

Department of Pathology & Immunology

The Department of Pathology & Immunology (<http://pathology.wustl.edu/>) 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 (<https://pathology.wustl.edu/divisions/amp/>), Immunobiology (<https://pathology.wustl.edu/divisions/immunobiology/>), Laboratory and Genomic Medicine (<http://pathology.wustl.edu/divisions/lgm/>) and Neuropathology (<http://pathology.wustl.edu/divisions/neuropathology/>) 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 during 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 course director 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 they may participate in the research activities of the faculty.

The Division of Immunobiology (<https://pathology.wustl.edu/divisions/immunobiology/>) integrates immunobiology activities at the school. It is responsible for the teaching of immunology during the first year of the curriculum (Brian T. Edelson, MD, PhD, is the course director) 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 (<http://dbbs.wustl.edu/Pages/>). The department has strong participation in the Immunology graduate program.

Website: <https://pathology.wustl.edu>

Faculty

Joseph Gaut, MD, PhD (<https://pathology.wustl.edu/people/joseph-gaut-md-phd/>)

Anatomic and Molecular Pathology Division Head

Robert Schreiber, PhD (<https://pathology.wustl.edu/people/robert-schreiber-phd/>)

Immunobiology Division Head

Charles Eby, MD (<https://pathology.wustl.edu/people/charles-eby-md/>)

Laboratory and Genomic Medicine Division Head

Robert E. Schmidt, MD, PhD (<https://pathology.wustl.edu/people/robert-schmidt-md-phd/>)

Neuropathology Division Head

Visit our website for more information about our faculty (<https://pathology.wustl.edu/people/>) and their appointments.

A

Sarah DeGenova Ackerman

Assistant Professor of Pathology and Immunology (Pending Executive Faculty Approval) (primary appointment)

Michael Alberti, M.D.

Instructor in Pathology and Immunology (Pending Dean's Approval) (primary appointment)

Bachelor of Science, California Lutheran University, 2005
Doctor of Medicine, University of Alabama, 2013

Paul M Allen, M.S., Ph.D.

Professor Emeritus of Pathology and Immunology
Bachelor of Science, University of Michigan (Duplicate of University of Michigan Ann Arbor), 1974
Master of Science, University of Michigan (Duplicate of University of Michigan Ann Arbor), 1977
Doctor of Philosophy, University of Michigan (Duplicate of University of Michigan Ann Arbor), 1981

Gaya K Amarasinghe, Ph.D.

Professor of Pathology and Immunology (primary appointment)
Professor of Biochemistry and Molecular Biophysics
Professor of Molecular Microbiology
Alumni Professorship - Pathology and Immunology #2
Bachelor of Science, City College, 1997
Doctor of Philosophy, University of Maryland, 2001

Neil William Anderson, M.D.

Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Pediatrics
Madison, 2005
Madison, 2009

Maksym Artomov, M.S., Ph.D.

Professor of Pathology and Immunology (primary appointment)

Master of Science, University of Chicago, 2005
Doctor of Philosophy, Massachusetts Institute of Technology,
2009

B

Samuel James Ballentine, M.D.

Assistant Professor of Pathology and Immunology (primary
appointment)
Doctor of Medicine, New York University, 2013

Michael James Barratt, Ph.D.

Associate Professor of Pathology and Immunology (primary
appointment)
Doctor of Philosophy, Kings College London, 1994

Cory Thomas Bernadt, Ph.D., M.D.

Associate Professor of Pathology and Immunology (primary
appointment)
Bachelor of Science, Nebraska Wesleyan University, 1998
Doctor of Philosophy, University of Nebraska, 2004
Doctor of Medicine, University of Nebraska, 2006

Deepta Bhattacharya, Ph.D.

Adjunct Associate Professor of Pathology and Immunology
Bachelor of Science, Indiana University Bloomington, 1996
Doctor of Philosophy, University of California Berkeley, 2001

Fouad Ismat Boulos, M.D.

Associate Professor of Pathology and Immunology (primary
appointment)
Bachelor of Science, American University of Beirut, 1996
Doctor of Medicine, American University of Beirut, 2001

Kevin Bowling, Ph.D.

Associate Professor of Pathology and Immunology (Pending
Executive Faculty Approval) (primary appointment)
Doctor of Philosophy, University of Alabama in Tuscaloosa, null

Simone Brioschi, M.S., Ph.D.

Instructor in Pathology and Immunology (Pending Dean's
Approval) (primary appointment)
Master of Science, University of Milan, 2010
Doctor of Philosophy, University of Freiberg, 2018

Victor Borisovich Brodsky, M.D.

Associate Professor of Pathology and Immunology (primary
appointment)
Bachelor of Science, Boston University, 2001
Doctor of Medicine, Boston University, 2005

Elizabeth M Brunt, M.D.

Professor Emeritus of Pathology and Immunology
Bachelor of Science, Georgetown University, 1974
Doctor of Medicine, University of Texas Galveston, 1981

Carey-Ann Dawn Burnham, Ph.D.

Professor of Pathology and Immunology (primary appointment)
Professor of Pediatrics
Professor of Molecular Microbiology

Professor of Medicine
Vice Chair - Faculty Development
Bachelor of Science, University of Alberta, 2002
Doctor of Philosophy, University of Alberta, 2007

Kathleen Byrnes, M.D.

