



POSTDOCTORAL CANDIDATE INTERESTED IN APPLYING FOR A FELLOW IN NEUROSCIENCES

Study of neuronal populations' representation of hippocampal memories in normal and immune-ablated NMDA-R brains

Are you a postdoctoral researcher thinking about your next career move? [Institute of Neurosciences](#) of the [University of Barcelona](#) allows you to work in a first class research environment.

Group and project information

Applicants will be integrated into the research group "Pathogenesis Of Immune-Mediated Neuronal Disorders"; (P.I. [Josep Dalmau Obrador](#)). This is a unique opportunity for a highly qualified candidate interested in studies focused in visualizing circuits involved in memory and behavior using state of the art technology applied in health and disease conditions. The project is at the intersection of cognitive neuroscience, calcium imaging, big-data analysis, and the study of autoimmune synaptopathies such as NMDA-R encephalitis. It implies the use of neural population data from an animal model we recently established of antibody-mediated disruption of synaptic function (NMDA and other receptors) causing alteration of memory formation. The project focuses in the role of hippocampal representation of space (the GPS system of the brain), and the circuitry for association-learning to see in vivo (via portable miniaturized microscopes to register calcium-imaging) the function of these neurons in forming and retrieving memories in normal and pathological conditions. The changes in neuronal function within the network via changes in synaptic plasticity will be investigated from normal conditions and in a state of severe anterograde amnesia and back to normal. For analyze this unique and large data sets we will utilize techniques of machine learning and signal information theory. The project will be developed at IDIBAPS, University of Barcelona. Advisor: Josep Dalmau, MD, PhD and Mentor: Pablo Jercog PhD. The mission of IDIBAPS is to encourage translational research, innovation, and technological progress in the field of biomedicine.

Requirements for candidates

Skills/Qualifications: Depending on the Specific project qualifications that would be use to successfully achieve the goal of the projects are: programming in matlab/python, rodents' behavioral experimentation, rodents surgeries, pharmacology. Strong statistics background will be positively considered.

Languages: English (proficient level)

How to apply

Please submit your CV and a motivation letter to: Pablo Jercog (pejercog@idibaps.cat);
Reference: (Junior postdoc fellow position)

Deadline: 30 April 2021

