



POST-DOCTORAL POSITION AVAILABLE
Confidence, noradrenaline and adaptive learning

Supervisor and contact

Dr Florent MEYNIEL

Project description

In a changing world, learning must be adaptive, flexibly adjusting the balance between new data and prior estimates. How does the brain strike this balance? In this project, we explore the possibility that the shaping of brain-scale dynamic interactions by noradrenaline may implement a confidence-weighting of information that is key to adaptive learning. We use an integrated application of computational modeling (Bayesian learning models), behavioral data, functional magnetic resonance imaging (fMRI) targeting the locus coeruleus (a noradrenergic center) or magnetoencephalography (MEG), and pupillometry.

Profile

PhD in neuroscience, psychology or machine learning with good programming skills. You will be responsible for conducting experiments (behavior, fMRI or MEG), analyzing data, and disseminating the results at conferences and in journal articles.

Work place and environment

The lab is at NeuroSpin, Paris-Saclay campus, France, part of the CEA (Commissariat à l'Énergie Atomique). Dr Florent MEYNIEL is the head of the computational brain team (more info [here](#)) which itself is part the Laboratory of cognitive neuroimaging (more info [here](#)) directed by Prof. Stanislas DEHAENE. NeuroSpin is a top-notch brain imaging center, equipped with an MEG system (Elekta, Neuromag), and several MRI scanners for human (3T Prisma, 7T, and 11.7T), all research-only. The community at NeuroSpin is very stimulating, combining MRI physicists, machine learning experts (lab of Bertrand Thirion) and cognitive neuroscientists.

Duration and dates

Two years, fully funded. Preferred starting date: January 2020, but sooner or later is also possible.

Application process

Please send your CV via email to Florent Meyniel, a research statement (what you like and want to do) and the contact details for two reference letters.

Deadline for application: September 30th, 2019

Salary

According to the CEA standards. Commensurate to experience.