Assistant Professor of Pathology and Immunology (primary
appointment)
Bachelor of Science, Washington University in St Louis, 2008
Doctor of Medicine, Tulane University, 2013

C

Yang Cao, Ph.D.

Assistant Professor of Pathology and Immunology (primary
appointment)
Doctor of Philosophy, University of Wisconsin Madison, 2014

Marina Cella, M.D.

Professor of Pathology and Immunology (primary appointment)
Doctor of Medicine, University of Genova, 1989

Jiye Cheng, M.S., Ph.D.

Instructor in Pathology and Immunology (primary appointment)
Master of Science, Ohio State University, 2010
Doctor of Philosophy, Ohio State University, 2011

Rebecca D Chernock, M.D.

Professor of Pathology and Immunology (primary appointment)
Professor of Otolaryngology
Bachelor of Science, Brown University, 1999
Doctor of Medicine, University of Pennsylvania, 2004

Kyunghee Choi, M.S., Ph.D.

Professor of Pathology and Immunology (primary appointment)
Bachelor of Science, Seoul National University, 1982
Master of Science, Seoul National University, 1984
Doctor of Philosophy, University of Illinois, 1988

John Spellman Aranake Chrisinger, M.D.

Assistant Professor of Pathology and Immunology (primary
appointment)
Bachelor of Arts, Washington University in St Louis, 2004
Doctor of Medicine, Washington University in St Louis, 2012

Marco Colonna, M.D.

Professor of Pathology and Immunology (primary appointment)
Professor of Medicine
Robert Rock Belliveau MD Professor of Pathology
Doctor of Medicine, Parma University, 1983

Leigh Anne Compton, Ph.D., M.D.

Assistant Professor of Pathology and Immunology (primary
appointment)
Bachelor of Science, Centenary College Louisiana, 1998
Doctor of Philosophy, Vanderbilt University, 2005
Doctor of Medicine, Vanderbilt University, 2008

Joseph C. Corbo, Ph.D., M.D.

Professor of Pathology and Immunology (primary appointment)

Professor of Genetics
Professor of Ophthalmology and Visual Sciences
Baccalaureatus, Stanford University, 1990
Bachelor of Science, Stanford University, 1990
Doctor of Philosophy, University of California, 1997
Doctor of Medicine, University of California, 1999

Richard James Cote, M.D.

Professor of Pathology and Immunology (primary appointment)
Head of the Department of Pathology and Immunology
Edward Mallinckrodt Professorship in Pathology
Doctor of Medicine, University of Chicago, 1980

Bridgit Crews

Associate Professor of Pathology & Immunology (Pending
Executive Faculty Approval) (primary appointment)

Erika C Crouch, Ph.D., M.D.

Professor of Pathology and Immunology (primary appointment)
Vice Chair - Education
Doctor of Philosophy, University of Washington, 1978
Doctor of Medicine, University of Washington, 1979

D

Sonika M Dahiya, M.D.

Professor of Pathology and Immunology (primary appointment)
Doctor of Medicine, Kasturba Medical College, 2000

Gautam Dantas, Ph.D.

Professor of Pathology and Immunology (primary appointment)
Professor of Biomedical Engineering
Professor of Molecular Microbiology
Bachelor of Science, Macalester College, 2000
Doctor of Philosophy, University of Washington, 2005

Louis P Dehner, M.D.

Professor of Pathology and Immunology (primary appointment)
Professor of Pathology in Pediatrics
Bachelor of Arts, Washington University in St Louis, 1962
Doctor of Medicine, Washington University in St Louis, 1966

George J Despotis, M.D.

Associate Professor of Pathology and Immunology (primary
appointment)
Associate Professor of Anesthesiology
Bachelor of Arts, Greenville College, 1981
Doctor of Medicine, Saint Louis University, 1985

Dennis J. Dietzen, Ph.D.

Professor of Pathology and Immunology (primary appointment)
Professor of Pediatrics
Bachelor of Science, Marian College, 1986
Doctor of Philosophy, Indiana University Bloomington, 1992

Rebekah Dumm, Ph.D.

Assistant Professor of Pathology & Immunology (Pending
Executive Faculty Approval) (primary appointment)
Bachelor of Science, University of Delaware, null

Doctor of Philosophy, Duke University, null

Eric James Duncavage, M.D.

Professor of Pathology and Immunology (primary appointment)
Bachelor of Science, Vanderbilt University, 1998
Doctor of Medicine, University of Tennessee, 2004

Gavin P. Dunn, Ph.D., M.D.

Associate Professor of Pathology and Immunology
Associate Professor of Neurology
Bachelor of Arts, Princeton University, 1998
Doctor of Philosophy, Washington University in St Louis, 2006
Doctor of Medicine, Washington University in St Louis, 2006

William Michael Dunne, Ph.D.

Adjunct Professor of Pathology and Immunology
Bachelor of Science, University of Wisconsin Madison, 1975
Doctor of Philosophy, University of Wisconsin Madison, 1981

E

Allison Rae Eberly, Ph.D.

Assistant Professor of Pathology and Immunology (primary
appointment)
Bachelor of Science, Chestnut Hill College, 2014
Doctor of Philosophy, Vanderbilt University, 2019

Charles S Eby, M.D.

