Department of Neurology

Neurology concerns itself with the diseases of the 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 Neuroscience (http://neurosci.wustl.edu), with participation of faculty from the Department of Neurology (http://neuro.wustl.edu). A first-year selective titled Clinical Correlations in Neurosciences (FYSelect 5017) is available, which is an opportunity for interested students to shadow physicians in neuro-related fields and to attend basic science or clinical conferences. During the second year, the Department of Neurology presents the course Diseases of the Nervous System (Neur 632) in conjunction with the departments of Pathology & Immunology (http://pathology.wustl.edu), Neurosurgery (http://neurosurgery.wustl.edu) and Ophthalmology & Visual Sciences (http://ophthalmology.wustl.edu). 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.

For more information about the Department of Neurology and its 13 divisions, please visit the department website. 

Website: https://neuro.wustl.edu/education

Degrees & Requirements

While the Department of Neurology does not offer its own degree, some of the department’s courses are open to students in the MD and MSTP (MD/PhD) programs. Further information about the MD and MSTP degrees can be found in the Degrees & Programs Offered (http://bulletin.wustl.edu/medicine/degrees) section of this Bulletin.

Research

M35 Neurol 900

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

Beau Ances, MD
Taylor Avenue Building Extension, 2nd Floor
Phone: 314-747-8423

Neuroimaging of neurodegenerative disorders. Students can work in a neuroimaging laboratory that is focused on the translational discovery of neuroimaging biomarkers for neurodegenerative diseases. The laboratory focuses on the pathogenesis of Alzheimer’s disease and HIV-associated neurocognitive disorders. We are investigating the effects of neurodegenerative diseases on the brain network level using functional (blood oxygen level dependent imaging, arterial spin labeling), structural (volumetrics, diffusion tensor imaging), and metabolic (PET amyloid and tau) methods. Multiple projects that involve bioengineering, neuroimaging and infectious disease are available, depending on the interest of the student.

Randall Bateman, MD
Biotechnology Center, Room 304
Phone: 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 and other neurodegenerative diseases. The student will participate in multiple areas of the research, including participant recruitment, consent, enrollment and admission to a research hospital unit. Lumbar puncture for cerebrospinal fluid sample collection, blood collection and intravenous labeling methods will be demonstrated and taught. The student will participate in sample analysis, including processing for mass spectrometry quantitation, enzyme-linked immunosorbent assay and Western gel methods. Quantitation, analysis and modeling of the data will be taught in the context of data interpretation and study design.

Anne H. Cross, MD, and Laura Piccio, MD, PhD
McMillan, 3rd Floor
Phone: 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 that leads to the lesions of multiple sclerosis. We are also funded to study the effects of diet and adipokines on neuroinflammation. Depending on 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 of multiple sclerosis, cell culture or studies of human samples (cerebrospinal fluid, blood or 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
McMillan, Room 310B
Phone: 314-747-0432

Clinical imaging research in multiple sclerosis. The student will learn about neuroimaging, imaging analyses, data collection, data management and clinical study endpoints in multiple sclerosis. They will observe patient participants undergoing a
detailed evaluation of disability measures, such as ambulation, symptom scales, cognition, vision, upper extremity function, and so on. They will witness the entire process of image acquisition, processing, analysis 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 multiple sclerosis, 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 to determine their effects on clinical function and learn to identify 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
East Building, Room 2108
Phone: 314-362-3319

This lab is interested in brain organization and function, particularly for language, attention and memory. Our main approach to these issues is through functional MRI and large-scale network analysis.

Joel S. Perlmutter, MD
East Building, 2nd Floor
Phone: 314-362-6026

Pathophysiology of movement disorders. The lab is primarily interested in the etiology, pathophysiology and treatment of basal ganglia disorders. We have several studies of Parkinson disease (PD). We investigate mechanisms of action of deep brain stimulation, which is 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 to quantify motor behavior. We also have an active program developing and validating neuroimaging biomarkers for PD and for determining the integrity of the nigrostriatal pathway that includes studies in human and animal models of PD. We have an active program that combines a variety of approaches to developing biomarkers and investigating 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 to parse out the effects of selective dopaminergic agonists. We are also working to develop MR-based methods including diffusion tensor imaging and resting-state functional connectivity to investigate the brain mechanisms underlying PD and dystonia.

