Brain Mapping Center

SEMINAR SERIES

Sponsored by the UCLA Brain Mapping Center Faculty

The focus of these talks is on advancing the use of brain mapping methods in neuroscience with an emphasis on contemporary issues of neuroplasticity, neurodevelopment, and biomarker development in neuropsychiatric disease.

Hosted By: Shantanu Joshi, PhD, Neurology, UCLA

Insights into Basal Ganglia-Thalamocortical Physiology from Invasive Human Recordings

Nader Pouratian, MD, PhD, FAANS FACS

Associate Professor, UCLA Neurosurgery, Surgery for Movement Disorders and Pain, Brain Tumors: Micro & Radiosurgery, Peripheral Nerve Surgery

Neurosurgical procedures offer a unique opportunity to assess the functional connectivity of the human brain, particularly as it relates to behavior and disease. In a series of experiments in patients with epilepsy, essential tremor, and Parkinson's disease, we characterize dynamic coupling patterns both within and across nodes of the basal ganglia-thalamocortical circuits. Specifically, we report direct evidence of the modulation of cortical activity by thalamic oscillations via a mechanism of cross-site phase-amplitude coupling. Further, while movement causes global bilateral suppression across the motor circuit, we demonstrate that spectrally-specific phenomena across the motor circuit are a more specific measure (and biosignal) of lateralized hand movements. I will discuss the current understanding of neural oscillations in basal ganglia physiology and future directions in invasive neural recordings in humans, with applications for understanding both neurologic and psychiatric disease.

October 6, 2016 11:00 am - 12:00 pm

Neuroscience Research Building (NRB 132)
635 Charles E. Young Dr. South

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