NEUROLOGY FACULTY RESEARCH MENTORS

Epilepsy and Clinical Neurophysiology	Area of Research	Types of Research Projects
Hans Lüders, MD, PhD; Professor	Clinical semiology of epileptic seizures	Clinical research – only residents who have completed the EEG/Epilepsy course are eligible for such projects/ in general resident will have to work together with an EEG/Epilepsy fellow
Shahram Amina, MD; Instructor	Area of research: Epilepsy, EEG	Chart review, Case reports – for EEG projects only residents who have already taken the EEG course
Samden D. Lhatoo, MD, FRCP; Professor ; Director, Epilepsy and Clinical Neurophysiology Center	Mortality in Epilepsy including Sudden Unexpected Death in Epilepsy. Seizure pathophysiology.	Clinical Epilepsy Research. Preference for residents who have completed the Epilepsy Course; EEG Source Imaging
Neuromuscular and Autonomic		
Bashar Katirji, MD; Professor; Director Neuromuscular and Autonomic Center	Neuromuscular, ALS, EMG, Myasthenia	Chart review, case reports, clinical research
David C. Preston, MD; Professor; Program Director, Neurology Residency	Neuromuscular; EMG; Medical Education, Neuromuscular Ultrasound	
Jenice Robison, MD; Assistant Professor, Director, Autonomic Laboratory	Autonic, Neuromuscular; EMG	

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Rahila Ansari, MD, MS; Assistant Professor	Neuromuscular, Myopathies/ Myositis, Biomedical Engineering, EMG, Functional Electrical Stimulation, Spinal Cord Injury, ALS, NMJ Dz, Neuropathies	Translational Research - Bioengineering project with orthotics and prosthetics in patients with myopathies and neuropathies. FES projects in patients with SCI or amputations. Clinical research, case reports, CPRS chart review
Stroke and Cerebrovascular		
Anthony J. Furlan, MD; Professor and Chairman	Stroke	
Joseph C. LaManna, PhD; Professor	Cerebrovascular and metabolic diseases	In vivo studies of rats and mice using various stroke and cardiac arrest models. Bench studies using immunohistochemistry, Western blot analyses, microPET scanner.
Kui Xu, MD/PhD, Instructor	Cardiac arrest & resuscitation	In vivo studies of rats and mice using various stroke and cardiac arrest models. Bench studies using immunohistochemistry, Western blot analyses, microPET scanner.
Sophia Sundararajan, MD, PhD; Assistant Professor	Stroke	Acute stroke management, stroke prevention Clinical trials (could get involved with clinical trials learn about informed consent; attend IRB meeting—could be done in conjuction with a particular trial)

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Svetlana Pundik, MD; Assistant Professor	NeuroRehabilitation after stroke and TBI. CNS plasticity (neuroplasticity) in response to rehabilitation. Non-invasive brain stimulation with Transcranial Magnetic Stimulation (TMS)and transcranial Direct Current Stimulation (tDCS). Neuroimaging methods: DTI, fMRI, Resting State fMRI, volumetrics. Advanced neurorehabilitation methodology.	Clinical trials in neurorehabilitation.
General and Community Neurology		
Michael W. Devereaux, MD; Professor (Multiple sclerosis) Debra Reed, MD	Clinical Headache	Clnical case studies Misc.
Ronald G. Riechers, MD; Assistant Professor	Traumatic Brain Injury; Headache	Bench research, clinical trials, chart review, case reports, clinical research.
Neuro-Critical Care		
		Hypothermia: Clinical (1) Local Head and Neck Cooling for Fever in the Neuro ICU - randomized pilot clinical trial comparing (2) Ultra-early Cooling for Acute Ischemic Stroke (Cooling for Acute Ischemic Brain Disease, COOL AID, III) -

