff, faculty and students should abide by federal, state, and city laws, regulations and university policy.

WashU does not monitor the content of web pages or other online communications and is not responsible for the views expressed by individual users.

The personal use of WashU systems and networks should be limited in nature, scope and appropriateness.

While the privileges and responsibilities vary between schools and departments, the use of university resources for personal commercial gain or for partisan political purposes (not including the expression of personal political views, debate and the like) is inappropriate and possibly illegal.

Individual university computer systems and departments have varying access requirements and resources. Departments or Schools may implement additional computer use guidelines as necessary. Copies of such additional computer user guidelines must be provided to Chief Information Security Officer.

**Privacy**

Although respect for privacy is fundamental to the University’s policies, understand that almost any information can in principle be read or copied; that some user information is maintained in system logs as part of computer system maintenance; that the University must reserve the right to examine computer files, and that, in rare circumstances, the University may be compelled by law or policy to examine even personal and confidential information stored, transmitted or accessed on University computing facilities.

**Access to WashU Secure Systems**

WashU provides access to internal and external system resources. Use of these resources may be governed by various state and/or federal regulatory requirements. All authorized users with access to protected information and systems are expected to be aware of and comply with the regulatory requirements that govern the use of the data as well as the resource. Guidance along with the specific regulatory requirements are provided at WashU through the University’s Area Specific Compliance Offices.

Students, faculty and staff should be aware of the University’s computer and data classification guidelines prior to utilizing external or personal computing resources through the WashU system. These guidelines are available on the CIO.wustl.edu and informationsecurity.wustl.edu websites.

**Authentication**

Students, faculty and staff are responsible for protecting their account credentials (user IDs and passwords). Users should not share credentials used for authentication and access to WashU systems and network verbally or in electronic or written communications. Unique credentials are required for all students, faculty and staff to access WashU systems and network. Inappropriate access of WashU resources may significantly impact education, research, and patient care and other University activities.

**Personal devices**
Devices purchased by a student, faculty or staff member used to access WashU data or network must conform to all WashU policies and device protections based upon data classification accessed, stored or transferred from the device. It is the responsibility of the device owner to secure the system or data. Faculty, staff and students may contact the department or school Help Desk to ensure their personal devices conform.

Misuse of resources

Students, faculty and staff are responsible for all activity involving their WashU accounts and are granted privileges and responsibilities with these accounts. These privileges are not to be used to violate any University policy, or city, state or federal laws or regulations. Access may be revoked in cases of misuse or threat to WashU systems and network.

Students, faculty and staff are not to use the WashU systems or network to cause harm or perform illegal activities including, but not limited to the following:

- Cause harm to individuals, University data, University network,
- Disable systems, programs or software
- E-mail Spam or harassment
- Modify or destroy data integrity
- Copyright infringement
- Malicious computer activity

Circumventing WashU policies to compromise the security of an account, system, devices, network or WashU partner will not be tolerated.

WashU Rights

Access

WashU, through the appropriate Systems Administrator or Management request, may deactivate a user’s privileges when deemed reasonably necessary to enhance or preserve the confidentiality, integrity or availability of the WashU systems or network.

Monitoring

WashU does not monitor student, faculty and staff system or network usage. Daily system processing and maintenance will log and backup the data. The individual right to privacy may, when personal files may need to be accessed for troubleshooting purposes or to investigate a reported incident, be overridden by authorized personnel to protect the integrity of the University’s computer systems.

Security

WashU reserves the right to enforce security controls to preserve the confidentiality, integrity or availability of the WashU systems or network. These controls may affect the storage, transmission and access of confidential and protected information in accordance with WashU policies, regulations, state and federal laws or regulations. WashU reserves the right to restrict access to internal or external resources based upon risk to the University systems or network.

Reporting
All WashU students, faculty and staff are responsible for reporting concerns or possible violations of this policy. Report concerns or possible violations to infosec@wustl.edu. Concerns or violations can also be reported anonymously on the University’s hotline at (314) 362-4998.

Investigation

Violations of this policy may lead to an investigation involving but not limited to designated representatives for students, faculty or staff, Human Resources, General Counsel, Information Security, Internal Audit, the HIPAA Privacy Office, or other Area Specific Compliance Office.

Sanctions

Violations of this policy may lead to disciplinary action up to and including termination under either the Human Resources corrective action process or the HIPAA Sanction policy.

For questions about this policy, contact your school, department or unit system manager or e-mail Kevin Hardcastle (mailto:hardcastlek@wustl.edu), Chief Information Security Officer.

Title: Computer Use Policy
Version Number: 3.0
Creation Date: May 31, 1997
Applicability: WashU Faculty, Staff, Students and Guests
Reference Number: 01.04
Status: Final
Revision Date: October 10, 2016
Policy Owner: Information Security Office

Academic Integrity Policy for Graduate Students

PREAMBLE

This document on academic and professional integrity applies to graduate students in the Graduate School: Master’s and Ph.D. students in Arts & Sciences programs, all Ph.D. students on the Danforth & Medical campuses, including those home-based in another School (Engineering, Social Work, Medicine, Business), and Dual Degree students when one of the degree programs resides in the Graduate School. Originally adopted by the Graduate Council of the Faculty of Arts and Sciences in 1991, the current version underwent major review and revision and was approved by the Graduate Council in April 2012.

The Academic Integrity Policy is meant to safeguard and enhance the educational process that already exists in the departments. Students are here to learn not only academic information and techniques but also the rules of appropriate conduct; not learning such rules is as deleterious to academic advancement as not acquiring standard academic credentials. There may regrettably be cases where misconduct, rather than minor procedural error, appears to be at issue, and it is for such cases that guidelines detailed in this document have been established. Both faculty and students should familiarize themselves with these guidelines, for they will be followed in all cases of alleged academic misconduct.
I. INTRODUCTION
Academic integrity is of paramount importance at every educational institution. The university has an obligation to provide an atmosphere based on scrupulous adherence to the rules of honesty. This climate of impeccable integrity must encompass every aspect of academic activity. The university's role within the greater culture as provider of new knowledge and educator of future leaders demands no less. The integrity code governing all teachers, scholars, and researchers is severe. Even a single allegation of impropriety, unless refuted to the satisfaction of peers, can tarnish a reputation and block career development. An egregious violation could abruptly end a career in disgrace. Ignorance of the rules of academic conduct is normally not regarded as a mitigating factor.

Washington University promotes the highest standards in academic scholarship. The Graduate School, in providing a springboard for its students into careers in scholarship and research, does not tolerate any form of laxity in academic integrity. Term papers, seminar presentations, laboratory experiments, homework problems, and examinations, to say nothing of published work, conference papers, and theses or dissertations, must be regarded as training grounds not only in the acquisition of knowledge but in scholarly ethics. No instance of proven academic dishonesty can be ignored, even if the offender claims to be unaware that his or her actions constitute an offense. The sole difference between the academic integrity code for graduate students and that for professionals is that student offenses are generally not publicly aired and that students may be permitted to continue their training if their transgressions are considered relatively minor or are considered to be adequately mitigated by circumstances. Findings of flagrant exhibitions of willful academic dishonesty, however, must result in expulsion from the Graduate School. It is assumed by the Graduate School and the Graduate Council that all students entering the University are well versed in the principles of honesty. Graduate students are expected to demonstrate appropriate academic and professional conduct and to exhibit truthfulness and candor in all aspects of their interactions with the University community.

Thus, knowingly furnishing false information to the University, or to someone acting on its behalf, will be considered academic misconduct in violation of this policy. Students are strongly urged to study this document carefully and review with home departments any area in which they have questions.

II. OFFENSES WHICH CONSTITUTE VIOLATIONS OF ACADEMIC AND PROFESSIONAL INTEGRITY
A. ACADEMIC INTEGRITY VIOLATIONS
The following offenses, or attempts to commit these offenses, constitute violations of academic integrity:
1. Plagiarism and other misappropriation of the work of another
   Plagiarism is the willful or unintentional act of using, without proper
   acknowledgement, another person's or persons' words, ideas, results, methods,
   opinions, or concepts. It does not matter whether the appropriated information is
   published or unpublished; academic or nonacademic in content; or in the public or
   private domain. The act of claiming as one's own work any intellectual material
   created by another or others is wrong and will be treated by the Graduate School
   as a serious violation of academic integrity.

   To avoid plagiarism, students are expected to be attentive to proper methods of
   documentation and acknowledgement. To avoid even the suspicion of plagiarism,
   a student must always:
   a. Enclose every quotation in quotation marks, and acknowledge its source.
   b. Cite the source of every summary, paraphrase, abstraction or adaptation of
      material originally prepared by another person, and any factual data that is
      not considered common knowledge. Include the name of author, title of
      work, publication information, and page reference.
   c. Acknowledge material obtained from lectures, interviews, or other oral
      communication by citing the source (name of the speaker, the occasion, the place, and
      the date).
   d. Cite material from the Internet as if it were from a traditionally published source.
      Follow the citation style or requirements of the instructor for whom the work is
      produced. Similar to standards governing preparation and publication of written
      works, there are standards that govern the creation and preparation of artistic, design
      and technical works and creations. It is a violation of academic integrity to represent
      another's artistic, design or technical work or creation, including unacknowledged or
      unauthorized use of proofs and codes, as one's own. It is recognized and
      understood that a student's work may often draw from previously published material
      and works for reference and inspiration, and the Graduate School encourages this type
      of exploration. However, student work claiming to be original, but which has been
      lifted without significant change from other sources, including magazines, the
      Internet, fellow students or colleagues, is unacceptable and will be treated as
      a violation of this policy.

2. Cheating
   The use of deceit in the classroom or in the construction of materials related to the
   academic process is unacceptable. Such offenses include but are not restricted to
   copying someone else's answers during an examination or using or providing
   unapproved materials for an examination.

3. Copying or Collaborating on Assignments Without Permission
   When a student submits work with his/her name on it, this is a written statement
   that credit for the work belongs to that student alone. If the work was a product of
   collaboration, each student is expected to clearly acknowledge in writing all
   persons who contributed to the work.
   If the instructor allows group work in some circumstances but not others, it is the
student's responsibility to understand the degree of acceptable collaboration for each assignment, and to ask for clarification if necessary.

To avoid cheating or unauthorized collaboration, a student should never:

a. Use, copy or paraphrase the results of another person's work and represent that work as his/her own, regardless of the circumstances.

b. Refer to, study from, or copy archival files (e.g. old tests, homework, or back files) that were not approved by the instructor.

c. Copy another's work or permit another student to copy his/her work.

4. Fabrication or Falsification of Documents, Data or Records

It is dishonest to fabricate, falsify or otherwise provide misleading data or other material presented in research papers, projects, publications, assignments and in any other academic and professional circumstances; to fabricate source material in a bibliography or "works cited" list; or to provide false information on a résumé or other document in connection with academic and professional efforts.

Examples of falsification include:

a. Altering information on any exam or class assignment being submitted for a re-grade.

b. Altering, omitting, or inventing data to submit as one's own findings. This includes copying data from another student to present as one's own; modifying data in a write-up; and providing data to another student to submit as his/her own.

5. Research Misconduct

It is a violation of this policy to engage in research misconduct or otherwise fail to adhere to the University’s research policies and guidelines, which can be found at http://research.wustl.edu.

Research misconduct includes but is not limited to failure to adhere to or to receive the approval required for work under research regulations of federal, state, local or University agencies or departments.

6. Obstruction of the Academic Activities of Another

Students are prohibited from obstructing or interfering with the scholarly research and academic activities of another individual. Examples include but are not limited to stealing, tampering with, damaging, or destroying research papers, data, supplies, equipment, designs, drawings, other products of research or academic work, or such other property of others that is related to academic endeavors, or impeding access to
shared resources such as library materials, studio materials, or computer software and hardware.

7. Abuse of Confidentiality
It is a violation of this policy for a graduate student to release information, ideas or data of others that were provided to the student with the expectation that the student would maintain such information, ideas or data as confidential. For example, a student may be exposed to or asked to participate in confidential grant proposals, review of manuscripts, or other applications for honors and awards that should be considered confidential and not disclosed to unauthorized persons.

