

## **USC Human Neurophysiology Laboratory**

The USC Human Neurophysiology Laboratory is seeking a full-time postdoctoral fellow to work on projects involving human neurophysiology signals from epilepsy and movement disorder patients with implanted intracranial electrocorticography (ECoG), stereo-electroencephalography (SEEG), or deep-brain stimulation (DBS) electrodes. The studies include decoding temporospatial activity in epilepsy, identifying mechanisms of movement initiation and termination in the basal ganglia, and creating a closed-loop cognitive-based brain-computer interface devices (BCI) for patients with spinal cord injuries and movement disorders. In particular, we want to better understand how somatosensation is natively encoded, and conversely, how we can engineer artificial sensation through direct electrical stimulation of cortex for use in a closed-loop BCI. Opportunities exist for direct interaction with study patients. A strong computational / engineering background, experience in neural time series data analysis, and skill in MATLAB or Python is required. Our lab is located at the Zilkha Neurogenetic Institute at the Health Sciences Campus of the University of Southern California. Interested applicants should contact:

Brian Lee, MD Ph.D

[brianlee@usc.edu](mailto:brianlee@usc.edu)

Director of Stereotactic and Functional Neurosurgery

USC Neurorestoration Center

Department of Neurological Surgery

Keck School of Medicine