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Michael DeGeorgia, MD; Professor; Director, Neurocritical Care Center	Hypothermia, Bioinformatics:, Music and Neurology; Misc	(3) Combined Induced Hypothermia + Induced Hypertension (CBF Augmentation) Following Cardiac (4) Outcomes in Cardiac Arrest Treated with Hypothermia – retrospective chart review to determine Basic Science Collaborating with Dr. Joe LaManna's cerebrovascular basic science lab in developing an animal model to **Bioinformatics:** Engineering Case Critical Care Bioinformatics Consortium (www.case.edu/med/bioinformatics/) Multi-disciplinary Clinical Data Integration in a Critical Care Environment (DICE) Study- IRB approved study for evaluating critical care **Miscellaneous:** Neuro-ICU Database- prospective database being established for SAH patients Decompressive Craniectomy in Ischemic Stroke – retrospective chart review and prospective follow-up evaluations
Wei Xiong, MD; Assistant Professor	Coma, Cardiac Arrest, Hypothermia, Neurophysiology	Study of rats in vivo and recovery from coma after cardiac arrest by directly measuring neuronal activity. Interdisciplinary project involving neuroscience and biomedical engineering.

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Ciro Ramos Estebanez, MD, PhD; Assistant Professor	Neurocritical Care	Basic science lab: 1. Osmotics in CNS disease. 2. Metabolic MRI: rodent models on SAH, ICH, stroke, TBI, status epilepticus. Clinical research: 1. Osmotics in CNS disease. 2. Metabolic MRI. 3. Terson's syndrome and SAH. 4. LP in patients with mass effect: multinational study. 5. Occasional special cases (2 recent reports in Neurology journal).
Memory and Cognition		
Alan J. Lerner, MD; Associate Professor; Director, Memory and Cognition Center	Research areas: neurobehavioral disorders	Statistical analysis of behavior, case reports, and data mining of large databases
Brian Applyby, MD	: Prion diseases, frontotemporal dementia, young-onset dementia	clinical, epidemiological, and translational research through the National Prion Disease Pathology Surveillance Center, teleneurology assessment projects
Cynthia Griggins, PhD; Assistant Professor	Ethics	

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Movement Disorders and Deep Brain Stimulation		
Steven A. Gunzler, MD; Assistant Professor	Clinical research in Parkinson's disease or Huntington's disease.	
Benjamin L. Walter, MD; Assistant Professor; Director, Movement Disorders Center	Movement Disorders (especially Parkinson's disease, dystonia, essential tremor), fMRI	My lab focuses on application of functional MRI to investigate sensorimotor systems involved in the pathophysiology of Parkinson's disease, dystonia, and essential tremor as well as using fMRI to further understand mechanisms involved in the benefit delivered with DBS (Deep Brain Stimulation). I could also facilitate research involving case series or reports in movement disorders, related to DBS, data analysis from DBS programming or intraoperative physiology.
Neuro-Ophthalmology and Balance		

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Alessandro Serra, MD, PhD; Assistant Professor	Eye Movements, Multiple Sclerosis, Demyelinating Disorders, Neuroimmunology	Case reports/series on MS and related disorders, pathophysiology of eye movements, saccadic abnormalities. Particular interest in using INO to model motor fatigue in multple sclerosis and defining efficacy of dalfampridine in improving INO and INO-related ocular motor fatigue. The latter is a VA department sponsored young investigator grant for 3 years and involves eye movement recordings, assesment of eye movement quantitative measures, reading speed, gait, disability and quality of life in MS patients with INO, before and after taking dalfampridine (double blind crossover placebo-controlled trial).
John S. Stahl, MD, PhD; Professor	Eye Movements, cerebellar physiology	animal physiology, physiology of the neurological examination, engineered solutions to ocular motility disease
Mark F. Walker, MD; Associate Professor	Eye movements, vestibular system, balance and locomotion	
Neuro-Oncology		
Lisa R. Rogers, DO; Professor; Director, Medical Neuro-Oncology	Neuro-oncology	Retrospective and prospective clinical studies, preparation of case reports, imaging/pathology correlates for publication