Professor of Pathology and Immunology (primary appointment)
Professor of Medicine
Bachelor of Science, Duke University, 1977
Doctor of Medicine, Vanderbilt University, 1981

Brian T. Edelson, Ph.D., M.D.

Associate Professor of Pathology and Immunology (primary
appointment)
Doctor of Philosophy, Washington University in St Louis, 1995
Doctor of Medicine, Washington University in St Louis, 2004

Takeshi Egawa, Ph.D., M.D.

Associate Professor of Pathology and Immunology (primary
appointment)
Doctor of Medicine, Osaka University, 1994
Doctor of Philosophy, Osaka University, 2002

David Eisenstein, M.D.

Associate Professor of Pathology and Immunology (primary
appointment)
Doctor of Medicine, University of Cincinnati, 1989

Ali Hassan Ellebedy, Ph.D.

Associate Professor of Pathology and Immunology (primary
appointment)
Associate Professor of Medicine
Associate Professor of Molecular Microbiology
Bachelor of Science, Cairo University, 2004
Doctor of Philosophy, University of Tennessee Health Science
Center, 2011

F

Christopher William Farnsworth, Ph.D.

Assistant Professor of Pathology and Immunology (primary appointment)
Bachelor of Science, Roberts Wesleyan College, 2009
Doctor of Philosophy, University of Rochester, 2017

John Lawrence Frater, M.D.

Professor of Pathology and Immunology (primary appointment)
Bachelor of Science, University of Notre Dame, 1992
Doctor of Medicine, Medical College of Ohio, 1996

Daved H Fremont, Ph.D.

Professor of Pathology and Immunology (primary appointment)
Professor of Biochemistry and Molecular Biophysics
Professor of Molecular Microbiology
Bachelor of Science, University of Wisconsin Madison, 1986
Doctor of Philosophy, University of California San Diego, 1993

G

Joseph P. Gaut, Ph.D., M.D.

Professor of Pathology and Immunology (primary appointment)
Professor of Medicine
Division Chief - Division of Anatomic and Molecular Pathology
Ladenson Professorship in Pathology
Bachelor of Arts, Washington University in St Louis, 1996
Doctor of Philosophy, Washington University in St Louis, 2004
Doctor of Medicine, Washington University in St Louis, 2004

Rongbin Ge

Assistant Professor of Pathology & Immunology (Pending Executive Faculty Approval) (primary appointment)

Susan Gilfillan, Ph.D.

Associate Professor of Pathology and Immunology (primary appointment)
Bachelor of Arts, University of Denver, 1982
Doctor of Philosophy, Stanford University, 1990

Juan G Gonzalez, M.D.

Professor of Pathology and Immunology (primary appointment)
Bachelor of Science, New Mexico State University, 1971
Doctor of Medicine, Universidad Autónoma de Nuevo León, 1978

Misty Lynn Good, M.D.

Assistant Professor of Pathology and Immunology
Bachelor of Science, University of Southern California, 2001
Doctor of Medicine, American University of the Caribbean School of Medicine, 2005

Jeffrey I Gordon, M.D.

Professor of Pathology and Immunology (primary appointment)
Professor of Developmental Biology
Dr Robert J Glaser Distinguished University Professor
Director - Center for Genome Sciences
Professor of Medicine
Professor of Molecular Microbiology

Bachelor of Arts, Oberlin College, 1969
Doctor of Medicine, University of Chicago, 1973

Ann Marie Gronowski, M.S., Ph.D.

Professor of Pathology and Immunology (primary appointment)
Professor of Obstetrics and Gynecology
Co-Division Chief - Division of Laboratory and Genomic Medicine
Bachelor of Science, University of Illinois, 1985
Master of Science, Iowa State University, 1988
Doctor of Philosophy, University of Wisconsin Madison, 1992

Brenda Jean Grossman, M.S., M.D.

Professor of Pathology and Immunology (primary appointment)
Professor of Medicine
Bachelor of Science, Ohio University, 1976
Doctor of Medicine, Medical College Georgia, 1980
Master of Science, Saint Louis University, 2003

H

Ian Sean Hagemann, Ph.D., M.D.

Associate Professor of Pathology and Immunology (primary appointment)
Bachelor of Arts, Princeton University, 2000
Doctor of Philosophy, Washington University in St Louis, 2008
Doctor of Medicine, Washington University in St Louis, 2008

Scott A Handley, Ph.D.

Associate Professor of Pathology and Immunology (primary appointment)
Bachelor of Science, Missouri State University (Formerly Southwest Missouri State), 1998
Doctor of Philosophy, Washington University in St Louis, 2006

Thomas Joseph Hannan, D.V.M.

Instructor in Pathology and Immunology (primary appointment)
Bachelor of Arts, Georgetown University, 1989
Doctor of Veterinary Medicine, Tufts University, 1995

Ted H Hansen, M.S., Ph.D.

Professor Emeritus of Pathology and Immunology
Bachelor of Science, Michigan State University, 1970
Master of Science, University of Michigan (Duplicate of University of Michigan Ann Arbor), 1972
Doctor of Philosophy, University of Michigan (Duplicate of University of Michigan Ann Arbor), 1975

Anjum Hassan, M.D.

Associate Professor of Pathology and Immunology (primary appointment)
Doctor of Medicine, Aga Khan University, 1989

Mai He, Ph.D., M.D.