8. Other Forms Of Deceit, Dishonesty, Or Inappropriate Conduct
Under no circumstances is it acceptable for a student to:

a. Submit the same work, or essentially the same work, for more than one course without explicitly obtaining permission from all instructors. A student must disclose when a paper or project builds on work completed earlier in his/her academic career.

b. Request an academic benefit based on false information or deception. This includes requesting an extension of time, a better grade, or a recommendation from an instructor.

c. Misrepresentation of experience or ability. This includes providing false information concerning academic achievement or background in an area of study. For example, falsely reporting the substance of an internship, omitting transcripts or other academic information on an application for admission or other University records.

d. Steal, deface, or damage academic facilities or materials.

e. Collaborate with other students planning or engaging in any form of academic or professional misconduct.

f. Submit any academic work under someone else's name other than his/her own. This includes but is not limited to sitting for another person's exam; both parties will be held responsible.

g. Publish or attempt to publish collaborative works without the permission of the other participants.

h. In addition, any offense defined as academic misconduct within the Washington University Student Judicial Code may also constitute a violation of this policy.

B. PROFESSIONAL INTEGRITY VIOLATIONS
Professional integrity violations consist of behavior that is inconsistent with ethical standards in the professional roles for which the student is being trained that are not covered by policies governing academic integrity. This may include the student’s performance in the role of researcher or scholar, teacher or mentor, supervisor, service-provider or colleague.

Of particular note in this regard are behaviors that make the workplace hostile for colleagues, supervisors or subordinates. Graduate students are expected to adhere to ethical standards in a variety of work settings (e.g., offices, classrooms, clinics, and laboratories) within the explicit standards set by University policies. Being physically or verbally threatening, disruptive, abusive or hostile can make the workplace so unsafe or unpleasant that others cannot do their work. However, graduate education must take place in an environment in which free expression, free
inquiry, intellectual honesty, and respect for the rights and dignity of others can be expected. Ethical standards of conduct should help ensure, not compromise, these features of the University environment. Sources of the norms or standards to which graduate students can be held accountable (and charged under this policy if they fail to adhere to them) are as follows:

1. State and Federal Laws: Graduate students, like all members of the University community, are expected to abide by all State and Federal laws.

2. Relevant University-Wide Policy Statements: Graduate students are responsible for being familiar with and are held accountable to the standards that are identified in University-wide policy statements and that apply to them, including but not limited to the University’s Policy Against Sexual Harassment, Policy Against Discriminatory Harassment, the Non-Discrimination Statement, and the University Student Judicial Code, which can be found at www.wustl.edu/policies.

3. Discipline-Specific Professional Standards of Conduct or Code of Ethics: Graduate students are expected to meet professional standards of conduct associated with their own disciplines and/or professions as articulated in formal codes of ethics. Such formal codes can include but are not limited to codes of professional conduct or statements on professional behavior that have been adopted by the student’s department, program, school or college, as well as codes of ethics published by professional associations.

4. Additional Forms of Professional Misconduct: In addition, graduate students can be held accountable for the following professionally relevant behaviors, which may or may not be identified as violations in other formal codes of conduct relevant to the student. With respect to the following behaviors, the appropriate academic leadership (e.g., dean or department chair), in consultation with department faculty, serves as the authority for whether a specific student behavior warrants review under this policy.

   a. Misrepresentation of one’s credentials or status, or failure to correct others’ inaccuracies or misrepresentation of one’s credentials. This includes professional experience, paid or unpaid, including positions held; and relevant timeframes and dates (e.g., the timeframe in which a professional position was held, or the date on which a degree was earned).

   b. Unethical consulting activity, including misrepresentation of one’s status, credentials, or level of expertise to secure a consulting assignment; and knowingly taking on a consulting assignment without the necessary knowledge or expertise. (Consultation should only be provided by individuals who have demonstrated knowledge, expertise, and competence related to the consultation. To avoid problems in this regard, graduate students are strongly encouraged to seek the advice of their faculty advisors or other appropriate members of the faculty before taking on a consulting assignment.)

   c. Unethical professional practice based on conflict of interest. This includes engaging in unethical professional behaviors to promote, benefit or protect one’s self, family, friends, or business colleagues; and exploiting personal knowledge about an individual (e.g., personal life as well as political and religious views).
d. Failure to protect confidential records, in accordance with relevant professional standards.

e. Abuse of the peer review process. This includes the following:
   • simultaneous submission of a manuscript to more than one journal without approval from the respective editors
   • submission of previously published material without clarifying the extent of the previously published material to the editor
   • submitting a manuscript without the permission/agreement of all authors
   • judging a peer’s work on other than professional grounds,
   • serving as a peer reviewer despite conflict of interest (e.g., having a personal relationship with the author) or otherwise knowingly unable to judge the merits of scholarly work without prejudice
   • trying to unduly influence a colleague’s review of one’s own work

f. Other fraudulent behavior. This includes actions, taken individually or with other people that the appropriate dean believes to call into question the student’s ability to ethically and competently join the profession. Specific examples include knowingly providing false information in one’s professional role, embezzling funds, and misusing department or school resources.

g. Aiding or abetting professional misconduct. Aiding or abetting any individual in the violation of any of the categories of professional misconduct outlined above shall itself be considered misconduct.

h. Attempted professional misconduct. An attempt to commit professional misconduct may be treated as seriously as the completed act.

i. Misrepresentation, abuse, or other seriously improper conduct in relation to instructors, students, colleagues, research subjects, clients, or other members of the University community.

j. Participation in illegal activities, substance abuse, or other misconduct or misrepresentations in violation of University policies and procedures or State or Federal laws.

III.
PROCEDURES FOR DEALING WITH CASES OF ACADEMIC AND PROFESSIONAL INTEGRITY VIOLATIONS

A. Academic Integrity Violations (described under II. A.)

Individual faculty members, departments or students should not attempt to adjudicate allegations of academic integrity violations at the course or departmental level. Instead, in the interest of providing consistent, prompt consideration and resolution of allegations of academic integrity infractions, a formal complaint must be filed and the procedures outlined below should be followed in each instance of an alleged violation of academic integrity by a student enrolled in the Graduate School.

B. Professional Integrity Violations (described under II. B.)

If violations of professional integrity violations are alleged by a faculty member, department, or student and a formal complaint is filed with the Graduate School, the
Associate Dean of the Graduate School (“Associate Dean”) may consult with the accused student’s Department, the University Judicial Administrator, and/or other appropriate University officials to determine whether such allegations or complaint will be handled on a Departmental level, under the University Judicial Code, and/or the procedures of this Policy set forth below.

C. General Provisions

1. Filing a Complaint:
Formal complaints of academic or professional integrity violations must be filed in writing with the Associate Dean of the Graduate School (“Associate Dean”) by a faculty member, member of the administration or another student. All available substantiating evidence shall be submitted with the formal complaint. If the charging party seeks to subsequently withdraw the formal complaint, the Associate Dean may decide to proceed with the complaint in order to preserve the interests of the Graduate School.

2. Confidentiality:
Individuals submitting information regarding such allegations or participating in any manner in the investigation or disciplinary process are reminded of the need for confidentiality regarding all matters of the alleged misconduct.

3. Further Investigation by Associate Dean:
The Associate Dean will consider the merits of the complaint and whether it appears to warrant further investigation. The Associate Dean may take further action, as necessary, to investigate the allegations, including consultation with the accused student’s program director, advisor or other relevant faculty members, the charging party, witnesses, or other University administrators if appropriate.

4. Unless it is determined by the Associate Dean that extraordinary circumstances exist, the student will be permitted during the review process to attend class so long as the student does not pose a threat to himself/herself or others.

5. Consultation with Judicial Administrator:
The Associate Dean shall determine, and may consult with the University’s Judicial Administrator in making such a determination, whether the alleged conduct, if true, could constitute misconduct under the Judicial Code. The Associate Dean may refer the matter to the University’s Judicial Administrator.

6. Enrollment in Dual-Degree Programs or a GSAS Program Home-Based in another School: If a graduate student in the Graduate School is enrolled in a GSAS program home-based in another School or is enrolled in a Dual Degree Program, the Associate Dean may advise appropriate officials from all Schools involved. The Washington University Provost / Executive Vice Chancellor for Academic Affairs will also be informed, and asked to determine whether additional proceedings are required, or whether any should take precedence over the Graduate School’s proceedings.

7. Research Integrity Policy:
When the alleged violation of academic integrity occurs during the conduct of research, the Washington University Research Integrity Policy may take precedence.
The Dean of the The Graduate School, the Research Integrity Officer, and the Vice Chancellor for Research, or their designees, will confer to make this determination and advise the Graduate School Associate Dean. Copies of this policy may be obtained from the Research Office and online at: http://www.wustl.edu/policies/research.html.

8. Notice to Accused Student:
If the complaint warrants further investigation, the Associate Dean will notify the accused student of the alleged infraction, discuss the allegations, and review the hearing process, including the student’s options to reply to the complaint.

9. Admission of Violation:
Should the accused student agree with the facts presented in the complaint and furthermore agree that he or she has committed a violation of academic integrity, the student may admit to the violation, thus waiving his or her right to a hearing, and agree to abide by disciplinary penalties imposed by the Dean of the Graduate School. In every other instance however, the complaint will be forwarded to the Academic Integrity Hearing Committee for further investigation and hearing.

10. Refusal to participate or respond:
If the accused student refuses to respond to the charges or refuses to participate in the proceeding, the Associate Dean and/or the Academic Integrity Hearing Committee may interpret the accused student’s lack of response or participation as an admission of the charges, and the Associate Dean and/or the Academic Integrity Hearing Committee may immediately proceed to impose sanctions against the accused student in accordance with this Policy.

11. The record of the review, including Hearing Proceedings if any, will be held confidentially in accordance with the law and University policy, with access restricted to the Associate Dean, Hearing Committee members, the student accused, and members of the WU Administration involved in the proceedings or on appeal.

12. The Associate Dean, Hearing Committee if any, and Dean of the Graduate School may consider additional evidence of prior conduct, evidence as to the charged student’s character, the student’s academic record, or any other evidence which could assist in determining an appropriate sanction.

13. Composition of Academic and Professional Integrity Hearing Committee
a. Chair of the Academic and Professional Integrity Hearing Committee:
The Chair of the Graduate Council Executive Committee will serve as Chair of the Academic and Professional Integrity Hearing Committee (“Chair”).

b. Appointed Members: The Academic and Professional Integrity Hearing Committee is composed of 4 members of the Graduate Council Executive Committee (two student and two faculty members) selected by the Chair. The Executive Committee is elected each year by the Graduate Council.
c. Ex-officio Members:
At the discretion of the Chair, membership may include, in ex officio capacity, the Associate Dean of GSAS, a representative of the Student Health Services, or an official from the graduate student’s program if the student is home-based in another School. In addition, the Office of General Counsel may be present during a hearing to advise the Committee.

d. Recusal from participation and voting:
A voting member of the Committee should declare any potential conflicts of interest to the Committee, and the remaining Committee members will determine whether the member should be recused from discussion and voting.

14. Hearing Process
a. The Chair of the Academic and Professional Integrity Hearing Committee will convene a hearing where the accused student and the charging party will present evidence.

b. Each party must present his or her case.

c. Each party may be assisted by no more than two aides. These aides may be experts in the pertinent academic areas.

d. In addition, the Committee may call witnesses at the suggestion of the accused student or the charging party.

e. Upon notification of the hearing date, the accused student and the charging party will be issued advance notice of procedural rules governing the proceeding.

15. A list of expected aides, suggested witnesses, the name and title of accompanying individual, and copies of any documents expected to be presented, either in support of the complaint or in defense of the student charged, shall be provided to the Associate Dean no less than five (5) business days prior to the Committee meeting. Upon request and unless otherwise agreed upon, the student will have access to the documents to be presented no less than two (2) business days in advance of the meeting.

16. The student may present evidence on his or her behalf, subject to reasonable limitations as to amount, scope, and format, as determined by the Chair of the Committee.

17. The Chair of the Committee will rule on whether or not specific evidence or testimony will be considered. The Committee has neither the advantages nor limitations inherent in a court of law.

18. The decision as to whether the student committed the alleged misconduct will be made solely on the basis of evidence and testimony presented at the meeting. Innocence of the student will be presumed. A Committee member must find in favor of the student unless the member is persuaded that it is more likely than not that the student engaged in the misconduct alleged.

19. The person who has submitted the complaint of misconduct may not serve as a member of Committee. He or she will be asked to present the complaint and information regarding the allegations and will then be excused.

20. Deliberation and Finding:
After the hearing, the Academic Integrity Hearing Committee will deliberate and reach a finding. A majority (three members) is needed to sustain a charge. In
particular, a tie vote will indicate that the charge has not been proven and is therefore rejected.

