

A PhD position on the development of functional networks in very premature neonates in EEG and MEG

A PhD position is available at GRAMFC (Inserm U1105) under the co-supervision of Fabrice Wallois (Inserm U1105, Amiens) and Olivier David (Inserm U1106 Institut de Neurosciences des Systèmes, Marseille) funded by Inserm.

The deadline for applications is May 31st, 2023. Applications will be evaluated as they come in, and the positions will be open until filled.

Description

The main objective of this project is to characterize the endogenous generators underlying the emergence of sensory capacities and to characterize their associated functional connectivity. This will be done retrospectively on our High Resolution EEG database in premature neonates from 24 weeks of gestational age, which is the largest database worldwide. We will also use the OPM pediatric MEG, which is being set up in Amiens. This study will allow us to characterize the establishment of sensory networks before the modulation of cortical activity by external sensory information.

The PhD candidate will be concentrated on developing advanced signal processing approaches using the already available datasets on HR EEG and MEG, for characterization of spontaneous neural oscillations and analysis of functional connectivity.

Skills

Required: MSc in neuroscience, biomedical engineering, computer science, or related fields, strong background and research expertise in EEG/MEG signal processing/modeling, advanced skills with scripting languages, such as Matlab or Python, statistical modeling, high English verbal and written communication skills.

Preferable: French fluency

All applications should include a CV, a cover letter specifying research interests and motivation, and contact details for two referees. Applications should be sent to Fabrice Wallois fabrice.wallois@u-picardie.fr