Associate Professor of Pathology and Immunology (primary appointment)
Doctor of Medicine, Fudan University, 1993
Doctor of Philosophy, Rutgers University, 2001

Jasmin Herz, M.S., Ph.D.

Assistant Professor of Pathology and Immunology (primary appointment)

Bachelor of Science, University of Cologne (Koln), 2000

Master of Science, University of Cologne (Koln), 2004

Doctor of Philosophy, University of Cologne (Koln), 2008

Jonathan W Heusel, Ph.D., M.D.

Professor of Pathology and Immunology (primary appointment)
Professor of Genetics

Doctor of Philosophy, Washington University in St Louis, 1995

Doctor of Medicine, Washington University in St Louis, 1995

Matthew Charles Hibberd, Ph.D.

Instructor in Pathology and Immunology (primary appointment)

Bachelor of Science, Lincoln School of Commerce, 2007

Doctor of Philosophy, Washington University in St Louis, 2016

J

Ronald R Jackups, Ph.D., M.D.

Associate Professor of Pathology and Immunology (primary appointment)

Associate Professor of Pediatrics

Bachelor of Science, Washington University in St Louis, 2000

Doctor of Philosophy, University of Illinois Chicago, 2008

Doctor of Medicine, University of Illinois Chicago, 2008

Umang Jain, M.S., Ph.D.

Instructor in Pathology and Immunology (Pending Dean's Approval) (primary appointment)

Bachelor of Science, Manipal University, 2007

Master of Science, Manipal University, 2009

Doctor of Philosophy, Dalhousie University, 2015

K

Jonathan Kipnis, M.S., Ph.D.

Professor of Pathology and Immunology (primary appointment)

Professor of Neurology

Professor of Neuroscience

Professor of Neurological Surgery

Alan A and Edith L Wolff Distinguished Professor

Aviv University, 1998

Master of Science, Weizmann Institute of Science, 1999

Doctor of Philosophy, Weizmann Institute of Science, 2004

Eynav Yafit Klechevsky, Ph.D.

Assistant Professor of Pathology and Immunology (primary appointment)

Doctor of Philosophy, Baylor University, 2007

Hannah Rachel Krigman, M.D.

Professor of Pathology and Immunology (primary appointment)

Bachelor of Arts, Amherst College, 1983

Doctor of Medicine, University of North Carolina, 1988

Kilannin Cathleen Krysiak, Ph.D.

Assistant Professor of Pathology and Immunology (primary appointment)

Bachelor of Science, University of Illinois, 2006

Doctor of Philosophy, Washington University in St Louis, 2014

Michael Kyriakos, M.D.

Professor Emeritus of Pathology and Immunology

Bachelor of Science, City College, 1958

Doctor of Medicine, Albert Einstein College of Medicine, 1962

L

Jack H Ladenson, Ph.D.

Professor of Pathology and Immunology (primary appointment)

Professor of Clinical Chemistry in Medicine

Oree M Carroll and Lillian B Ladenson Professor of Clinical

Chemistry in Pathology and Immunology

Bachelor of Science, Pennsylvania State University, 1964

Doctor of Philosophy, University of Maryland, 1971

Yi-Shan Lee, Ph.D., M.D.

Assistant Professor of Pathology and Immunology (primary appointment)

Doctor of Medicine, National Taiwan University, 2000

Doctor of Philosophy, Duke University, 2008

Cheryl Faye Lichti, D.Sc.

Assistant Professor of Pathology and Immunology (primary appointment)

Doctor of Science, Duke University, 1993

Chieh-Yu Lin, M.D.

Assistant Professor of Pathology and Immunology (primary appointment)

Doctor of Medicine, National Taiwan University, 2009

Heide Maria Lind, M.D.

Associate Professor of Pathology and Immunology (primary appointment)

Doctor of Medicine, University of Iowa, 1979

Chang Liu, Ph.D., M.D.

Associate Professor of Pathology and Immunology (primary appointment)

Doctor of Medicine, Peking Union Medical College, 2004

Doctor of Philosophy, Oregon Health Science University, 2010

Ta-Chiang Liu, Ph.D., M.D.

Associate Professor of Pathology and Immunology (primary appointment)

Ming University, 1997

Doctor of Philosophy, Imperial College, 2003

Xiuli Liu, Ph.D.

Professor of Pathology and Immunology (primary appointment)

Doctor of Philosophy, University of Arkansas for Medical Sciences, 2002

M

Changqing Ma, Ph.D.

Associate Professor of Pathology and Immunology (primary appointment)

Health System, 2005

Mena Magdi Zaki Mansour, M.D.

Assistant Professor of Pathology and Immunology (primary appointment)

Doctor of Medicine, Alexandria University, 2005

Nidia Messias, M.D.

Associate Professor of Pathology and Immunology (primary appointment)

Doctor of Medicine, Faculdade Medicina Estadual (ISEP), 1998

Denis Mogilenko, M.S., Ph.D.

Instructor in Pathology and Immunology (Pending Dean's Approval) (primary appointment)

Bachelor of Science, St Petersburg State University, 2005

Master of Science, St Petersburg State University, 2007

Doctor of Philosophy, Academy of Sciences of USSR, 2011

Martina Molgora, M.S., Ph.D.