21. Recommendation for sanctions:
Should the Committee find the accused student to have committed an integrity violation, it will proceed to recommend appropriate disciplinary action to the Dean of the Graduate School. Such action will be drawn from a range of established penalties which could include, but are not restricted to, the assignment of a failing grade, the revocation of a fellowship or assistantship, or a recommendation for suspension or expulsion from the Graduate School.

22. Review by Dean of Graduate School:
The Dean of the Graduate School will review the Committee's findings and recommendations. In the instance of a finding that the accused student committed an integrity violation, the Dean will decide the appropriate penalty. The decision of the Dean is final with respect to all penalties except suspension or expulsion. The decision and other pertinent information will be communicated in writing to the accused student and charging party as well as to the chair of the Academic Integrity Hearing Committee. Other individuals who serve in an administrative or advisory capacity will also be informed, on a "need to know" basis in compliance with FERPA regulations.

23. Appeal:
Students found guilty of an integrity breach which results in suspension or expulsion by the Dean have 14 days from issuance of the Dean's letter to file a written appeal with the Provost/Executive Vice Chancellor for Academic Affairs. The appeal must be limited to the grounds that a fair hearing was not provided, or that the sanction imposed was excessive. Such written appeal must clearly state the grounds for the appeal and must include all supporting information which the student desires to be considered as part of the appeal. Upon appeal, the decision of Provost /Executive Vice Chancellor for Academic Affairs is final.

April 19, 2012
Revision Approved by the Graduate Council
April 25, 2016

Policy Governing Alcohol Service at Events Sponsored by Graduate Student Organizations

Philosophy on Alcohol Service at Washington University in St. Louis
The Washington University in St. Louis Drug and Alcohol Policy affords recognized student groups the privilege of serving alcohol at certain events. As adults, students are expected to know and abide by all applicable state and federal laws and University policies and procedures. Ultimately, students are responsible for their own behavior; however, if a student group provides alcohol as part of their event they share in the responsibility to provide a safe environment for all attendees. If your group has questions, contact the Dean of your school or the Office of the Graduate School.
Any on or off campus event sponsored by a recognized graduate professional student group (registered by ProGradS or recognized by one of the eight schools) must comply with the Drug and Alcohol Policy of Washington University in St. Louis if it involves alcohol. This policy is available online at: http://hr.wustl.edu/policies/Pages/DrugandAlcoholPolicy.aspx. Any on campus event involving alcohol must have a recognized sponsoring group.

**Distribution of Alcohol**

In compliance with Missouri's Liquor Control Law*, alcohol must be served in a controlled manner and not freely accessible. No one who is under the age of 21 or visibly intoxicated may be served. Alcohol must not leave the confines of the event.

**Options Regarding Serving Alcohol**

1. Third Party Vendor - Student groups may contract with a third-party vendor, such as Bon Appetit, to acquire and serve alcohol. The third party vendor uses its own liquor license and provides bartenders.
2. Group Purchases the Alcohol - Student group members may order, set up, and control distribution of the alcohol at the event independently in compliance with this policy.

See Responsible Contact section.

Some University common spaces require a third party vendor; check Guidelines in advance with the appropriate reserving office, Event Management, or school Dean's office.

**Location**

Student groups should check in advance with Event Management, school Dean's office, or the appropriate reserving office for specific location guidelines. When alcohol is permitted, the space must be secured (or roped off as is necessary for outdoor locations) to ensure that proper admittance and alcohol distribution can be regulated easily and effectively.

**Advertising**

Alcohol may be mentioned or implied in campus advertising of the event to graduate students, using conventional phrases such as "happy hour," "beer & pizza," "wine and cheese," etc., but alcohol may not be the primary focus of an event. Events open to the general public and/or advertised off campus are not permitted to include alcohol.

**Security**

School Deans or the ProGradS chair or their designees must be notified at least one week in advance of the event. At the discretion of Dean or Dean's designee, University police may be notified, and private security guards may be required, to assist with safety of participants and security of facility, when total attendance involves more than 100 students. The cost of private security guards is the responsibility of the sponsoring Student group. The guards or designated group members are required to verify the age of each participant with identification that lists date of birth. If the event is held outside, or in an unsecured area, distinct identification (such as wristband or stamp) is required to identify attendees 21 years and over; this is to ensure that those passing through an event do not receive alcohol.

**Responsible Contacts**

At least one person (preferably two) from the sponsoring group must be designated as the Responsible Contact(s) for the event. Responsible contacts should not consume alcohol immediately prior to or during the event. The contacts are responsible for overseeing and ensuring the safety of the event, the distribution of alcohol, and the implementation of this policy. Contacts are to introduce themselves to the University Police as well as any security guards and serve as the point persons with these agencies. Responsible
contacts, with the assistance of University police and security guards as needed, must be able to shut down an event if this policy is not being implemented effective or if other problems arise.

**Food and Beverages**
Food must be provided at all events where alcohol is served. Among the food there should be non-salty options readily available, free and displayed in an attractive manner. Non-alcoholic beverages also should be readily available and free. Water should be one of the non-alcoholic beverages provided. The food and non-alcoholic beverages should be replenished several times throughout the program so that they are constantly available.

**Sanctions**
The sponsoring group will be held accountable for any and all violations of this policy. Sanctions for a violation may include, but are not limited to, loss of space reservation privileges, loss of University student group registration, or other sanctions pursuant to the University Judicial Code
(http://www.wustl.edu/policies/judicial.html)

**Addendum**
There may be more specific guidelines and restrictions for the use of specific spaces on both the Danforth and Medical Campuses. Be sure to check in advance with the appropriate space reserving office. Contact Event Management (third floor of the Danforth University Center, 935-5234) for an updated list of contacts on the Danforth Campus.

"Missouri's Liquor Control Law makes it illegal for a person under the age of twenty-one years to purchase, attempt to purchase, or possess any intoxicating liquor. Section 311.325 RSMo. Violation of this provision can subject one to a fine between $50 and $1000 and/or imprisonment for a maximum term of one year. County and municipality ordinances contain similar prohibitions and sanctions." To review specific provisions of applicable ordinances and statutes, contact the Office of the General Counsel (935-5152). Washington University Policies and Procedures, Drug and Alcohol Policy:
http://hr.wustl.edu/policies/Pages/DrugandAlcoholPolicy.aspx.

**Policy approved by the University Council 1/26/04; effective immediately.**

(This policy was also reviewed and approved by Professional and Graduate Coordinating Committee; the Deans and graduate student associations of the eight graduate schools; an ad hoc committee of the Professional and Graduate Student Coordinating Committee drafted the original proposal 2002-2003.)

**Policy on Consensual Faculty-Student Relationships**

Interactions between the faculty and students at Washington University in St. Louis are guided by mutual trust, confidence and professional ethics.

Professional faculty-student relationships have a power differential between faculty members and students; personal faculty-student relationships carry risks of conflict of interest, breach of trust, abuse of power and breach of professional ethics.

**Policy**

Faculty members shall not engage in consensual relationships with students whenever a faculty member has a professional “position of authority” with respect to the student in such matters as teaching a course or in otherwise evaluating, supervising or advising a student as part of a school program. Should a consensual
relationship develop, or appear likely to develop, while the faculty member is in a position of authority, the faculty member and/or the student shall terminate the position of authority. Even when the faculty member has no professional responsibility for a student, the faculty member should be sensitive to the perceptions of other students that a student who has a consensual relationship with a faculty member may receive preferential treatment from the faculty member or the faculty member’s colleagues.

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**Definitions**

**Faculty**, for purposes of this policy only, consists of all full- or part-time faculty, teaching assistants, graders, members of dissertation committees and all other personnel who teach, coach, evaluate, allocate financial aid to, or guide research by students.

**Students** are all full- or part-time students.

A **consensual relationship** is any dating, romantic, sexual or marriage relationship.

**Position of authority** includes but may not be limited to situations in which the faculty member makes or is responsible for an evaluation of a student for admission, coursework, promotion, financial aid, research funding, suspension, expulsion or other discipline. (Faculty members providing instruction without evaluation are not necessarily in positions of authority.)

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**Procedures**

When a faculty-student consensual relationship exists or develops, a faculty position of authority with respect to the student must be avoided or terminated. Avoidance or termination includes but is not limited to the student not enrolling in a course; a qualified alternative faculty member or teaching assistant taking the position of authority; transfer of the student to another course, section, seminar, etc. taught by a different faculty member or teaching assistant; assigning or transferring the student to another academic adviser; the student dropping a course.

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**Noncompliance with Policy**

Any credible allegation of a faculty member’s failure to avoid or terminate a position of authority while in a consensual faculty-student relationship obligates the department chair, dean or other responsible person to conduct a prompt and thorough inquiry to determine whether the allegation is true. Where it is concluded that a position of authority in a faculty-student consensual relationship exists and the faculty member and/or the student involved refuse(s) to terminate the position of authority, the department chair or dean shall terminate the position of authority and can impose sanctions against the parties involved.

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**Sanctions**
Persons in violation of this policy shall be subject to sanctions ranging from verbal warnings to dismissal or termination. Persons who knowingly make false allegations that a faculty-student consensual relationship overlaps with a position of authority between the two shall be subject to the same sanctions.

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**Faculty Rights**

Nothing herein shall abridge the rights of faculty as outlined in the Washington University Policy on Academic Freedom, Responsibility and Tenure.

**University Student Judicial Code**

*PLEASE NOTE A CHANGE TO OFFENSE #5 (Sexual contact without consent).*

*This change is effective July 1, 2016.*

I. General Principles
II. Definitions
III. Offenses
IV. Composition of the University Judicial System
V. University Student Judicial Code Procedures
VI. Sanctions
VII. Appeals
VIII. Record Retention
IX. Report on Student Conduct
X. Temporary Suspension
XI. Amendment of the Code
XII. Titles and Successors

I. General Principles

A. Purpose: The primary purpose for the maintenance of discipline in the University setting is the protection of the campus community and the maintenance of an environment conducive to learning and inquiry. Freedom of thought and expression is essential to the University’s academic mission. Nothing in this Code should be construed to limit the free and open exchange of ideas and viewpoints, even if that exchange proves to be offensive, distasteful, disturbing, or denigrating to some.

B. Inherent Authority: The University reserves the right to take necessary and appropriate action to protect the safety and well-being of the campus community, notwithstanding the provisions in this Code.

C. Interpretation of Regulations and Standard of Conduct: To the extent feasible and practicable, disciplinary regulations at the University are in writing in order to give students general notice of prohibited conduct. The regulations are not a criminal code; they should be read broadly and are not designed to define misconduct in exhaustive terms.

D. Proceedings: Disciplinary proceedings conducted pursuant to the Code shall be informal, fair, and expeditious. Procedures governing criminal or civil
courts, including formal rules of evidence, are not applicable. Deviations from the procedures in this Code shall not invalidate a proceeding or decision, except where such deviation has clearly resulted in significant prejudice to an accused student or to the University.

E. Violations of Local, State, and Federal Law: Students may be accountable to both governmental authorities and to the University for acts which constitute violations of law and this Code. Student conduct allegedly constituting a felony or misdemeanor offense may be referred to appropriate law enforcement agencies for prosecution. Disciplinary proceedings at the University will not be subject to challenge on the ground that criminal charges involving the same incident have been filed, prosecuted, dismissed, reduced, or otherwise resolved or that such proceedings constitute double jeopardy.

F. Violations of University Policies: Students alleged to have violated certain University policies, such as the Research Integrity Policy, may be subject to investigation and sanctions under both this Code and the other policy. Disciplinary proceedings at the University will not be subject to challenge on the ground that other charges involving the same incident have been filed or resolved or that such proceedings constitute double jeopardy.

G. Time Limitations for Bringing a Complaint: A complaint may be brought at anytime, as long as the respondent is a current student of the University, as defined below, and has not graduated. Potential complainants are reminded that the University’s ability to effectively investigate complaints can be hampered or negated by the passage of time. Therefore, potential complainants are encouraged to file complaints in a timely manner.

II. Definitions

A. Student: Any person registered in one or more courses in any school, college, or professional school of Washington University, at either the undergraduate or graduate level. Teaching or research assistants, if also registered as students, are classified as student for the purposes of this Code. Additionally within the scope of this definition shall be any person (1) who has accepted an offer of admission to a School at Washington University, but has not yet matriculated, for example, a pre-freshman student, (2) who is not now a student, but has a continuous relationship with the University, including, but not limited to, continuing to reside on University property or taking a leave of absence; or (3) who is not now a student, but is accused of an academic integrity violation during his or her period of enrollment.

