Department of Neurology

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

Research Electives

Neurology Research Electives

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

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
BJCIH 9603
Phone: 314-273-9057

Diagnostic tests, biomarkers, and pathophysiology of Alzheimer's disease and other neurologic diseases. 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 the performance of clinical research studies to discover and develop diagnostic tests and biomarkers and to understand the pathophysiology of Alzheimer's disease. 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, proteomic analyses, clinical analyses including determining sensitivity and specificity of tests, and application to real-world populations incl...
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.

**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.