Instructor in Pathology and Immunology (Pending Dean's Approval) (primary appointment)

Bachelor of Science, University of Milan, 2011

Master of Science, University of Milan, 2013

Doctor of Philosophy, Open University, 2018

Nima Mosammaparast, Ph.D., M.D.

Associate Professor of Pathology and Immunology (primary appointment)

Associate Professor of Medicine

Bachelor of Science, University of Rochester, 1998

Doctor of Philosophy, University of Virginia, 2005

Doctor of Medicine, University of Virginia, 2006

Kenneth M Murphy, Ph.D., M.D.

Professor of Pathology and Immunology (primary appointment)

Eugene Opie First Centennial Professor of Pathology and Immunology

Doctor of Philosophy, Johns Hopkins University, 1984

Doctor of Medicine, Johns Hopkins University, 1984

Theresa L Murphy, Ph.D.

Professor of Pathology and Immunology (primary appointment)

Bachelor of Science, University of Arizona, 1978

Doctor of Philosophy, Johns Hopkins University Medical, 1983

N

Rakesh Nagarajan, Ph.D., M.D.

Adjunct Associate Professor of Pathology and Immunology

Bachelor of Arts, University of Virginia, 1994

Doctor of Philosophy, Washington University in St Louis, 2002

Doctor of Medicine, Washington University in St Louis, 2002

Pooja P Navale, M.D.

Assistant Professor of Pathology and Immunology (primary appointment)

Doctor of Medicine, Tata Inst of Fundamental Resch, 2013

Julie Ann Neidich, M.D.

Associate Professor of Pathology and Immunology (primary appointment)

Associate Professor of Pediatrics

Doctor of Medicine, George Washington University, 1983

Christopher A Nelson, Ph.D.

Associate Professor of Pathology and Immunology (primary appointment)

Bachelor of Science, University of Wisconsin Madison, 1985

Doctor of Philosophy, Washington University in St Louis, 1995

O

Eugene Merle Oltz, Ph.D.

Adjunct Professor of Pathology and Immunology

Bachelor of Science, Cornell University, 1982

Doctor of Philosophy, Columbia University, 1987

P

Vijayalakshmi Padmanabhan, M.P.H., MBBS

Professor of Pathology and Immunology (primary appointment)

Foreign MD equivalent, Kasturba Medical College, 1988

Master of Public Health, Dartmouth College, 2015

Bijal A. Parikh, Ph.D., M.D.

Assistant Professor of Pathology and Immunology (primary appointment)

Doctor of Philosophy, Rutgers University, 2004

Doctor of Medicine, University of Medicine and Dental Of New Jersey, 2006

Jonathan Robert Brestoff Parker, M.S., Ph.D., M.D.

Assistant Professor of Pathology and Immunology (primary appointment)

Bachelor of Science, Skidmore College, 2008

Master of Science, University College Cork, 2010

Doctor of Philosophy, University of Pennsylvania, 2015

Doctor of Medicine, University of Pennsylvania, 2016

Jacqueline Elise Payton, Ph.D., M.D.

Associate Professor of Pathology and Immunology (primary appointment)

Bachelor of Science, Bradley University, 1996

Doctor of Philosophy, University of Illinois, 2002

Doctor of Medicine, University of Illinois, 2004

Richard J. Perrin, Ph.D., M.D.

Associate Professor of Pathology and Immunology (primary appointment)

Bachelor of Science, Yale University, 1992

Doctor of Philosophy, University of Illinois, 2001

Doctor of Medicine, University of Illinois Chicago, 2004

Stephen P. Persaud, Ph.D., M.D.

Instructor in Pathology and Immunology (primary appointment)

Bachelor of Science, Cornell University, 2005

Doctor of Philosophy, Washington University in St Louis, 2015

Doctor of Medicine, Washington University in St Louis, 2015

John David Pfeifer, Ph.D., M.D.

Professor of Pathology and Immunology (primary appointment)
Professor of Obstetrics and Gynecology
Bachelor of Arts, University of California, 1981
Doctor of Philosophy, University of California, 1987
Doctor of Medicine, University of California, 1988

R

Gwendalyn Jan Randolph, Ph.D.

Professor of Pathology and Immunology (primary appointment)
Professor of Medicine
Unanue Distinguished Professor of Immunology
Bachelor of Science, Temple University, 1991
Doctor of Philosophy, State University of New York, 1995

Kodi S. Ravichandran

Professor of Pathology and Immunology (Pending Executive Faculty Approval) (primary appointment)
Robert L. Kroc Professor of Pathology and Immunology

Alejandro Reyes

Adjunct Assistant Professor of Pathology and Immunology

Jon H Ritter, M.D.

Professor of Pathology and Immunology (primary appointment)
Bachelor of Arts, Mankato State University, 1983
Doctor of Medicine, University of Minnesota, 1988

Nidhi Rohatgi, Ph.D.

Instructor in Pathology and Immunology (primary appointment)
India Inst of Medical Sci, 2005

Stephen Matthew Roper, M.S., Ph.D.

Assistant Professor of Pathology and Immunology (primary appointment)
Bachelor of Science, Texas Tech University, 2004
Master of Science, Texas Tech University, 2007
Doctor of Philosophy, Medical University of South Carolina, 2015

Marianna B Ruzinova, Ph.D., M.D.