B. Campus: All property owned, leased, managed, or rented by Washington University in St. Louis.

C. Member of the University Community: Any Washington University faculty member, student, employee, or Trustee, as well as any person on Campus who is an employee of an entity with a continuous relationship with Washington University.
D. Student Group: Any organization of two (2) or more Washington University students that is recognized by Student Union, Congress of the South 40, the Interfraternity Council, Women’s Panhellenic Association, the Graduate-Professional Council, or graduate student governments in any of the eight graduate-professional schools; or utilizes (or seeks to utilize) Campus space; or attempts to take action, of any kind, in a collective manner on Campus or at any officially arranged University activity.

III. Offenses

A. The following forms of misconduct by a student or student group are subject to disciplinary action when they occur on Campus or when they occur off Campus and adversely affect the University community and/or the pursuit of its objectives. Attempts to commit acts prohibited by this Code, agreements among two or more students to commit acts prohibited by this Code may be punished to the same extent as commission of the prohibited act itself.

1. Academic or professional misconduct, including, but not limited to, cheating, plagiarism, fabrication of data or records, unpermitted collaboration on assignments, misrepresentation of student status or identity, resume or credential falsification, unauthorized use of prescription medication to enhance academic performance, or otherwise violating the applicable Academic and/or Professional Integrity Policy. Knowingly making false allegations of academic misconduct against any student will itself be considered a form of academic misconduct.

2. Interfering with the rights of other members of the University community or visitors to the University to engage in educational, recreational, residential, administrative, professional, business, and ceremonial activities, or other functions.

3. Physical abuse of any member of the University community or visitor to the University.

4. Threatening physical abuse, stalking, hazing, engaging in domestic, dating, or interpersonal violence, or any other conduct which harasses, threatens, or endangers the safety or health of, any member of the University community or visitor to the University.

5. Sexual contact with any member of the University community or visitor to the University without that person's consent, including, but not limited to, rape and other forms of sexual assault.

Consent consists of mutually understandable words and/or actions which indicate that an individual has freely chosen to engage in sexual activity. In the absence of such words and/or actions, consent does not exist. Consent may not be inferred from silence, passivity, lack of physical resistance, or lack of verbal refusal alone.

Consent to engage in sexual activity must be knowing and voluntary. For example, sexual activity is not knowing and voluntary
and therefore not consensual when any participant is physically forced, passed out, asleep, unconscious or beaten. Sexual activity is also not knowing and voluntary and therefore not consensual if it is the result of coercion. A person’s words or conduct amount to coercion if they eliminate the other person’s ability to choose whether or not to engage in sexual activity. Examples of coercion could include the following, so long as the conduct rises to a level that eliminates the other person’s ability to choose whether to engage in sexual activity: threats (express or implied) of substantial emotional or psychological harm or any physical harm, confinement, or other similar conduct. Consent to engage in sexual activity must exist from the beginning to end of each instance of sexual activity, and for each form of sexual contact. Consent may be withdrawn by either party at any time. An individual who is incapacitated is unable to give consent. In such circumstances, the Respondent will be held responsible if the Respondent either knew or a reasonable person in the same position would have known that the other party was incapacitated and therefore could not consent to the sexual activity. Incapacitation is the inability, temporarily or permanently, to give consent because the individual is mentally and/or physically helpless due to a medical condition or the voluntary or involuntary consumption of drugs and/or alcohol, or the individual is unconscious, asleep or otherwise unaware that the sexual activity is occurring.

6. Conduct which is disorderly, lewd, indecent, or which disturbs the peace on University premises or at functions sponsored by, or participated in by, Washington University or a Washington University student group.

7. Possession (concealed or otherwise), storage, or use on Campus of firearms or a facsimile, explosives, explosive fuels, fireworks, dangerous chemicals, or other dangerous weapons, except as specifically authorized in advance by the Washington University Police and appropriate University officials.

8. Use, possession, manufacture, distribution or facilitation of distribution of narcotics or other controlled substances, including prescription medication, except as expressly permitted by law, or possession on Campus of drug paraphernalia as defined by Washington University.

9. Use or possession of a hookah on the Danforth Campus or in any Residential Life managed facility.

10. Use, possession, manufacture, or distribution of alcoholic beverages except as expressly permitted by law or University policy.

11. Unauthorized or fraudulent use of the University’s resources, including, but not limited to, facilities, telephone system, mail system, electronic communication devices, electronic databases, course management programs, computer systems, or use of any of the above for any illegal act.
12. Knowingly furnishing false information to a University official, or anyone acting on the University’s behalf, including, but not limited to, (a) the falsification of information in applications for admission or financial aid, (b) the intentional passing of an insufficient funds check or fraudulent money order in payment of any financial obligation to the University, or (c) filing a false police report.

13. Intentional dishonesty before any decision-making individual or body of the University, including knowingly making false allegations against any student or student group.

14. Knowingly making a false claim to represent the University or a student group of the University.

15. Refusal to identify oneself, failure to display a University identification card or other identification, possessing, or providing false identification to any appropriate University official or designee upon reasonable request.

16. Failure to comply with the reasonable and lawful request of University officials or designees acting in the performance of their duties.

17. Theft, attempted theft, unauthorized taking or use of any University, public, or private property.

18. Knowingly possessing stolen property.

19. Unauthorized entry, deliberate destruction of, damage to, malicious use of, or abuse of any University, public, or private property.

20. Knowingly or recklessly violating a published University policy, rule, or regulation; or participating in conduct which one should reasonably know to be a violation of a published University policy, rule, or regulation.

21. Failure to appear before the University Judicial Board (UJB), University Sexual Assault Investigative Board (USAIB), Judicial Administrator, or other University official or administrative body as directed, or to properly comply with or complete a sanction imposed under the University Judicial System or through other administrative bodies.

22. Intentionally or recklessly disabling, or causing the false activation of life safety equipment, including, but not limited to, exit door alarms, emergency telephones, fire safety equipment, closed circuit television systems, emergency notification systems, and identification card and door access systems.

23. Formally charged with, convicted of, or found guilty of a crime such that the student’s continued presence on the University Campus poses a substantial threat to the ability of others to continue their normal University functions and activities.

B. Offenses by Student Groups: Student groups or organizations and their officers may be held responsible for violations of this Code by members or others associated with the group or organization who has received the tacit, or overt consent, or encouragement of the group or organization or its
leaders, officers, or spokespersons. Student groups or organizations are subject to the same sanctioning provisions set forth in this Code as individual students, including but not limited to revocation of student group status.

IV. Composition of the University Judicial System

A. The University Judicial System shall consist of the following:
   1. Judicial Administrator
      a. Responsibilities: The Judicial Administrator receives and investigates complaints of violation of this Code and either adjudicates the complaint or, if appropriate, refers the complaint to the appropriate University office or administrative body for investigation and/or hearing. If the Judicial Administrator adjudicates the complaint and a violation is found, the Judicial Administrator imposes appropriate sanctions. The Judicial Administrator does not hear allegations of academic misconduct, and does not have the authority to suspend, expel, or otherwise directly terminate the status of a student found in violation of this Code unless by agreement.
      b. Selection: The Judicial Administrator is appointed by the Chancellor, or his/her designee, following consultation with the Vice Chancellor for Students and Dean of Students. The appointee may be a faculty member or staff member. In the event the Judicial Administrator is unavailable to serve, the Dean of Students or his/her designee may serve as the Judicial Administrator or appoint an appropriate University official to serve temporarily in that capacity.

2. University Judicial Board
   a. Composition: The UJB is composed of six (6) faculty members, six (6) undergraduate student members, six (6) graduate – professional student members, six (6) administrative or staff members, and one additional member who shall serve as Chairperson.
   b. Responsibilities: (1) The UJB hears and decides cases referred to it by the Judicial Administrator, the undergraduate School or College Academic Integrity Officers or Panels, Graduate – Professional schools, and the suspending authority following a temporary suspension; and cases involving allegations of academic misconduct in the absence of a School or College Academic Integrity Panel. The UJB hears and decides appeals from temporary suspensions, appeals referred to it by the Chairperson of the UJB, and appeals from sanctions issued by the Judicial Administrator. The UJB also performs other duties as called for by this Code. (2) The Chairperson of the UJB presides over all hearings conducted before the UJB and
convenes pre-hearing proceedings as needed; rules on appeals from decisions of the Judicial Administrator and undergraduate School or College Academic Integrity Panels; and performs other duties as called for by this Code.

c. Selection: (1) Members of the UJB are appointed for two (2) year terms, beginning on January 1. Faculty members are appointed by the Faculty Senate Council; student members are appointed by the Student Union and the Graduate-Professional Student Council; and administrative or staff members are appointed by the Chancellor. Each year, three (3) faculty members are appointed; three (3) undergraduate student members are appointed; three (3) graduate – professional student members; and three (3) administrative or staff members are appointed. If a vacancy exists or scheduling conflict arises members may be appointed throughout the year by the Judicial Administrator. Members may be reappointed, but no member shall serve more than two (2) consecutive terms. Members of the Faculty Senate Council, Student Union Executive Council, officers of the Graduate and Professional Student Council, and officers of the University shall not serve on the UJB. (2) The Chairperson of the UJB is appointed annually by the Chancellor. The Chairperson must be a member of the University community. The Chairperson may be appointed, without limitation, for consecutive terms.

d. The panel convened for a hearing normally consists of three (3) student members and three (3) members of the faculty, administration or staff, plus the Chairperson. A quorum consists of four (4) members, plus the Chairperson. Student members shall comprise a portion of the hearing panel in every case. Every attempt shall be made to provide peer representation for both graduate and undergraduate students. The Judicial Administrator, in consultation with the Chairperson, shall determine which faculty, administration or staff members shall comprise the remainder of the panel. In making this determination, faculty members only shall be designated whenever the sole allegation is academic misconduct. If the allegations do not relate solely to matters of academic misconduct, faculty, administration, and staff members, in any combination thereof, may serve.

3. University Sexual Assault Investigative Board

a. The University Sexual Assault Investigative Board (USAIB) is composed of faculty, staff and student members and is governed by separate investigation procedures set forth in the USAIB Procedures.

b. The USAIB investigates (i) complaints of sexual assault alleged to have been committed by a student(s) in violation of Offense
Number 5 above and (ii) other complaints referred by the Judicial Administrator that involve allegations of sexual harassment committed by a student(s). Complaints may allege other violations of the Code, in which case the USAIB may investigate and exercise jurisdiction over such complaints in their entirety as long as the additional charges arise out of the same set of facts and circumstances or are related to the alleged incident of sexual assault. The USAIB may elect to refer the other charges to the Judicial Administrator or UJB for hearing and resolution.

c. Following a determination by the USAIB Panel that it is more likely than not that a respondent has committed a sexual assault or engaged in sexual harassment in violation of the Code, sanctions will be imposed in accordance with the USAIB procedures and may include suspension or expulsion.

4. Authority Retained by Individual Schools, the Office of Residential Life, and Greek Life

a. Each School or College of the University may establish a panel to hear and decide cases of alleged academic misconduct involving undergraduate students of that School or students taking courses taught by faculty in that School.
   (1) The composition of such a panel shall be determined by appropriate persons in each School or College.
   (2) Such a panel may impose sanctions other than suspension or expulsion in any case where academic misconduct is found. No School or College panel may suspend or expel an undergraduate student for academic misconduct; however, upon a finding of academic misconduct serious enough to warrant suspension or expulsion, a panel may recommend the suspension or expulsion of an undergraduate student to the UJB.

b. Each Graduate or Graduate Professional School of the University may establish a panel to hear and decide cases of alleged academic or professional misconduct by graduate or graduate professional students of that School.
   (1) Appropriate persons in each school shall determine the composition of the panel and the scope of the panel’s authority, which shall not exceed the parameters set out immediately below.
   (2) Such a panel may impose or recommend to the Dean of the student’s Graduate or Graduate Professional School appropriate sanctions, including suspension or expulsion, in any case where academic or professional misconduct is found.
   (3) Any appeal from a decision of a Graduate or Graduate Professional School academic and professional integrity panel, including, where the panel is vested with such authority, the
panel's decision to impose the sanctions of suspension or expulsion, shall be made to the Dean of that School. His or her decision shall be final. Each Graduate or Graduate Professional School is permitted, but not required, to establish an intermediate level of appeal that the student must complete prior to initiating a final appeal to the Dean.