Brad A. Racette, MD
McMillan, 9th Floor
Phone: 314-362-5291

Our lab is primarily interested in environmental risk factors associated with Parkinson's 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 United States and residents living near a smelter in South Africa; neuroimaging, in which we study the pathophysiology of toxin-mediated parkinsonism; geographic information systems research, in which we associate environmental toxin exposures with the incidence and prevalence of Parkinson's disease in the United States and Finland; and neuropathologic studies, in which we evaluate manganese-exposed workers from South Africa. There are numerous opportunities available for students to be involved with any of these projects. Students will receive some clinical exposure as well to familiarize them with pertinent clinical syndromes.

Marcus E. Raichle, MD
East Building, 2nd Floor
Phone: 314-362-6907

This lab investigates in vivo brain hemodynamic, metabolic and functional studies of human cognition and emotion using cyclotron-produced isotopes and PET as well as fMRI in humans. Refer also to the listing on this page for Steven E. Petersen, PhD.

Gregory Wu, MD, PhD
McMillan, 3rd Floor
Phone: 314-362-3293

Understanding how immune responses are generated that target the central nervous system. Specifically, this lab studies antigen-presenting 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
Department Chair
David Holtzman, MD

Visit our website for more information about our faculty (https://neuro.wustl.edu/Faculty) and their appointments.
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Professor of Neuroscience  
Professor of Radiology  
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BS University of Nebraska 1997  
MD University of Nebraska 2001

Dorothy Anne Cross, MD  
Professor of Neurology (primary appointment)  
BS University of South Alabama 1976
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Academic Background</th>
</tr>
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<tbody>
<tr>
<td>Nicole Cruz</td>
<td>Instructor in Clinical Neurology (primary</td>
<td>MD University of Alabama 1980</td>
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<td>appointment)</td>
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<tr>
<td>Rachel S Darken, MD, MD,</td>
<td>Associate Professor of Neurology (primary</td>
<td>MD Cornell University 2004, PhD Cornell University 2003, BA University of Texas Austin</td>
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<td>PHD</td>
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<td>1996</td>
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<tr>
<td>Albert Augustus Davis, MD</td>
<td>Assistant Professor of Neurology (primary</td>
<td>MD Vanderbilt University 2011, BS Emory University 2002, PhD Emory University 2009</td>
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<td>Brian Keith Day, MD, MD,</td>
<td>Assistant Professor of Neurology (primary</td>
<td>MD University of Kentucky 2007, BS Harvard University 1997, PHD University of Kentucky</td>
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<td>Gabriela De Bruin, MD</td>
<td>Associate Professor of Neurology (primary</td>
<td>MD Federal University of Ceara 2005</td>
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<td>Andrea Denny, JD, MSW</td>
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<td>BA University of Virginia 1990, JD University of Texas Austin 1998, MSSW University of Texas Austin 1993</td>
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<td>Amar Dhand, MD, MD</td>
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<td>BA State Univ of NY Stonybrook 1974, MA University of Louisville 1978, MD University of Kentucky 1982</td>
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<td>Lawrence N Eisenman, PHD,</td>
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<td>Juan Escandon, MD</td>
<td>Assistant Professor of Clinical Neurology</td>
<td>BS Saint Louis University 1954, MD Saint Louis University 1958</td>
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<td>Eugene Evra, MD</td>
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<tr>
<td>Julaine Marie Florence,</td>
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<td>MS, DPT</td>
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<tr>
<td>Wing Man Fong, PHD, MA</td>
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BS Colorado St University 1983

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MD Baylor College of Medicine 2010

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PHD University of Utah 2010

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MD Harvard University 2001

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, MD
Professor of Neurology (primary appointment)
Professor of Pediatrics
MD Institute of Medicine 1987

Robert P Margolis, MD
Assistant Professor of Clinical Neurology (primary appointment)
BA Kent St University 1971
MD Saint Louis University 1975

Kathryn Mary Marlow, MD
Assistant Professor of Neurology (primary appointment)
BS State Univ of NY at Albany 2009
Bulletin 2019-20
Department of Neurology (07/07/19)

MD SUNY DOWNSTATE MED BROOKLYN 2013

Pietro Mazzoni, MD, PHD
Associate Professor of Neurology (primary appointment)
MD Harvard University 1995
PHD Mass Inst of Technology (MIT) 1994
BS University of CA San Diego 1988