Associate Professor of Pathology and Immunology (primary appointment)
Doctor of Philosophy, Cornell University, 2004
Doctor of Medicine, Cornell University, 2005

S

Rafael Sanguinetti Czepielewski, M.S., Ph.D.

Instructor in Pathology and Immunology (Pending Dean's Approval) (primary appointment)
Bachelor of Science, PONTIFICIA UNIV CATOLICA do PA, 2008
Master of Science, PONTIFICIA UNIV CATOLICA do PA, 2011
Doctor of Philosophy, PONTIFICIA UNIV CATOLICA do PA, 2016

Robert Edward Schmidt, Ph.D., M.D.

Professor of Pathology and Immunology (primary appointment)
Division Chief - Division of Neuropathology
Bachelor of Arts, Washington University in St Louis, 1969

Doctor of Philosophy, Washington University in St Louis, 1976
Doctor of Medicine, Washington University in St Louis, 1976

Robert D Schreiber, Ph.D.

Professor of Pathology and Immunology (primary appointment)
Professor of Molecular Microbiology
Andrew M Bursky and Jane M Bursky Distinguished Professor
Bachelor of Arts, State University of New York, 1968
Doctor of Philosophy, State University of New York, 1973

Molly Schroeder, Ph.D.

Assistant Professor of Pathology and Immunology (primary appointment)
Bachelor of Science, Saint Louis University, 2006
Doctor of Philosophy, Baylor College of Medicine, 2012

Katherine Elizabeth Schweteye, M.S., Ph.D., M.D.

Associate Professor of Pathology and Immunology (Pending Executive Faculty Approval) (primary appointment)
Bachelor of Science, Washington University in St Louis, 2002
Master of Science, Washington University in St Louis, 2005
Doctor of Philosophy, Washington University in St Louis, 2011
Doctor of Medicine, Washington University in St Louis, 2011

Andrey S Shaw, M.D.

Adjunct Professor of Pathology and Immunology
Bachelor of Arts, Columbia University, 1979
Doctor of Medicine, Columbia University, 1984

Kathleen C Sheehan, Ph.D.

Professor of Pathology and Immunology (primary appointment)
Bachelor of Science, University of Notre Dame, 1980
Doctor of Philosophy, Saint Louis University, 1986

Igor Smirnov, D.V.M.

Assistant Professor of Pathology and Immunology (primary appointment)
Doctor of Veterinary Medicine, Moscow Veterinary Academy, 1993

Lulu Sun, Ph.D., M.D.

Assistant Professor of Pathology and Immunology (Pending Executive Faculty Approval) (primary appointment)
Bachelor of Science, McGill University, 2007
Doctor of Philosophy, Washington University in St Louis, 2016
Doctor of Medicine, Washington University in St Louis, 2016

Sanjay Joshua Swamidass, M.A., Ph.D., M.D.

Associate Professor of Pathology and Immunology (primary appointment)
Associate Professor of Biomedical Engineering
Bachelor of Science, University of California, 2000
Master of Arts, University of California, 2006
Doctor of Philosophy, University of California, 2007
Doctor of Medicine, University of California, 2009

T

Steven L Teitelbaum, M.D.

Professor of Pathology and Immunology (primary appointment)

Professor of Medicine
Messing Professor of Pathology and Immunology
Bachelor of Arts, Columbia University, 1960
Doctor of Medicine, Washington University in St Louis, 1964

Suzanne Renee Thibodeaux, Ph.D., M.D.

Associate Professor of Pathology and Immunology (primary appointment)
Bachelor of Science, Tulane University, 2005
Doctor of Philosophy, University of Texas Health Sciences at San Antonio, 2011
Doctor of Medicine, University of Texas Health Sciences at San Antonio, 2013

Ning Tsao, Ph.D.

Instructor in Pathology and Immunology (Pending Dean's Approval) (primary appointment)
Doctor of Philosophy, National Taiwan University, 2015

Jackson S Turner

Instructor in Pathology and Immunology (Pending Dean's Approval) (primary appointment)
Bachelor of Science, University of Tulsa, 2011

U

Emil Raphael Unanue, M.D.

Professor of Pathology & Immunology (primary appointment)
Paul and Ellen Lacy Professor of Pathology and Immunology
Bachelor of Science, Institute of Secondary Educati, 1952
Doctor of Medicine, Havana University, 1960

V

Steven John Van Dyken, Ph.D.

Assistant Professor of Pathology and Immunology (primary appointment)
Bachelor of Science, Calvin College, 1998
Doctor of Philosophy, University of San Diego, 2006

Siddarth Venkatesh, Ph.D.

Instructor in Pathology and Immunology (Pending Dean's Approval) (primary appointment)
Doctor of Philosophy, Rockefeller University, 2015

William Vermi

Adjunct Assistant Professor of Pathology and Immunology

Herbert W Virgin, Ph.D., M.D.

Adjunct Professor of Pathology and Immunology
Bachelor of Arts, Harvard University, 1977
Doctor of Philosophy, Harvard University, 1985
Doctor of Medicine, Harvard University, 1985

W

Xiaoxiao Wan, Ph.D.

Assistant Professor of Pathology and Immunology (primary appointment)
Doctor of Philosophy, University of Missouri Columbia, 2015

Yi Wang, Ph.D.

Instructor in Pathology and Immunology (primary appointment)
Bachelor of Science, Peking University, 2008
Doctor of Philosophy, University of Pennsylvania, 2015

Mark A Watson, Ph.D., M.D.

