



Opportunity # GN000014

Postdoc in prefrontal neurophysiology and optogenetics

Position: Post-Doctoral

Deadline: 15 September 2022

City: Paris

Country: France

Institution: Paris Brain Institute

Description:

ICM is a research institute dedicated to studying the nervous system's organisation and function in both normal and abnormal settings. This institute, which is both revolutionary in its design and in its structure, brings together patients, clinicians, and researchers.

A three-year postdoctoral job is available in Alexandra Durr's team (Basic to translational neurogenetics). This clinical and research team focuses on hereditary spastic paraplegias, which are a collection of genetically-encoded neurodegenerative disorders marked by stiffness or rigidity in the lower limbs. This category of disorders is genetically diverse, with more than 60 genes linked to HSP so far. However, even within a single genetic unit, there may be significant phenotypic variation that remains unexplained (Darios et al, 2022). Because of mutations in the SPAST gene, the SPG4 form of HSP is the most common form of autosomal dominant HSP (Solowska & Baas, 2015). Despite a similar causative genetic variation, SPG4 is distinguished by substantial diversity in age at onset (Parodi et al, 2018; Solowska & Baas, 2015). Modifying factors, whether genetic or environmental, may explain some of the heterogeneity and serve as a target for future therapeutic intervention. The researchers have discovered a genetic modifier linked to the age of onset in SPG4 patients.

The project's goal is to look into the mechanisms of action of this modifier gene. We hope to design a novel therapeutic strategy for SPG4 patients based on the insights gathered from these mechanisms.

The initiative will investigate how SPG4 mutations or the modifier gene may alter neural function using generated pluripotent stem cells in conjunction with imaging approaches. Researchers at the host institute can use 20 platforms specialised to in vivo functional investigation in humans and animals, as well as cellular and molecular explorations.

Applicants must be experienced researchers with a doctorate in biological sciences and prior in vitro experience with induced pluripotent stem cells or neural models, as well as imaging skills. Knowledge of (human) genetics, biochemistry, or molecular biology will be advantageous. We are looking for a highly driven, energetic, and self-directed fellow with excellent organisational skills and a high level of independence.

Salary is determined by the rules of the host institute (qualification, experience, etc.). The candidate is expected to begin work as soon as feasible.

Applicants should submit Frédéric Darios (frederic.darios@icm-institute.org) a CV, motivation letter, and the names of three references (or support letters).

Contact Details

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