(4) Except for cases falling within Section IV.A.3.b(3) above, any appeal from a decision of a Dean of a Graduate or Graduate Professional School to suspend or expel a student shall be made in accordance with the provisions of Section VII.B.1 of this Code.

c. If a School or College does not establish an academic integrity panel or if an established panel fails to function, complaints of academic or professional misconduct shall be heard by the UJB.

d. Complaints filed with individual Schools or Colleges shall be governed by the procedures created by those bodies. The procedures created by these Schools or Colleges shall be approved by the Chancellor or his designee.

e. The Office of Residential Life may, in consultation with student representatives of the appropriate residential community, establish rules and regulations, in addition to this Code, to govern the conduct of students living in the University residential colleges and other housing subject to Residential Life regulations. The Office of Residential Life may impose sanctions upon students who violate such rules. Repeated violations of such rules, or serious offenses, may be referred to the Judicial Administrator for further disciplinary proceedings. The foregoing authority supplements, but does not supersede rights retained by the University in Housing contracts and leases. Nothing in this paragraph precludes further proceedings under this Code.

f. The Office of Campus Life may, in consultation with student representatives of the Greek community, establish rules and regulations, in addition to this Code, to govern the conduct of organizations and persons who are members of the Greek community. The Office of Campus Life may impose sanctions when such rules are violated. Repeated violations of such rules or serious offenses may be referred to the Judicial Administrator for further disciplinary proceedings. The foregoing authority supplements, but does not supersede rights retained by the University in Housing contracts and leases. Nothing in this paragraph precludes further proceedings under this Code.

B. Student Decision-Making Bodies

Certain student groups have established decision-making bodies which receive and investigate all allegations of violations of their legislation,
procedures, or policies. The pendency before the decision-making body of any student group of any case arising from an incident alleged to constitute a violation of this Code, shall not bar or postpone proceedings under this Code.

V. University Student Judicial Code Procedures

A. Initiation of Proceedings

1. Proceedings concerning an alleged violation of this Code are initiated with a written complaint. The complaint is a brief written statement describing the conduct alleged to be in violation of the Code.

2. Complaints of alleged violations of this Code may be filed against any student or student group by any member of the University community.

3. Complaints limited to alleged academic misconduct or professional misconduct.
   a. Complaints limited to alleged academic misconduct or professional misconduct shall be filed with the Academic Integrity Panel of the School or College in which the misconduct allegedly occurred or, where no such panel exists, with the UJB.
   b. If a complaint involving alleged academic misconduct against an undergraduate student is filed with a School or College Academic Integrity Panel and the case is viewed as serious enough that suspension or expulsion is a possible sanction, the complaint shall be referred to the UJB for hearing. In such a case, a representative of the School or College shall prepare a statement of charges and have it served, by mail, electronic means, or personal service, upon the original complainant and the respondent.

4. Complaints involving alleged offenses other than academic or professional misconduct.
   a. Complaints alleging any offense other than academic or professional misconduct shall be filed with the Judicial Administrator.
   b. When a complaint is filed with the Judicial Administrator, he or she shall promptly consider and investigate the complaint, notify the student or student group against whom the complaint has been filed, and give the respondent(s) an opportunity to be heard. The Judicial Administrator shall conduct meetings with the parties and any witnesses in an informal manner, seeking to obtain relevant information.
   c. If the Judicial Administrator determines that there are not reasonable grounds to believe that a violation of the Code occurred, the complaint shall be dismissed and the complainant and student or student group complained against shall be informed, in writing, of this action.
d. If the Judicial Administrator determines that there are reasonable grounds to believe that a violation of the Code has occurred, the Judicial Administrator shall either:
   (1) determine whether a violation of the Code has occurred and, if so, impose a sanction; or
   (2) refer the complaint to the UJB, USAIB, or an appropriate University administrative body for investigation and hearing. In any case where the Judicial Administrator believes that suspension or expulsion is a possible sanction, s/he shall refer the case to the UJB or USAIB. The Judicial Administrator may refer to the UJB or USAIB any other case at his or her sole discretion.

e. If the complaint is not referred to the UJB or other University administrative body, the Judicial Administrator shall render a written decision within a reasonable time, and deliver same to the respondent(s) by mail, electronic means, or hand delivery. The Judicial Administrator shall, to the extent permitted by law, inform the complainant of the decision and any sanctions.

f. If the complaint is referred to the UJB, the Judicial Administrator shall prepare a statement of charges, which shall include the provision(s) of the Code allegedly violated, and have it served by mail, electronic means, or hand delivered to the student or student group charged and the Dean of the School or College in which the student(s) is/are enrolled. The Judicial Administrator shall also furnish a copy to the complainant. A hold shall be placed on the student’s academic records until disposition of the case.

B. The pendency of any case arising from an incident alleged to constitute a violation of the Code in any municipal, state, federal court, or agency shall not bar or postpone proceedings under this Code unless (1) the Judicial Administrator elects to defer proceedings until a final resolution of the case in the court or agency system; or (2) with the exception of allegations involving sexual harassment or sexual assault set forth below, the student has been charged with a felony offense and requests a deferral of proceedings. The request for deferral shall result in the student’s immediate withdrawal from student status and removal from all University premises until the matter is heard and resolved under this Code. The student’s request must precede the initiation of a hearing by the UJB. Postponement of a hearing shall not postpone a respondent’s obligation to fulfill sanctions imposed by the Judicial Administrator. In cases involving allegations of sexual harassment or sexual assault, the University will ordinarily not delay its investigation if criminal charges are filed. At the request of law enforcement authorities, however, the University may postpone the University investigation and proceeding while the authorities gather evidence.
C. Organizational Procedures of the University Judicial Board

1. The UJB shall set times and places for hearings, and establish procedures not inconsistent with this Code to govern the conduct of its hearings. Hearings may be scheduled at any time, including during the summer and during University breaks.

2. No student shall be subject to more than one UJB hearing on a charge or charges resulting from any act or series of related acts alleged in violation of the Code. The UJB may consolidate all charges pending against a student at the time of hearing. Nothing in this provision shall prohibit a hearing on charges arising from acts which take place or are discovered after earlier charges are filed.

3. The UJB shall not conduct a hearing until the respondent has received the statement of charges against him or her. If the respondent fails to appear for the hearing, the UJB may postpone the hearing or, in the alternative, may conduct a hearing to determine whether a violation of the Code occurred and impose sanctions if appropriate. If the UJB decides to postpone the hearing, the UJB may decide to suspend the student from the University until the student does appear before the UJB for the hearing on the charges.

4. Prior to a UJB hearing, the Chairperson of the UJB may convene a pre-hearing conference with the parties. At that conference, the parties shall be prepared to discuss the witnesses and evidence they intend to introduce, the issues they anticipate, and any matters that may require resolution by the Chairperson. The Chairperson may, at his or her sole discretion, confer separately with the complainant or respondent.

5. The respondent and the complainant each may choose (at his or her own expense) to be assisted by and accompanied to the hearing and pre-hearing conference by one individual, for example, a friend, faculty member, advisor, or parent. Where the victim of alleged misconduct is not a party, but a testifying witness, he or she may be accompanied by an individual, subject to the limitations below. If the accompanying individual is an attorney, the student shall provide the attorney’s name and telephone number to the Judicial Administrator at least one week before the scheduled hearing.

6. The function and role of the accompanying individual is to provide support, advice, or assistance to the person requesting his or her presence. The accompanying individual (including attorneys) shall not be permitted to testify, serve as a witness, examine parties or witnesses, or provide statements or arguments to the UJB. Therefore, if the individual witnessed the events at issue or has other information relevant to the proceedings, he or she shall not accompany the student. The respondent and the complainant are each responsible for stating his or her own case to the UJB.

7. A list of expected witnesses, the name and title of the accompanying individuals, and copies of any documents expected to be presented
insupport of the charges, or in defense of the charged party, shall be provided to the Judicial Administrator at least five (5) business days before the hearing. Where a student includes the opinion or recommendations of medical professionals, such opinions or recommendations shall be submitted ten (10) business days prior to the hearing. A student submitting documentation from a medical professional also should submit a copy of the medical professional’s curriculum vitae. If additional witnesses or documents are obtained after the submissions period described above, the Chairperson shall decide whether the witnesses or documents may be allowed, and the hearing may be postponed at the sole discretion of the Chairperson of the UJB. A party is not obligated to call all witnesses on the list. Each party is permitted to call witnesses to rebut testimony offered by the other party. The Chairperson may recess a hearing if he or she concludes that the Board requires additional evidence or information.

8. The following persons may be present during a UJB hearing: the Chairperson of the UJB and Board members, the respondent and an accompanying individual; the complainant and an accompanying individual; witnesses and their accompanying individuals, where authorized by the Chairperson; the Judicial Administrator; and a member of the Office of the Executive Vice Chancellor and General Counsel. Witnesses and their accompanying individuals, if any, may be present only when testifying unless the Chairperson specifically requests a witness be present for any other portion of the hearing.

9. The Chairperson of the UJB may, at his or her discretion, direct any student to appear as a witness at a hearing of the UJB. The Chairperson also may call witnesses, including, but not limited to, medical experts, on his or her own initiative. The failure of a student to appear at a UJB hearing following receipt of such a directive shall subject that student to disciplinary action under this Code.

10. The procedure at a hearing before the UJB shall be as follows:
   a. The complainant and the respondent shall have the opportunity to present statements summarizing their respective cases and the evidence to be presented.
   b. The complainant shall present his or her evidence. The complainant may decide whether or not to testify during the hearing. Except as otherwise noted in this subsection, the respondent and members of the UJB may question the complainant’s witnesses.
   c. The respondent shall have the opportunity to present evidence. The respondent may decide whether or not to testify during the hearing. Except as otherwise noted in this subsection, the complainant and members of the UJB may question the respondent’s witnesses.
   d. The complainant and the respondent shall have the opportunity to present concluding remarks.
e. In cases referred to the UJB by the Judicial Administrator, the Judicial Administrator may be called as a witness by the complainant or the respondent, or by the UJB itself.

f. In any hearing before the UJB, members of the UJB may ask questions of any participant in the hearing (including the complainant, the respondent, and any witness) at any time during the hearing, and may also recall witnesses and/or request that additional witnesses be called. The Chairperson may determine in some cases that it is appropriate for all questioning by the parties to be directed through the Chairperson or his/her designee. In such cases, the parties will be permitted to submit questions of the other party and witnesses to the Chairperson five (5) days in advance of the hearing.

g. If, after questions have been put to a party or other witness by the Chairperson or UJB, a party believes that there are further questions that need to be asked of the other party or witness, the party may advise the Chairperson that she or he has additional questions and submit those questions to the Chairperson for consideration. The Chairperson or his/her designee retains discretion throughout this process regarding whether to accept and pose suggested questions.

11. Evidence shall be considered which tends to prove or disprove the charges. Prior conduct and offenses unrelated to the charges shall not be considered in determining whether the respondent has committed the offense except in unusual circumstances. The Chairperson of the UJB shall rule on whether evidence or testimony will be considered.

12. If the UJB concludes that the evidence presented does not warrant a finding that the respondent committed the charged offense(s), the proceedings are terminated.

13. If the UJB concludes that the respondent committed the charged offense(s), or if the respondent decides to admit to the charge(s), the complainant, the respondent, and the University shall be given an opportunity to present additional evidence for consideration by the UJB in deciding what sanction(s) to impose. The additional evidence may consist of evidence of prior conduct (including prior offenses) by the respondent, evidence as to the respondent’s character, the respondent’s applicable University records, or any other evidence which could assist the UJB in determining an appropriate sanction. Any such additional evidence shall be presented at a hearing before the UJB conducted in accordance with the procedures set forth above.

14. A verbatim record (which may be in the form of an audio recording) shall be kept of all pre-hearings and disciplinary hearings conducted by the UJB at the expense of the University. A verbatim record may be kept of any proceedings before other panels or persons at the request
and expense of the party charged. The party charged must make such a request no more than two days in advance of the hearing. Deliberations of the UJB or other hearing panels shall not be recorded. Both parties, but not the witnesses, shall have the right to review such records in the Office of the Judicial Administrator, but may not make copies. All recordings shall remain the property of the University and shall be destroyed upon closure of the case by the Judicial Administrator unless required by law to be maintained.

D. Decisions

1. A decision-maker (whether the Judicial Administrator, the UJB, or other University administrative body) must find in favor of the respondent unless the decision-maker is persuaded that it is more likely than not that the student committed the offense(s) charged. The respondent shall be afforded the benefit of the presumption of innocence.