Professor of Pathology and Immunology (primary appointment)
Vice Chair of Faculty Development
Bachelor of Arts, University of Pennsylvania, 1985
Doctor of Philosophy, Washington University in St Louis, 1992
Doctor of Medicine, Washington University in St Louis, 1992

Daniel Morgan Webber, M.S., Ph.D., M.D.

Instructor in Pathology and Immunology (Pending Dean's Approval) (primary appointment)
Bachelor of Science, University of Arkansas Main Campus, 2006
Napoca, 2006
Doctor of Philosophy, University of Arkansas for Medical Sciences, 2017
Doctor of Medicine, University of Arkansas for Medical Sciences, 2017

Cody Hudson Weimholt, D.O.

Assistant Professor of Pathology and Immunology (primary appointment)
Bachelor of Science, University of Missouri Columbia, 2005
Doctor of Osteopathic Medicine, Kirksville College of Osteopathic Medicine, 2013

George Randolphe Wettach, M.S., M.D.

Associate Professor of Pathology and Immunology (primary appointment)
Bachelor of Science, University of California Berkeley, 1995
Master of Science, Eastern Virginia Medical School, 2002
Doctor of Medicine, Eastern Virginia Medical School, 2006

Frances V White, M.S., M.D.

Professor of Pathology & Immunology (primary appointment)
Bachelor of Arts, Princeton University, 1975
Master of Science, University of North Carolina, 1978
Doctor of Medicine, University of North Carolina, 1989

Parker C Wilson, Ph.D., M.D.

Assistant Professor of Pathology and Immunology (primary appointment)
Bachelor of Science, Johns Hopkins University, 2005
Doctor of Philosophy, Medical University of South Carolina, 2013
Doctor of Medicine, Medical University of South Carolina, 2013

Terry A Woodford-Thomas, M.S., Ph.D.

Adjunct Assistant Professor of Pathology and Immunology
Bachelor of Science, Eastern Illinois University, 1975
Main Campus), 1977
Doctor of Philosophy, Virginia Polytechnic Institute and State University, 1982

Chao Wu, Ph.D.

Instructor in Pathology and Immunology (primary appointment)
Bachelor of Science, China Agriculture University, 2008

Doctor of Philosophy, Washington University in St Louis, 2016

Y

Melanie Leann Yarbrough, Ph.D.

Assistant Professor of Pathology and Immunology (primary appointment)
Doctor of Philosophy, University of Texas Southwest, 2009

Z

Pavel Zakharov, M.S., Ph.D.

Instructor in Pathology and Immunology (Pending Dean's Approval) (primary appointment)
Master of Science, Moscow State University, 2016
Doctor of Philosophy, Moscow State University, 2016

Mark A. Zaydman, M.D.

Assistant Professor of Pathology and Immunology (primary appointment)
Bachelor of Science, Case Western Reserve University, 2007
Doctor of Medicine, Washington University in St Louis, 2016

Bernd Heinrich Zinselmeyer, Ph.D.

Assistant Professor of Pathology and Immunology (primary appointment)
Doctor of Philosophy, University of Strathclyde, 2006

Wei Zou, M.A., Ph.D.

Assistant Professor of Pathology and Immunology (primary appointment)
Master of Arts, Sathyabama Institute of Science and Technology (SIST), 1994
Doctor of Philosophy, Hebrew University, 2003

Research Electives

Pathology and Immunology Research Electives

During the fourth year, opportunities exist for many varieties of advanced clinical or research experiences.

Paul M. Allen, PhD

BJC Institute of Health, 8th Floor
Phone: 314-362-8758

This lab's focus is on research in immunology and 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

Kingshighway Building, 2nd Floor, Room 2423
Phone: 314-362-8730

Glycobiology; informational role of carbohydrates in protein targeting and reproductive endocrinology.

Jeffrey I. Gordon, MD

4444 Forest Park, 5th Floor
Phone: 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
Phone: 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 to 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 for optimizing mTOR to induce cellular growth and proliferation, to enhance pre- and post-islet transplantation in Type 1 diabetes, and to prolong b-cell compensation in response to insulin resistance in Type 2 diabetes. The failure of b-cells in obesity-associated Type 2 diabetes is believed to correlate with the intracellular accumulation of lipids that contribute to defects in insulin secretion and the maintenance of b-cell mass. Our studies have identified lipoprotein lipase in b-cells; this is a key enzyme for catalyzing the hydrolysis of lipoprotein-associated TAG to produce free fatty acids (FFAs) 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 FFAs upregulate 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 FFAs and b-cell mitochondrial dysfunction in Type 2 diabetes.

Kenneth M. Murphy, MD, PhD

Clinical Sciences Research Building, 7th Floor, Room 7766
Phone: 314-362-2009

Function of dendritic cells in T cell responses and anti-tumor vaccines.

Robert D. Schreiber, PhD

BJC Institute of Health, 8th Floor
Phone: 314-362-8747

Tumor immunology and cancer immunoediting; research on natural and therapeutically induced responses to tumors; definition of the molecular roles of interferon-gamma and interferon-alpha/beta in these processes.

Carl H. Smith, MD

St. Louis Children's Hospital
Phone: 314-454-6029

Placental transport; surface membrane structure and function.