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Jill Barnholtz-Sloan, PhD; Bioinformatics, Case Comprehensive Cancer Center; Institute for Computational Biology	Neuro-oncology	Prevalence of brain tumors by age Prevalence of nonmalignant brain tumors Years lost with adult brain tumors
MS		
Hesham Massoud, MD	MS	We are currently establishing UH database for autoimmune encephalitis and another database for NMO. Also working on an Explorys project for NMO. Future projects will include a microbiome project and a FES-based rehab project for MS.
Neuro-Rehabilitation		
Svetlana Pundik, MD; Assistant Professor	neuro-rehab	Human rehabilitation research that focuses on CNS neuroplasticity following brain injury and during rehabilitation. Understanding the mechanisms involved in motor-sensory recovery after stroke using non-invasive neuroimaging and neurophysiological techniques such as functional MRI, Diffusion tensor Imaging, transcranial magnetic stimulation, EMG, sensory evoked potentials and others.

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Stephen M. Selkirk MD, PhD; Assistant Professor	Multiple Sclerosis, Neuro Rehabilitation	Molecular models of MS, remyelinating therapies for MS. Early Bipap vs Late bipap for respiratory decline in ALS. Gait dysfunction in MS patients. FES for gait dysfunction in MS. Tysabri to improve gait dysfunction in MS. Currently starting a funded clinical trial to access gait improvement with Tysabri treatment in MS patients. FES studies are also funded clinical trials.
Center for Education and Research in Neurology		
Maureen W. McEnery, Ph.D., MAT Associate Professor	Identifying the strategies for presenting neurological and basic science content to residents and medical students. Development of new technologies in collaboration with IT professionals.	Student and faculty surveys, IRB approved research, learning assessments, development of new technology for medical education; curriculum development.
Neurologic Outcomes		

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Martha Sajatovic, MD; Director, Neurological Outcomes Center	Neurological outcomes, literature-based reports and other selected projects in neurology and neuropsychiatry.	Current projects include assessing the effect of psychoeducation and exercise on patients with Parkinson's disease, identifying barriers and facilitators to care for African-American men who had a stroke, evaluating treatment adherence in patients with schizophrenia or developing measures to help caretakers of people with dementia. NBOC is currently conducting studies in epilepsy and stroke. New studies are planned in Parkinson's Disease and in Alzheimer's Disease
Biostatistics		
Curtis Tatsuoka, PhD; Associate Professor; Director of Biostatistics	Curtis Tatsuoka, PhD; Associate Professor; Director of Biostatistics	biostatistics and neurological outcomes research data analysis of secondary data in Alzheimer's disease research, analysis of neuropsychological data in sports medicine, cognitive development and learning, clinical trial analysis, fMRI data analysis
Department of Neuroscience		
Richard Zigmond	basic science research on the role of inflammation in degeneration and regeneration of the peripheral nervous system	

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Department of Genetics and Genome Sciences		
Anthony Wynshaw-Boris, MD, PhD; Chair	Investigation of pathways important for the development and function of the CNS using mouse and iPSC models of human neurogenetic diseases	Mouse and iPSC models of: autism; microcephaly; childhood neurodegeneration; chromosome therapy
Paul Tesar, PhD	Mechanisms of oligodendrocyte development and therapeutics for white matter disorders, especially multiple sclerosis and leukodystrophies	Human and mouse pluripotent stem cell models of white matter disease; high through put drug screens for these disorders; factors important for neural stem cell maintenance and differentiation
Ashleigh Schaffer, PhD	Investigation of novel genes important for the development and function of the CNS using mouse and iPSC models of human neurogenetic diseases	Models of neurogenetic disease: due to proteins that regulate RNA transcription and translation; for intellctual disability
Department of Nutrition		
Danny Manor, PhD	Oxidative stress and cerebellar function	Bench research only. Utilization of a mouse model of spinocerebellar ataxia

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