2. If a respondent elects not to provide his or her version of events to the decision-maker (whether the Judicial Administrator, the UJB, or other University administrative body), the decision-maker may, but is not required to, draw adverse inferences from the student’s silence.

3. In cases decided by the UJB, the following shall apply:
   a. A majority vote of the members of the UJB participating in the case shall be required for a decision.
   b. The Chairperson of the UJB may participate and vote.
   c. Any decision of the UJB shall be made in writing. Copies of the decision, redacted as necessary, shall be mailed, e-mailed, or delivered to the complainant, the respondent, and the respondent’s parents if the parents will receive notification pursuant to this Code, and other University officials with a need to know as determined by the Judicial Administrator or the Chairperson of the UJB.

VI. Sanctions

D. Subject to the limitations described in paragraph C of this section, sanctions and combinations of sanctions, may be imposed following a determination that a violation of the Code has occurred:

1. Warning: notice of a finding that it is more likely than not that an offense has been committed and that continuation or repetition of such violation within a specified time period will result in more severe sanctions.

2. Deferred Penalty and Probation: any of the listed sanctions may be deferred by the adjudicatory body or person for a specified time period, not to exceed two (2) calendar years. Should the student, during the period of probation, be determined to have committed another violation of this Code,
the deferred penalty shall take effect, in addition to the sanction imposed for any new offense.

3. Restitution: reimbursement for actual damage or loss caused by the violation of the University Judicial Code, either through appropriate repairs or monetary compensation.

4. Fine: monetary penalty of not more than Seven Hundred and Fifty Dollars ($750.00).

5. Educational Remedies: meetings with University officials or others, unpaid University or community service, or other educational assignments. These may include, but are not limited to, referrals to Student Health Services, attendance at workshops or panel discussions, letters of apology, and reflective essays. Service assignments may occur on or off Campus. Conditions may be specified for the completion of the sanction. Where a violation involves drug use, the Judicial Administrator or UJB also may require the student to participate in drug screening on a scheduled or random basis. Any and all costs associated with the screening are the responsibility of the student.

6. Disciplinary Activity Limitation: ineligibility for participation in any or all elected and appointed positions within the University; also ineligibility for participation in all forensic, athletic, dramatic, musical, social, or other University recognized activities for a specified period of time.

7. Denial of Access to Certain University Facilities: exclusion from University owned or leased facilities; including housing, athletic fields, grounds, or parts of these facilities indefinitely or for a specified period of time.

8. Temporary Removal from University Housing: ineligibility to reside in University Housing, including off Campus University owned, leased, managed, or rented apartments, for a specified period of time.

9. Permanent Removal from University Housing: permanent ineligibility to reside in University Housing including off Campus University owned, leased, managed, or rented apartments.

10. Suspension: removal from student status in the University for a specified period of time. This sanction will be permanently noted on a student’s official transcript.

11. Expulsion: permanent removal from student status in the University. This sanction will be permanently noted on a student’s official transcript.

E. A student’s entire academic integrity, disciplinary record, and criminal history, if appropriate and relevant in the discretion of the Chairperson, may be considered in determining appropriate sanction(s)
F. The sanctions of expulsion and suspension may only be imposed by: (i) the UJB; (ii) the USAIB; (iii) the Chancellor, Provost, Vice Chancellor for Students or Dean of a Graduate or Graduate Professional School; or (iv) in Graduate and Graduate Professional Schools that grant such authority, the Academic and Professional Integrity Panel. The Judicial Administrator and the other University judicial panels without authority to expel or suspend may impose any of the other sanctions, except as such authority is limited by Section IV.A. of this document.

G. Academic Misconduct: if academic misconduct is determined to have occurred, the body making the determination may recommend to the faculty member responsible for the course in which academic misconduct occurred that the grade of the student involved be lowered, or no credit given. However, the final decision in any grading determination shall rest with the faculty member. The UJB may recommend this sanction in addition to any other sanctions imposed.

H. Notification of Dean and Parents or Legal Guardians:

0. The parents or legal guardians of any student who is legally dependent upon his or her parents or legal guardians and who is suspended or expelled shall be informed of the decision of the UJB.

1. The parents or legal guardians of any student under the age of 21 who has admitted committing or been found under this Code to have committed an offense under Section III.A.8 or III.A.10 may be notified of such violation or violations by the Office of the Dean of Students. The Office of the Dean of Students shall have discretion to determine when a violation or violations of Sections III.A.8 or III.A.10 are of sufficient severity or number to warrant notifying parents or legal guardians. Nothing contained in this section shall be construed to prohibit the University from disclosing to parents or legal guardians information relating to a health or safety emergency involving the student or as otherwise permitted by law.

2. The Dean of the School or College in which the student is enrolled shall be informed of any UJB decision involving the student. If the student is an exchange student, visiting student or other non-degree student and is regularly enrolled elsewhere, notice of the outcome of any judicial matter may be provided to the student’s home college or university.

3. Decisions of the UJB and decision-making bodies (or persons) other than the UJB, which do not involve academic or professional misconduct, shall be reported to the Dean of Students.

4. Student Union, the Graduate-Professional Council, and/or the sponsoring student governing body will be made aware of specific details regarding violations of the Code by a student group under its auspices at the time that the matter is resolved.
I. Failure to Comply with Sanctions. If a student fails to comply in a timely fashion with any of the sanctions assigned, a hold may be placed on his or her University records. The hold will be removed upon full completion of the sanctions assigned.

VII. Appeals

J. Time Limit for Appeals: any appeal authorized by the Code must be filed within fourteen (14) calendar days of the date of the written decision by the decision-making body or person. An appeal is filed when personally delivered to or electronically received by the appellate authority or bearing a United States Postal Service postmark or other documentary evidence of timely delivery to an independent delivery service.

K. Appeals of UJB Decisions and Decisions of Deans of Graduate or Graduate Professional Schools to Suspend or Expel a Graduate or Graduate Professional Student:

0. A student complainant, a student respondent determined by the UJB to have violated this Code, or a graduate student or graduate professional student suspended or expelled by the Dean of a Graduate School or Graduate Professional School shall, within the period of time specified by this Code, have the right to appeal to the person designated by the Chancellor to serve as the appeal officer, or his or her designee. Such appeal shall be made in writing to the appeal officer and shall be limited to grounds that a fair hearing was not provided or that the sanction imposed was insufficient or excessive. A student appealing a UJB decision shall also deliver a copy of the appeal to the Judicial Administrator. When such appeal is taken, the appeal officer shall not substitute his or her judgment of the facts for that of the UJB or of the Dean. The scope of the appeal officer’s review shall be limited to determining whether a fair hearing was provided and whether the sanction imposed, given all the relevant facts and circumstances, was insufficient or excessive.

1. The appeal officer, if he or she grants the appeal, may order a new hearing, may reduce or modify the sanctions assessed by the UJB or the Dean. The decision of the appeal officer is final.

2. In the event of the absence or disqualification of the appeal officer, the appeal will be determined by the Chairperson of the Faculty Senate Council, or his or her designee.

3. The University may not appeal any adverse decision of the UJB.

4. Sanctions will be stayed pending the disposition of any appeal, except that a temporary suspension or any interim protective measures will remain in effect. If a hold has been placed on a
student’s records, it will remain until final disposition of the case.

L. Appeals of Decisions of the Judicial Administrator and Academic Integrity Panels of Undergraduate Schools and Colleges:

0. Any final decision of the Judicial Administrator or an Academic Integrity Panel of an Undergraduate School or College may be appealed, in writing, to the UJB Chairperson, or his or her designee, with a copy to the Judicial Administrator, within the period of time specified by this Code. An appeal may be filed either by the complainant or the respondent(s) or student group.

1. The Chairperson of the UJB, upon receiving an appeal, shall provide a copy of the appellant’s request and supporting materials to the appellee. The Chairperson, in his/her sole discretion, may request that the appellee provide a response and seek additional materials as needed. The Chairperson of the UJB, or his or her designee, shall not substitute his or her judgment of the facts, and the scope of his or her review shall be limited to determining whether the written material submitted indicates that either no fair hearing had been provided to the appellant or that the sanction imposed, given all relevant facts and circumstances, was insufficient or excessive.

2. If the Chairperson, or his or her designee, determines that an unfair hearing has occurred, he or she shall take one of the following actions:
   a. Remand the case to the Judicial Administrator or Academic Integrity Panel with specific instructions to assure a fair hearing. Upon remand, the Judicial Administrator or the Academic Integrity Panel may modify the sanctions previously imposed.
   b. Convene a hearing of the UJB to hear the matter de novo. Should the UJB hold a hearing de novo, the hearing shall be conducted in accordance with the procedures set out in Section V.C. of this Code. Statements made by the parties or witnesses in the prior, underlying hearing may be disclosed to the UJB. The UJB may impose a sanction in excess of that imposed by the prior adjudicator.

3. If the Chairperson, or his or her designee, determines that the sanctions were excessive, he or she may modify the sanctions previously imposed.

4. Sanctions will be stayed pending the disposition of any appeal. If a hold has been placed on a student’s records, it will remain until final disposition of the case.
5. The decision of the UJB, or its Chairperson, shall be final in any appeal from the Judicial Administrator or Academic Integrity Panel, and no appeal to the appeal officer shall occur.

M. Appeals of Decisions of the Office of Residential Life or Greek Life:
0. Any final decision of the Office of Residential Life or Greek Life may be appealed in writing to the Judicial Administrator within the period of time specified by this Code. The Judicial Administrator, or his or her designee, shall not substitute his or her judgment of the facts. The scope of his or her review shall be limited to determining whether the written materials submitted indicates that either no fair hearing had been provided to the appellant or that the sanction imposed, given all the relevant facts and circumstances, was excessive.
1. If the Judicial Administrator decides to sustain the contentions of the appellant, in whole or in part, he or she shall fashion a remedy or form of relief appropriate to the facts and circumstances of the case.
2. Sanctions will be stayed pending the disposition of any appeal; provided however, that nothing contained in this Code shall in any way impair the enforcement of the terms of the housing contracts and leases entered into between the University and students residing in residential housing, including, but not limited to, reassignment and cancellation or other interim protective measures.

VIII. Record Retention

Subject to Section V.14., records of the University Judicial Administrator and the UJB directly related to non-academic cases heard under the University Judicial System shall be destroyed after a period of ten years from the date of final adjudication. If a student withdraws from the University prior to final adjudication, the records shall not be destroyed. Records of the University Judicial Administrator, the UJB, and the USAIB directly related to allegations of academic misconduct or cases resulting in suspension or expulsion, and any applicable transcript notations, shall be maintained indefinitely.

IX. Report on Student Conduct

Each semester the Judicial Administrator shall prepare a Report on Student Conduct summarizing the complaints filed in the previous semester, the types of conduct involved, and the outcomes, including a description of the sanctions, if any. The Report shall be circulated to the University administrators at the discretion of the Judicial Administrator and the Vice Chancellor for Students.

X. Temporary Suspension

N. The Chancellor, Vice Chancellor for Students, Dean of Students, or their respective designees, may suspend a student for a temporary period if (1) there is evidence that the student has committed an offense under this Code or the student has been indicted or otherwise formally charged with a crime; and (2) there is
evidence that the continued presence of the student on the University Campus or in the University community poses a substantial threat to him/herself or others or to the ability of others to continue their normal University functions and activities.

O. The suspending authority (the person imposing the suspension) shall limit the scope of the temporary suspension to that necessary to protect those possibly affected by the actions of the suspended student. Access to parts of University owned, leased, managed, or rented property, the Campus, or to certain activities, may be limited. In cases of seriously disruptive or dangerous behavior, the suspending authority may deny the student access to the University owned or leased property, Campus, and/or prohibit class attendance and participation in University activities and events.

P. If a student is suspended for a temporary period, the suspending authority shall prepare a written notice of the suspension and shall have the notice served, by mail or electronic means, or hand delivered, on the suspended student. The written notice shall include a brief statement of the scope of the suspension and the reasons therefore, and a brief statement of the procedures provided in cases of temporary suspension under this Code.

Q. A student suspended for a temporary period shall be given an opportunity to appear personally before the suspending authority within five (5) business days from the date of service of the notice of temporary suspension. If the student asks to appear personally before the suspending authority, only the following issues shall be considered:

0. Whether the suspending authority's information concerning the student's conduct is reliable;
1. Whether under all the circumstances, there is a reasonable basis for believing that the continued presence of the student on Campus poses a substantial threat to the student or to the rights of others to engage in their normal University functions and activities; and
2. Whether the scope of the temporary suspension is reasonable.