Thaddeus S. Stappenbeck, MD, PhD

Clinical Sciences Research Building, North Tower, Room 1020
Phone: 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
Phone: 314-454-8463

This lab studies the cellular and molecular mechanisms of bone remodeling, with particular emphasis on osteoclast biology as it relates to the 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

6609 Wohl
Phone: 314-362-8190

This lab looks at phospholipase A2 (PLA2) enzymes in the regulation of 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). We also perform studies of iPLA2, its post-translational modifications, and its interactions with other proteins involving mice that are iPLA2-deficient globally or in selected tissues, transgenic mice that overexpress iPL2 in β -cells, and insulinoma cells with genetically manipulated iPLA2 expression. The mass spectrometric characterization of proteins and complex lipids is an important tool in these studies.

Emil R. Unanue, MD

BJC Institute of Health, 8414
Phone: 314-362-8748

Our focus is research that involves immunobiology and immunopathology. We examine cellular interactions that result 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 the activation of lymphocytes in Type 1 diabetes.

Herbert Virgin, MD, PhD

Clinical Sciences Research Building, Room 8849
Phone: 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

Clinical Sciences Research Building, North Tower, Room 1029
Phone: 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 as well as the 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.

Courses

Visit online course listings to view offerings for M60 Path (<https://courses.wustl.edu/CourseInfo.aspx?sch=M&dept=M60>).

M60 Path 523 Immunology

The course consists of lectures, laboratory exercises and clinical correlations. It covers all aspects of the immune response - general properties of the immune system, effector molecules, cells and their function, cellular interactions, vaccines, and immunological diseases. Two laboratory exercises focus on blood typing and allergy. Students will also meet in groups (20-25 students) with clinicians to discuss a variety of clinical cases that relate to the course material.
Credit 37 units.

M60 Path 665 Pathology

This course is a comprehensive survey of the biology and morphology of human disease through a combination of lectures and laboratory 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.

During the year, students will become familiar with the methods of contemporary pathologic analysis. They will 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.
Credit 115 units.

M60 Path 702 Laboratory Medicine Clerkship

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 two-week elective includes rotations through laboratories in clinical chemistry, clinical microbiology, transfusion medicine, molecular diagnostics 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. Also covered are 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.
Credit 77 units.

M60 Path 750 Surgical Pathology Clerkship

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. 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
Credit variable, maximum 77 units.

M60 Path 805 Autopsy Pathology

This 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. Note that this elective is not available during the COVID-19 pandemic.

M60 Path 807 Dermatopathology

The student will be involved in all activities of the dermatopathology service. These include review, discussion, and signout of 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 is held Thursday mornings and is mandatory. In addition, dermatopathology slide review conferences are held most Tuesday mornings and are mandatory (schedule will be provided). Other learning opportunities include informal unknown slide sessions and consensus conferences. The primary goal of this elective is to acquire basic competence in the diagnosis of skin diseases at the microscopic level.

M60 Path 812 General Cytopathology

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 am. The student will attend daily pathology noon didactic conferences. In general, the student will be able to complete sign-out activities by 4:30 pm.

M60 Path 813 Molecular Pathology

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. Opportunities for assay validation as well as additional instruction in cytogenomics are available and tailored to student interest. Students will work with residents/fellows on the rotation and participate as part of the team.

M60 Path 815 OB/GYN Pathology

This elective is a subinternship in Ob/Gyn pathology. The expectation is that the student participate in the service along with house officer rotating on the service. The elective stresses the principles of anatomic pathology when applied to operative material in obstetrics and gynecology. The sub-

intern will examine gross and microscopic specimens in the Ob/Gyn Pathology Lab and review the histology along with pertinent literature with a senior pathologist. The elective is appropriate both for students intending a career in pathology, and those intending careers in other specialties. The student will gain familiarity with the diagnosis of more common OB/Gyn diagnoses, including malignancy, and premalignant conditions, as well as placental conditions. Ample time will be available for attending conferences in both OB/Gyn and Pathology.

M60 Path 820 Surgical Pathology

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 allow. At the end of the rotation, 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 am with morning conference. In general, the student will be able to complete all gross examination and sign-out activities by 4:30 pm. Students are welcome to stay beyond 4:30 pm to participate in any of the academic or other working activities of the Division.

M60 Path 825 Introduction to Neuropathology

The course is structured to give the student a full-time immersion in the specialty of Neuropathology, including both Neurosurgical and Neuroautopsy derived material. 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.

M60 Path 860 Clinical Laboratory Medicine

This elective rotation 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 elective includes rotations through a variety of clinical laboratories including clinical chemistry, clinical microbiology, hematopathology, molecular pathology, and transfusion medicine. During the elective the student will have a daily schedule, which includes didactic sessions with faculty and regular interactions with house staff. Some examples of useful clinical skills acquired during the experience include: morphologic review of peripheral

blood smears and bone marrow biopsies; interpretation of coagulation tests, biomarkers of cardiac damage and serum protein electrophoresis patterns; identification of infectious organisms; and appropriate use of blood component therapy and therapeutic apheresis. The rotation culminates with a case discussion presented by the medical student which focuses on application of clinical laboratory evaluations to direct patient care.

M60 Path 900 Research Elective - Pathology

Research opportunities may be available. If interested, please contact the Department of Pathology and Immunology.
