In Person Seminar: Theta Oscillations, Memory, and Emotion: Insights from Mobile Intracranial EEG Recordings and Closed-Loop Stimulation in Humans

While prior human neuroimaging studies have predominantly relied on stationary behavioral tasks, recent technological advancements have allowed for the investigation of deep brain activity during memory phenomena in humans navigating freely within real or virtual environments. Through these methods, Dr. Suthana and her lab have demonstrated that theta oscillations in the hippocampus, entorhinal cortex, and amygdala are modulated by a range of factors, including movement speed and eye movements to emotional valence and memory success. This presentation will provide a comprehensive overview of these findings and discuss the potential clinical applications of using these methodologies in treating neuropsychiatric disorders including conditions like post-traumatic stress disorder.