Eric Martin McDade, DOST
Associate Professor of Neurology (primary appointment)
DOST Chicago Coll of OsteopathicMed 2004
BA Canisius College 1998

Timothy M Miller, PHD, MD
Clayson Professor of Neurology (primary appointment)
PHD Washington Univ in St. Louis 1998
MD Washington Univ in St. Louis 1998

John Carl Morris, MD
Harvey A and Dorismae Hacker Friedman Distinguished Professor of Neurology (primary appointment)
Professor of Occupational Therapy
Professor of Pathology and Immunology
Professor of Physical Therapy
MD University of Rochester 1974
BA Ohio Wesleyan University 1970

Stephanie Morris, MD
Assistant Professor of Neurology (primary appointment)
Assistant Professor of Pediatrics
BS University of Arizona 2007
MD University of St. Louis 1998

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
BA Northwestern University 1993

Erik S Musiek, MD, PHD PMCG
Associate Professor of Neurology (primary appointment)
BS College of William and Mary 1999
MD Vanderbilt University 2007
PHD PMCG Vanderbilt University 2005

Robert T Naismith II, MD
Professor of Neurology (primary appointment)
MD Case Western Reserve Univ 1998
BS Case Western Reserve Univ 1994

Jeffrey J Neil, PHD, MD
Professor of Neurology (primary appointment)
Professor of Pediatrics
PHD Washington Univ in St. Louis 1984
MD Washington Univ in St. Louis 1984

Susan Searles Nielsen, PHD, MA
Assistant Professor of Neurology (primary appointment)
BA Evergreen St College 1992
PHD University of Washington 2004
MA University of Washington 2000

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)
Assistant Professor of Radiology
MD University of MO Columbia 2008
BA Washington Univ in St. Louis 2000

Sheel Jitendra Pathak, MD
Assistant Professor of Neurology (primary appointment)
BS University of Texas Galveston 2008
BA University of Texas Austin 2004

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

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

Lindsay M Peglar
Assistant Professor of Neurology (primary appointment)
Assistant Professor of Pediatrics

Karen J Pentella, MD
Assistant Professor of Clinical Neurology (primary appointment)
BS Ohio State University 1975
MD Ohio State University 1979

Joel S Perlmutter, MD
Professor of Neurology (primary appointment)
Professor of Neuroscience
Professor of Occupational Therapy
Professor of Physical Therapy
Professor of Radiology
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 Hopkns University Medic 1970
BA Princeton University 1966

**Steven E Petersen, PHD**
James S McDonnell Professor of Cognitive Neuroscience in Neurology (primary appointment)
Associate Professor of Neurological Surgery (Neuropsychology)
Professor of Biomedical Engineering
Professor of Neuroscience
Professor of Psychological & Brain Sciences
Professor of Radiology
PHD California Institute Technolo 1982
BA University of Montana Missoula 1974

**Daniel Phillips, BE, MD**
Assistant Professor of Clinical Neurology (primary appointment)
BS Northwestern University 1976
BE Northwestern University 1982
MD Washington Univ in St. Louis 1980

**Chia Ling Phuah, MS1, MS, MD**
Assistant Professor of Neurology (primary appointment)
MS1 Cambridge University 2007
BS Cambridge University 2003
MS Harvard University 2016
MD Cambridge University 2006

**Laura Piccio, MD**
Associate Professor of Neurology (primary appointment)
MD University of Milan 1997

**Stephanie K Powell, PHD, MS**
Instructor in Clinical Neurology (primary appointment)
BS University of Notre Dame 1984
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

**Brad Alan Racette, MD**
Robert Allan Finke Professor of Neurology (primary appointment)
Executive Vice Chair of Clinical Affairs, Department of Neurology
MD Northwestern University 1992
BA Princeton University 1988

**David Martin Reisler, MD, M PH**
Assistant Professor of Clinical Neurology (primary appointment)
MD Washington Univ in St. Louis 1961
M PH Johns Hopkns University Medic 1971
BA Harvard University 1957

**Dave A Rengachary, MD**
Instructor in Clinical Neurology (primary appointment)
MD Northwestern University 2000
BA Northwestern University 1996

**Terri L Riutcel, MD**
Associate Professor of Neurology (primary appointment)
BS University of MO Columbia 1991
MD Vanderbilt University 1995

