The Cortical Network laboratory, from the Institut d’Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS), headed by Dr. Sánchez-Vives (http://sanchez-vives.org), offers a research training period to develop a Master Thesis project.

Who are we?

IDIBAPS (www.idibaps.org) is a research center in the area of biomedicine. The group of Systems Neuroscience gathers prestigious researchers involved in the study of the cerebral cortex from an experimental and computational point of view.

Responsibilities

The selected candidate will join a multidisciplinary team involved into the study of the activity of the cerebral cortex.

We offer the possibility to participate in a project in the frame of data analysis. The candidate will get familiar with the techniques used to stimulate and record from the brain, including optopharmacology and the novel graphene solution-gated field-effect transistors.

The project will be focused on the characterization of the main properties of the brain activity recorded under different dynamical regimes obtained (i) through excitability modulation (chemical and/or electrical) and (ii) in normal vs pathologic conditions.

By the development of customized algorithms the candidate will investigate these cortical regimes through to the evaluation of the network complexity, functional connectivity and propagating waves.

Required skills and expertise:

- Bachelor degree in Biomedical engineering, Telecommunication engineering or related fields.
- Great motivation.
- Strong knowledge of Matlab and/or Python.
- Strong analytical capabilities.
- Knowledge of signal processing.
- Knowledge of data mining (statistics, information processing...).
- Advanced English level.
- Team working.
- Interest in Neuroscience.

The contact

Please send your expression of interest to vfernand@clinic.cat