Post-doctoral position in the field of Stem Cell Biology
CERVO Brain Research Centre, 2601 chemin de la Canardière, Québec G1J 2G3

Prof. Marquet’s Laboratory, within the framework of Canada Excellence Research Chair Program (https://www.cerc.gc.ca), has launched a strong program aiming at modeling the neurodevelopment component of major psychiatric diseases including schizophrenia, bipolar disorders and major depression disorder, using patient-derived induced pluripotent stem cells (iPSCs). The main goal of this research is both to identify cellular biomarkers and to obtain a better understanding of the pathogenesis of these debilitating diseases for which there are only palliative treatments. Prof. Marquet’s Laboratory is located at the CERVO Brain Research Centre, one of Canada’s leading neuroscience and mental health centers, focusing on the root causes of brain diseases. The center brings together some sixty researchers in charge of research teams with more than 400 people, offering multidisciplinary expertise, ranging from membrane biophysics to social intervention, and the psychology of cognition (https://cervo.ulaval.ca)

Details on available position

Highly motivated candidates are invited to lead several new projects to address fundamental questions on neuronal differentiation, migration and maturation, in particular with regard to inhibitory neurons, related to the neurodevelopmental component of major psychiatric diseases including schizophrenia, bipolar disorders and major depression disorder. Experimental approaches, including biochemistry, genetics, cell biology, live cell imaging and electrophysiology are employed on iPSC-derived neurons coming from unique high-risk cohorts composed of both patients suffering from major psychoses and their high-risk offspring.

Thus, the project is part of a highly competitive research endeavor, and offers excellent perspectives for scientific career development.

We offer a great team spirit within a interdisciplinary environment, state-of-the-art equipment and work technology (new cutting-edge multimodal live cell imaging, a large library of recombinant AAV vectors expressing fluorescent sensors, availability of core units for proteomics and transcriptomics, etc.).

Under the supervision of the principal researcher, the candidate will have to perform the following tasks, among others, with the help of laboratory technicians:

- Developing and optimizing protocols for the neural differentiation of human iPSCs.
- Design and perform experiments on human iPSC-derived neuronal cells with different techniques including ICC, FACS, qPCR, wester blot, single cell analysis, as well as multimodal super-resolution live cell imaging developed in the Laboratory
- Write and review of scientific articles
- To maintain knowledge of current developments in the field of research notably by attending international congresses and workshops

Required qualifications: Ph.D. in neurobiology, developmental neuroscience, stem cell biology or related fields. Additionally, the successful candidate will have proven solid experiences with iPSC-derived cell culture, ideally has already differentiated such cell lines into neurons, and is also experienced with, immunocytochemistry and molecular biology. Knowledge in the field of live cell imaging and/or electrophysiology is an asset.

Start date: To be discussed

Interested candidates may send their cover letter, resume and transcript to: lrnp-pnrl@cervo.ulaval.ca