**Catherine M Roe, MA, PHD**
Associate Professor of Neurology (primary appointment)
MA Southern Illinois University 1990
BA Purdue University 1986
PHD Southern Illinois University 1992

**James R Rohrbaugh, MD**
Associate Professor of Clinical Neurology (primary appointment)
Associate Professor of Clinical Pediatrics
BA Yale University 1971
MD Ohio State University 1974

**Robert John Rudock, MD, MBA1**
Assistant Professor of Neurology (primary appointment)
Assistant Professor of Pediatrics
MD University of Miami 2012
BS John Hopkins University 2006
MBA1 University of Miami 2011

**Rimma Ruvinskaya, MD**
Associate Professor of Neurology (primary appointment)
MD Leningrad Inst of Peds Med 1985
BA School Not Listed 1979

**Robin C Ryther, PHD, MD**
Assistant Professor of Neurology (primary appointment)
BS University of MO Columbia 1998
PHD Vanderbilt University 2004
MD Vanderbilt University 2006

**Chihiro Sato, PHD, MS**
Instructor in Neurology (primary appointment)
PHD University of Tokyo 2008
MS University of Tokyo 2005
BS University of Tokyo 2003

**Andrew David Sauerbeck, PHD**
Instructor in Neurology (primary appointment)
BS University of Kentucky 2005
PHD University of Kentucky 2011

**Anneliese M Schaefer, JD, PHD, BBA**
Professor of Neurology (primary appointment)
Richard Brian Sommerville, MD  
Associate Professor of Neurology (primary appointment)  
MD Columbia University 2005  
BS Harvard University 1999  

Tara V. Spevack, PHD, MS  
Instructor in Clinical Neurology (primary appointment)  
BS McGill University 1987  
PHD University of Florida 1997  
MS University of Florida 1994  

Katherine Caroline White Stenson, MD  
Associate Professor of Clinical Neurology (primary appointment)  
MD Northwestern University Med 2018  
BA Washington Univ in St. Louis 1994  

Jeremy Fuller Strain, PHD  
Instructor in Neurology (Pending Dean's Approval) (primary appointment)  
PHD University of Texas Arlington 2015  
BS University of Texas Arlington 2009  
T  

Sandra L Tate, MD  
Instructor in Clinical Neurology (primary appointment)  
MD Southern Illinois University 1987  

Mengesha A Teshome, MD  
Instructor in Neurology (primary appointment)  
MD Addis Ababa University 1989  

Kwee L Thio, MD, PHD  
Professor of Neurology (primary appointment)  
Professor of Neuroscience  
Professor of Pediatrics  
MD Washington Univ in St. Louis 1992  
BS Brown University 1984  
PHD Washington Univ in St. Louis 1992  

Jeffrey B. Titus, PHD, MA  
Assistant Professor of Clinical Neurology (primary appointment)  
BS Evangel College 1997  
PHD Ball State University 2002  
MA University of Northern Colora 1999  

Stuart Ramm Tomko, MD  
Assistant Professor of Neurology (primary appointment)  
MD Baylor College of Medicine 2010  
BS Davidson College 2005  

Norman Edwin Trevathan III, MD, MS  
Adjunct Professor of Neurology (primary appointment)  
MD Emory University 1982  
MS Emory University 1982  
BS David Lipscomb University 1977  