R. Within ten calendar days of the date of a temporary suspension, the suspending authority shall file a statement of charges against the suspended student with the UJB, and shall have the statement of charges served, by mail or electronic means or hand delivered, upon the suspended student and the Dean of the School or College in which the student is enrolled.

S. A temporary suspension shall end when rescinded by the suspending authority, or upon the failure of the suspending authority to file a statement of charges within a reasonable time or, if not rescinded and if a statement of charges is promptly filed, when the case is heard and decided by the UJB or other University administrative body.

XI. Amendment of the Code
The amendment process may be initiated by any member of the campus community, the Student Union, the Graduate-Professional Council, the Faculty Senate Council, or any faculty, staff or student group by the submission of proposed changes to the Office of the Dean of Students. The Associate Vice Chancellor for Students and Dean of Students, or his or her designee, shall promptly distribute copies of the proposed changes to the Office of the General Counsel, Student Union, the Graduate-Professional Council, and the Faculty Senate Council for adoption or rejection. Review of the Code shall be initiated by the Office of the Dean of Students no less than every three years.

XII. Titles and Successors

Because the titles, positions, or groups stated in this Code may change, the functions or responsibilities assigned by this Code shall be performed by persons or groups that assume the functions of the positions or groups stated in this Code.

Effective July 1, 2014

[1] The responsibility of the University Judicial System, including the UJB and USAIB, is concurrent with that of the administration of the University and does not displace the University’s administrative responsibility to address instances of discrimination, harassment, and threats to person(s) or property.

Policies Related to Professionalism and Conduct

Research Integrity Policy

Allegations of breach of research integrity policy are the primary responsibility of the Research Integrity Committee of the School of Medicine. Complaints regarding students enrolled for the M.D. degree will be directed promptly to that committee. The Research Integrity Committee will promptly investigate the charges and report its conclusions and recommendations to the Dean, who will refer the issue to CAPES as a breach of professional integrity if further action is warranted.

For further information, visit the Research Integrity Policy posted on the Washington University website.

Policy Against Abusive Conduct

Abusive Conduct

Washington University in St. Louis School of Medicine (WUSM) is committed to having a positive learning and working environment for its students, faculty and staff. All individuals have the right to enjoy an environment free from all forms of conduct that can be considered harassing, threatening or intimidating. In addition, academic freedom can exist only when every person is free to pursue ideas in a non-threatening atmosphere of mutual respect. WUSM is committed to protecting the academic freedom and freedom of expression of all members of the school community and this Policy against abusive conduct will be applied in a manner that protects those freedoms. Abusive conduct is reprehensible and threatening to the careers, educational experience, and well being of all members of our community and will not be tolerated. This Policy applies to all students, faculty and staff and is in addition to the Washington University Sexual Harassment and Discriminatory Harassment policies.

What Is Abusive Conduct?
Abusive conduct is behavior that creates an intimidating environment and is likely to interfere with an individual's work or education. This conduct can be verbal, visual, physical or communicated in writing or electronically. Such conduct is typically directed against a particular individual or individuals. It includes, but is not limited to, situations in which one person has authority over another. In such situations, abusive conduct is particularly serious because it may unfairly exploit the power inherent in a faculty member's or supervisor's position.

Examples of conduct that may be considered abusive include but are not limited to:

- threatening or intimidating behavior or words (written or oral);
- obscenities/profanities (verbal or gestures) directed at a person;
- threatening or obscene gestures, jokes, or cartoons;
  degrading a person or a group on the basis of a personal or cultural characteristic;
- taunting, jeering, mocking, or humiliating another person through acts or words;
- screaming and/or yelling at or around others;
- insulting someone, especially in the presence of others; and
- endangering the safety of an individual or individuals.

In considering a complaint under this policy, the following understandings shall apply:

1. Abusive conduct must be distinguished from behavior which, even though unpleasant or disconcerting, is appropriate to the carrying out of certain instructional, advisory, or supervisory responsibilities. In the context of patient care clear and direct communication may be necessary in order to deliver safe, effective, appropriate, and timely clinical treatment.

2. Instructional responsibilities require appropriate latitude for pedagogical decisions concerning the topics discussed and methods used to draw students into discussion and full participation.

The fact that someone did not intend to be abusive is generally not considered a sufficient defense to a complaint, although the reasonableness of the accuser's perceptions may be considered. In most cases, it is the characteristics and the effect of the behavior on the complainant and whether a reasonable person would find the conduct abusive that determines whether the behavior was abusive.

Reporting Abusive Conduct

The School of Medicine can respond to specific instances and allegations of abusive conduct only if it is aware of them and therefore encourages anyone who believes that he or she has experienced abusive conduct to come forward promptly with inquiries, reports, or complaints and to seek assistance. In addition, any faculty member, manager, or employee who becomes aware of instances or allegations of abusive conduct, by or against a person under his or her supervisory authority, is required to report it to the appropriate dean, director, department head, or other similar administrator or to the WUSM Human Resources Office. Once a complaint is received, it is the responsibility of the dean, director, department head, or similar administrator to respond to the allegations and reports of abusive conduct and take corrective action, if appropriate, or to work with WUSM Human Resources to develop such a response and corrective action, if appropriate. All complaints and their resolution must be reported to WUSM Human Resources.

Protection of Rights

Retaliation means conduct that adversely affects another’s terms or conditions of employment or education and has the effect of harming a person for filing a complaint or for participating in the investigation. Retaliation can take many forms. Examples include but are not limited to:
• reassignment of work duties without good reason;
  • loss of job benefits (i.e., travel);
• loss of salary;
• termination; and
• threats.

Against the Complainant

It is a violation of this policy to retaliate against persons who report or make a charge of abusive conduct or against those who testify, assist, or participate, in any investigation involving a complaint. Any such retaliation, or any encouragement of another to retaliate, is a violation of this policy, independent of whether the particular claim is substantiated.

Against the Respondent

Lodging a complaint is not proof of prohibited conduct. A complaint shall not be taken into account during reappointment, tenure, promotion, merit, or other evaluation or review until a final determination has been made that the policy has been violated.

Knowing False or Malicious Complaints

Accusations of abusive conduct typically have injurious and far-reaching effects on the careers and lives of accused individuals. Therefore allegations must be made in good faith and not out of malice. Knowingly making a false or frivolous allegation will not be tolerated and will subject the person making such a report to disciplinary action.

Possible Sanctions

Possible sanctions for a person found to exhibit abusive conduct include, but are not limited to, the following:

In many situations, the following examples of sanctions may be sufficient:

• oral or written reprimand;
• required attendance at a sensitivity program;
• apology to the victim; and
• oral or written warning.

In certain situations, the following sanctions may also need to be considered:

• loss of salary or benefit, such as sabbatical or research or travel funding;
• loss of non-salary benefits (i.e., travel funding);
• demotion; and
• suspension, probation, termination.

While counseling is not considered a sanction, it may be offered or required in combination with sanctions.
Guidelines for Professional Conduct in Teacher/Learner Relationships and Policy Against Medical Student Mistreatment

Washington University School of Medicine Guidelines for Professional Conduct in Teacher/Learner Relationships and Policy against Medical Student Mistreatment.

I. Preamble

The goal of the Washington University Medical Center is to provide patient care, medical education, and biomedical research of the highest quality. Accomplishing this goal depends in part on an atmosphere of mutual respect and collegiality among all those who work and study here. The current document focuses on the special issues presented by the teacher/learner relationship, and applies to all years of the medical school curriculum.

II. The Teacher and Learner Relationship

Effective learning is possible only in an environment where students can trust their teachers to treat them fairly and with respect. For purposes of this policy, a teacher shall be defined as any person subject to School of Medicine policies, such as a member of the School of Medicine faculty, to whom a student is assigned during a course or clinical rotation. A teacher may also be defined as an attending physician, fellow, resident, research mentor, student, nurse or other person charged with supervising the education of a student.

One manner in which the teacher/learner relationship is unique is that students may be vulnerable, depending on many of their teachers for evaluations and recommendations. In addition, medical education includes mastering not just pathophysiology but also the essentials of professional behavior, as set forth in our Guiding Principles of Professionalism.

We also recognize that students learn professional behavior primarily by observing the actions of their teacher role models. Unprofessional, offensive, disrespectful or abusive behavior by teachers is antithetical to standards of professional conduct that medical students are expected to master. These behaviors by teachers may also be self-perpetuating, as students come to believe that such behavior is appropriate when they assume the role of teacher. As we strive to create an environment of mutual respect, all faculty, staff and students are expected to abide by the Policy Against Abusive Conduct.

Behaving in ways that embody the ideal student-teacher relationship fosters respectful behavior, minimizes the likelihood of student mistreatment, and optimizes the educational experience for students. The following practices are examples of ways in which teachers and learners can encourage a positive learning environment conducive to the exchange of ideas among all who participate in the learning process:

A. Teachers

- Be prepared and on time.
- Provide learners with most current materials.
- Treat students fairly, respectfully, and without bias related to their race, color, age, religion, sex, sexual orientation, gender identity or expression, national origin, veteran status, disability or genetic information.
- Give students timely, constructive and accurate feedback.
• Distinguish between the Socratic method, where insightful questions are a stimulus to learning and discovery, and over-aggressive questioning, where detailed questions are repeatedly presented with the endpoint of embarrassment or humiliation of the student.

B. Learners

• Treat teachers, peers, patients and members of the health care team fairly, respectfully, and without bias related to their race, color, age, religion, sex, sexual orientation, gender identity or expression, national origin, veteran status, disability or genetic information.
• Treat fellow students as colleagues, not competitors.
• Take responsibility for maximizing your educational experience by addressing conflicts and discomforts which may impede your learning.
• Be an enthusiastic learner.
• Be trustworthy and honest.
• Be prepared and punctual
• Know your limitations and ask for help when needed.
• Put the patients welfare first and ahead of your educational needs
• Know and understand your patients’ medical history, diagnoses, treatment and status.
• Take the initiative to educate yourself about your patients’ illness.
• Be compassionate.
• Respect patients’ privacy.

III. Student Mistreatment

The School of Medicine prohibits behavior that is abusive or which mistreats students or others in the learning environment. We take issues of mistreatment seriously and aspire to a culture of zero tolerance for instances of abuse, mistreatment, and disrespect. WUSM is committed to maintaining an environment free from discrimination, harassment of any type, and abuses of authority. The Association of American Medical Colleges (AAMC) has defined Mistreatment in previous Graduation Questionnaires as follows: Mistreatment arises when behavior shows disrespect for the dignity of others and unreasonably interferes with the learning process. It can take the form of physical punishment, sexual harassment, psychological cruelty, and discrimination based on race, religion, ethnicity, sex, age or sexual orientation. The behaviors listed below are provided as examples of mistreatment and offensive behavior by the AAMC. However, we recognize that there are nuances to interpersonal interactions. Students who feel they may have been subjected to mistreatment are encouraged to follow the procedures outlined in Section IV of this policy. The goal of this process is to provide the best learning environment possible.

Examples of Potential Mistreatment

• Public humiliation
• Threats of physical harm
• Physical harm (e.g., hit, slapped, kicked)
• Requirements to perform personal services (e.g., shopping, babysitting)
• Offensive sexist remarks/names
• Denial of opportunities for training or rewards based solely on gender, race, sexual orientation or ethnicity
• Lower evaluations or grades because of gender, race, sexual orientation or ethnicity rather than performance
• Unwanted sexual advances
• Being asked to exchange sexual favors for grades or other rewards
• Racially or ethnically offensive remarks/names
• Offensive remarks/names related to sexual orientation

IV. Steps for Reporting Student Mistreatment

The University takes allegations of student mistreatment by faculty, residents, staff or other students very seriously and strongly encourages its faculty, staff, and students who are witness to such conduct to report it immediately, without fear of retaliation, to any of the following three deans: the Senior Associate Dean for Education, the Associate Dean for Student Affairs, or the Associate Dean for Medical Student Education. These individuals will offer guidance and support to the student and discuss informal and formal options to resolve the matter, which are described below. (See section VI. Additional Resources).

Students may also consult with the Student Ombudsperson as a confidential resource. The Student Ombudsperson can provide guidance as well as mediation, directly or indirectly, between the student and the offender.

