UNIVERSITY OF IOWA HOSPITALS & CLINICS
University of Iowa Health Care

Neuronal networks and connectivity studies in neurosurgery patients

The Department of Neurosurgery at the University of Iowa is seeking to appoint an outstanding post-doctoral scientist to advance understanding of human brain networks relying on cutting edge intracranial recording and structural and effective connectivity studies.

About the University of Iowa Hospitals and Clinics (UIHC): We work with neurosurgery patients at the renowned University of Iowa Department of Neurosurgery, to study **Neuronal networks and connectivity** directly from the human brain. **The goal of our neurosurgery patient research** is to directly assist medical science by providing timely insights on neuronal mechanisms, circuits and networks that support cognition and emotion.

We use cutting-edge approaches and analytics, including combined electrical stimulation and functional MRI, electrical tractography and single neuron studies of neural systems for cognition and emotion. To understand the causality of the neural system, we use electrical stimulation combined with neurophysiological and neuroimaging approaches to unravel fundamental neural mechanisms of how the brain works using cutting-edge analytical approaches.

The role: We are seeking to appoint an outstanding analytically strong post-doctoral researcher at a level commensurate with experience. The role will involve working closely with key neurosurgery clinicians on innovative data acquisition, analytics and technical and discovery paper publication. The role will also involve curating unique large data and building and deploying analytical tools.

Candidates for this position should have a strong academic track record, proven advanced analytical skills and relevant experience with neurophysiological/MRI signal processing, ideally with patients. The candidate should be highly capable to work with patients and research teams, often in the operating room, have an eye for detail and an ability to work well independently to achieve goals and as part of the team. Strong advanced analytical, statistical and signal processing skills are essential.

Supervisory team: Prof Hiroyuki Oya, Dr Sukhbinder Kumar, Dr Mario Zanaty & Matthew Howard III (University of Iowa).

We have a strong academic track record of scientific discoveries: Rocchi, Oya et al. & Petkov, Neuron 2021; Castellucchi et al., Nature 2022; Sawada et al., Nature Communications 2022.

Closing date: October 1st, 2023. Applications will be considered as they are submitted until the position is filled.

How to Apply: Please submit a covering letter, CV and the contact information of at least three individuals who can be contacted to provide professional references. The covering letter should state how your interests and experience relate to the position.

Send your application documents to hiroyuki-oya@uiowa.edu and include 'University of Iowa – Analytics Position' in the subject field.