Angela M Tripp  
Assistant Professor of Clinical Neurology (primary appointment)
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<tr>
<th>Name</th>
<th>Title</th>
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<tr>
<td>Keisuke Ueda, MD</td>
<td>Assistant Professor of Neurology (primary appointment)</td>
<td>MD Keio University 2006</td>
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<tr>
<td>Jason Daniel Ulrich, PHD</td>
<td>Assistant Professor of Neurology (primary appointment)</td>
<td>BS Quincy College 2004, PHD University of Iowa 2011</td>
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<td>Mwiza Ushe, MD, MD</td>
<td>Assistant Professor of Neurology (primary appointment)</td>
<td>BS University of Pittsburgh 2000, MD Washington Univ in St. Louis 2007</td>
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<tr>
<td>Renee Bailey Van Stavern, MD</td>
<td>Professor of Neurology (primary appointment)</td>
<td>BA Texas A&amp;M University 1991, MD Univ Texas Health Science Ctr 1997</td>
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<tr>
<td>Arun S. Varadhachary, PHD, MD</td>
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<td>Amy Robichaux Viehoever, PHD, BE, MD</td>
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<td>Assistant Professor of Pediatrics, PHD Vanderbilt University 2004, BE Catholic University America 1998, MD Vanderbilt University 2006</td>
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<td>Oksana Volshteyn, MD</td>
<td>Professor of Neurology (primary appointment)</td>
<td>Professor of Medicine, MD Minsk State Medical Institute 1976</td>
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<td>Andrew M. Wayne, MD</td>
<td>Instructor in Clinical Neurology (primary appointment)</td>
<td>BS University of CA Riverside 1989, MD University of Missouri 1993</td>
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<tr>
<td>Ling Wei, MD</td>
<td>Adjunct Research Assistant Professor of Neurology (primary appointment)</td>
<td>MD Beijing Medical University 1977</td>
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<tr>
<td>Conrad Christian Weihi, MD, PHD</td>
<td>Professor of Neurology (primary appointment)</td>
<td>MD University of Chicago 2001, BS University of Illinois 1993, PHD University of Chicago 1998</td>
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<td>Judith L. Weisenberg, MD</td>
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<td>Howard I Weiss, MD</td>
<td>Assistant Professor of Clinical Neurology (primary appointment)</td>
<td>MD Tulane University 1972</td>
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<tr>
<td>Nicole Joy Werner, PHD, MS</td>
<td>Associate Professor of Neurology (primary appointment)</td>
<td>PHD Saint Louis University 2004, BS Univ of Minnesota Twin Cities 1997, MS Saint Louis University 2000</td>
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<tr>
<td>Robert L. White III</td>
<td>Instructor in Neurology (primary appointment)</td>
<td>BS Washington Univ in St. Louis 1999</td>
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<tr>
<td>Martin B Wice, MD, MS</td>
<td>Associate Professor of Neurology (primary appointment)</td>
<td>MD Northwestern University 1977, BS Grinnell College 1972, MS University of Washington 1983</td>
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<tr>
<td>Michael Wong, MD, PHD</td>
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<td>alleyon R Zazulia, MD</td>
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<td>John M Zempel, PHD, MD</td>
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Courses


M35 Neurol 632 Diseases of the Nervous System
The goal of this course is to provide an introduction to the diseases of the central and peripheral nervous systems, including their clinical manifestations, pathology, pathophysiology and pharmacotherapy. The course includes reading assignments, lectures, laboratories, team activities, and clinical presentations.
Credit 53 units.

M35 Neurol 720 Neurology Clerkship
During the four-week Neurology clerkship, students will gain proficiency in understanding diseases of the nervous system, the neurologic work-up, localization and differential diagnosis generation, and devising a treatment plan. A variety of settings are available, which could include adult or pediatric services, with both inpatient and outpatient experiences. Students will provide care for patients with neurologic problems under the supervision of residents, fellows, and attendings.
Credit 154 units.

M35 Neurol 828 Neurology Subinternship for Visiting Medical Students
This four-week elective for fourth-year visiting students from a U.S. medical school provides the option (space permitting) of four weeks of Adult Inpatient Service (Stroke for two weeks, General Neurology for two 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 subinterns under the supervision of their junior resident, chief resident, and attending physician. Students 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.

M35 Neurol 830 Neuro-Oncology
This elective provides an outpatient-oriented pediatric and adult neuro-oncology experience for fourth-year medical students. Students will attend multidisciplinary adult and pediatric neuro-oncology clinics and case conferences (tumor boards), attend adult and pediatric radiation oncology clinics, attend neuropathology brain tumor review, participate in subspecialty brain tumor clinics, and attend monthly brain tumor research conferences.

M35 Neurol 851 Clinical Aspects of Aging and Dementia
This elective provides the opportunity to learn about clinical research and clinical care in health brain aging and dementia. Students should contact the course directors to discuss this, as the 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 the neurolologic 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.
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 and fellow.

**M35 Neurol 865 Adult and Pediatric Epilepsy**
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.

**M35 Neurol 872 MS Center/Outpatient — Missouri Baptist**
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.

**M35 Neurol 900 Research Elective — Neurology**
Research opportunities may be available. If interested, please contact the Department of Neurology.