Students may also choose to report student mistreatment via a link on the Canvas learning management system student commons homepage or via the Oasis curriculum management system. The end of clerkship and elective surveys have questions regarding mistreatment where incidents can be reported in real time. These reports are confidential. The Office of Medical Student Affairs will receive all reports and will follow up with the reporting individual, if identified, to offer guidance, support and options for resolution to the student. If sufficient information is provided, the report will be passed on to the clerkship director and department chair after student evaluations are finalized for the course or clerkship in which the event occurred. Reports will be reviewed quarterly by a Learning Climate Committee. This committee will be chaired by the Associate Dean of Student affairs and will consist of a medical student, advisory dean or deans, the director of GME (or designee), a hospital staff member, and the student ombudsperson. Aggregate reports will generally be forwarded to department chairs quarterly for monitoring purposes.

Confidentiality and Anonymous Reporting:

The University will strive to protect, to the greatest extent possible, the confidentiality of persons reporting mistreatment and of those accused of mistreatment. Because the University may have certain legal obligations, e.g. in response to allegations of sexual harassment, the University cannot guarantee complete confidentiality where it would conflict with the University’s obligation to investigate meaningfully or, where warranted, take corrective action. Even when some disclosure of the University’s information or sources is necessary, it will be limited to the extent possible. The University will keep confidential all records of complaints, responses and investigations, to the extent permitted by law.

If the student is not comfortable reporting to one of the individuals identified above, the student may choose an intermediary that can then directly communicate the incident with these individuals while maintaining anonymity. Students may also submit anonymous reports via the Oasis curriculum management system in real time or when filling out course evaluations. Anonymous reports will be shared with the clerkship director and department chair.

If a student insists on confidentiality or anonymity, the University may be limited in its ability to respond and take action with respect to the report.
Bias Report and Support System (BRSS)

In addition, Washington University developed a system through which students, faculty, staff and community members who have experienced or witnessed what they perceive as incidents of bias, prejudice or discrimination involving a student can report their experiences to the university’s Bias Report and Support System (BRSS) team. If, for any reason, students want to provide identifying information when filing a report, they have the option to fill out the BRSS form anonymously online by selecting the “For Information Only” option. Please note that a brief description of the incident will be included in the quarterly summary report. If an individual submitting a report selects the “For Support and Referral” option, a member of the BRSS team will meet with the individual and refer that person to the appropriate university policy and administrator. Note that these non-anonymous BRSS reports on the WUSM campus are sent to the Assistant Provost, who assists WUSM students in navigating their programs and connects them with the relevant policies and contacts within those programs.

V. Informal and Formal Options for Possible Resolution

Informal Options

If you feel comfortable dealing with the situation without assistance, you can communicate either orally or in writing with the person whose behavior is offensive. The most useful communication will have three parts:

1. A factual description of the incident(s) including date, time, place and specific action.
2. A description of the writer's feelings, including any consequences of the incident.
3. A request that the conduct cease.

Frequently, such a communication will cause the offensive behavior to stop, particularly when the person may not be aware that the conduct is offensive.

If you would like to proceed informally, but with the assistance of someone else, you may:

1. Ask the person’s supervisor, e.g., department chair, dean, director, housing office representative, academic advisor, or a trained WUSM faculty member to speak to the person whose behavior was offensive. The purpose of such conversations is the cessation of offensive behavior. You should note that these individuals may be obligated to report the incident or conduct you disclose to the University for further investigation and action.
2. Consult with one of the Advisors listed in Additional Resources who are specifically charged with responding to mistreatment inquiries and complaints. These individuals are thoroughly familiar with WUSM’s mistreatment policy and are available to consult with victims, those accused of engaging in mistreatment, witnesses and supervisors of parties to a complaint. They can provide information about informal actions that might remedy the situation and discuss University policies and procedures for resolving complaints.
3. Ask the Advisor to mediate or arrange for mediation. Mediation is discussion and negotiation, with the help of a third party, designed to permit the parties
to reach a mutually agreeable resolution of a dispute. If a person complaining of mistreatment seeks mediation, the person accused of mistreatment agrees, and the Advisor concludes that the mediation would be consistent with the University’s legal obligations in responding to and preventing discrimination or discriminatory harassment, then the Advisor may mediate or arrange for mediation.

**Formal Options**

Should informal resolution be unsuccessful or inappropriate under the particular circumstances alleged, the student will be referred to the applicable University policies and procedures for filing a formal complaint. The University will initiate an investigation into the allegations under the appropriate policy and take disciplinary action as contemplated by the applicable procedures. For example, if a student asserts that a faculty member has engaged in mistreatment in the form of sexual harassment, the University’s Sexual Harassment Policy would be followed.

**VI. Education**

The School of Medicine will provide ongoing education to promote a respectful and positive learning environment. The purpose of this education will be to provide definitions and standards for an optimal learning environment, to inform students and educators of policies and processes for reporting offensive behavior and learner mistreatment. This educational information will be provided by the Learning Climate Committee. The policy will be posted in the Bulletin, clerkship and course master handbooks and will be reviewed with students at orientations. In addition, educational sessions may be provided at departmental and division meetings, resident sessions, staff meetings and curriculum committee meetings.

**Tobacco-Free Policy**

Washington University is committed to providing a healthy, comfortable and productive work and learning environment for all students, faculty and staff. Research shows that tobacco use in general, including smoking and breathing secondhand smoke, constitutes a significant health hazard. The university strictly prohibits all smoking and other uses of tobacco products within all university buildings and on university property, at all times.

This policy applies to all, including students, faculty, staff, patients, contractors and visitors.

For the purpose of this policy, “tobacco” is defined to include, but not limited to, any lit cigarette, cigar, pipe, bidi, clove cigarette, electronic cigarette (e-cigarette), personal vaporizer and any other smoking product; and smokeless or spit tobacco, also known as dip, chew, snuff or snus in any form.

- The use, distribution or sale of tobacco, including any smoking device, or carrying of any lit smoking instrument, in university-owned, leased or occupied facilities or on university-leased, owned, or occupied property*, at events on university properties, or in university-owned, rented or leased vehicles, is prohibited. This includes:
  - all campuses;
  - parking facilities and lots (including in personal vehicles);
• university buildings located near city/municipality owned sidewalks, within 20 feet of entryways or exits, near air intakes, or near fire/explosion hazards;
• off-campus housing managed by Residential Life; and
• fraternity chapter houses managed by Greek Life.

• If individuals within the university community smoke or use tobacco products off university properties, they are expected to be respectful of residents, hospitals and businesses neighboring the university campuses and properties. They should not loiter in front of homes, businesses or hospitals near university campuses or properties, and must discard tobacco products in appropriate receptacles.
• The free distribution of tobacco products on university property is prohibited.
• No tobacco-related advertising or sponsorship shall be permitted on university property, at university-sponsored events or in publications produced by the university.
• Violations of this policy may result in disciplinary action.

* Facilities fully managed and maintained by Quadrangle Housing, such as the residential portion of the Lewis Center, are not subject to this policy.

Enforcement

The tobacco-free policy is a community health initiative. We are all responsible for implementing and enforcing this policy. It is important that we all work to promote good health and support an environment free of tobacco.

Ultimately, our hope is to achieve voluntary compliance with the tobacco-free policy, aided by community enforcement of its terms. There are clear challenges associated with the enforcement of this policy; however, similar to all university policies, we each have a responsibility to comply. While not preferred, if necessary, disciplinary actions for violations, tailored to each constituency within the community, may be implemented. The university has worked with student and faculty/staff committees from throughout the university to ensure that input from each of these groups regarding obstacles and solutions was taken into account before policy implementation.

Tobacco Cessation Programs

Washington University recognizes that quitting tobacco use can be a significant personal challenge. To assist those who wish to quit smoking, Washington University and other organizations offer free or reduced-cost smoking-cessation programs.

For Students

Information on smoking and tobacco cessation is available through the Habif Health & Wellness Center. Substance abuse specialists are available to work with students who would like an individualized quitting plan, continued support in quitting or nicotine replacement medication. For more information, contact the Habif Health & Wellness Center at 314-935-6666.
For Faculty and Staff

Resources to help faculty and staff quit smoking are available on wellnessconnection.wustl.edu.

Policy on Conflicts of Interest in Clinical Care

Pharmaceutical and Medical Device Industry Policy – Interaction with Industry Representatives (.PDF)

Approved by FPP Board of Directors: May 22, 2007

Purpose
Pharmaceutical and medical device representatives have an interest in making health care professionals aware of their products and new product developments. While interactions with sales representatives have a legitimate purpose, it is essential that information provided by these individuals is free of bias and financial inducements that might unduly influence medical decision making. The purpose of this policy is to define ethical standards for interacting with pharmaceutical and medical device manufacturers.

Definition
For purposes of this Policy, “medical device” is defined broadly to include medical devices, implants and other medical care related products and services.

Policy

1. Vendor sales representatives are allowed on WUSM premises, including its off-site clinics, only by appointment and only in department-designated areas as approved by the Department Chair, Program Director or their respective Vendor sales representatives must wear visible identification while on any WUSM premises, and the purpose of their visits must be educational, not promotional, in nature.

2. Vendor sales representatives are prohibited from having direct patient contact and are not permitted to meet with faculty in patient care Any exceptions to this policy must be approved by the Department Chair or Program Director and limited to situations in which the presence of a medical device representative is essential because of the complexity of the medical device being utilized.

3. Pharmaceutical/medical device manufacturers may only provide unrestricted educational grants to a central fund with the approval of the Department Chair, Program Director or the representative The fund is independent of any industry input or control.

   • Grants may be used for medical education purposes including, but not limited to, medical textbooks, honoraria and expenses for extramural lecturers and the provision of modest food/meals.

   • Grants cannot be conditional or related in any way to any pre-existing or future business relationship with the industrial sponsor.
The content of the educational program and related materials must be under the exclusive control of WUSM.

Financial support of programs can be acknowledged in text in program announcements (Ex: “This program was supported in part by an educational grant from ”)

4. When industry provides support of CME-accredited educational activities, additional CME guidelines and procedures for commercial support of educational activities must be Up-to-date versions of these standards can be found at the CME web site (http://cme.wustl.edu). University resources including campus mail, e-mail or other official means of communication should not be used to announce or publicize industry-sponsored or co-sponsored events:

- Educational events may be publicized if supported by an unrestricted educational grant.

- Pharmaceutical/medical device manufacturers should not be provided with e-mail lists or address lists of WUSM physicians, health professionals, students, trainees, residents or staff.

5. Vendor sales representatives may not interact with students, residents and other trainees on WUMC premises without faculty Vendors may provide only peer-reviewed literature and technical information related to the use of medical devices in this setting. With approval from the appropriate Department Chairperson or Program Director vendors may provide medical textbooks to students, residents and other trainees. Departmental or Program review and approval will include the educational materials as well as the distribution process.

6. Promotional items (pens, notepads, magnets, ) are not allowed in clinical practice areas or at educational conferences for students, residents and other trainees.

7. Industry-sponsored food and catered meals are not permitted in any WUSM area (clinical or academic) and are not permitted at educational conferences for students, residents and other trainees unless provided through an unrestricted departmental grant.

8. Pharmaceutical samples from industry are prohibited, except under narrow circumstances approved by the Faculty Practice Plan Clinical Practice Committee that protect the interests of patients and prevent the use of samples as a marketing Permitted uses are limited to:

- Low-income uninsured or underinsured patients who are unable to afford prescriptions.
- Situations in which the patient’s response to sample medications can be helpful in determining the most effective treatment before writing a full prescription.
- The medications must only be accepted by the clinic site manager and stored in a secured A log must be maintained to document their use, including the date, patient’s name, medication name, lot number, expiration date, indication for use and quantity dispensed. Sample medications may not be given directly to physicians by pharmaceutical sales representatives.
9. Pursuant to the WUSM Policy on Conflicts of Interest in Clinical Care (Approved March 16, 2006) meals, sporting event tickets, golf outings, gift baskets, travel, and any other free goods or services should not be accepted from vendors.

10. Faculty and staff members (including their spouses, domestic partner or dependent children) who receive payments from a pharmaceutical or medical device manufacturer or distributor, or who have a personal financial interest in such companies, must not make decisions regarding WUSM and affiliated hospital purchases related to the products of such companies.

To the extent an individual’s expertise is necessary in evaluating any product, the individual must report his or her financial or fiduciary ties (or those of his/her spouse, domestic partner or dependent child) to any manufacturer of the product to those responsible for making the procurement decision. The individual may provide information, but may not participate in the final purchasing decisions relevant to such products.