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Postdoctoral Researcher (Developmental Neurobiology)

A Postdoctoral Researcher position is available immediately in the La Manno lab at the École Polytechnique fédérale de Lausanne (EPFL) in Switzerland. We are looking for an ambitious candidate with a Ph.D. in the developmental biology of the nervous system or pathologies thereof, interested in applying cutting-edge methods in spatial transcriptomics and single-cell biology to understand prenatal brain development.

The research project offered will be focused on the spatio-temporal organization of neural progenitor cells across the developing nervous systems in health and disease. The project, funded by SNF, is low-risk and high-impact.

The successful candidate will analyze the spatial distribution and abundance of different newly discovered radial glial subpopulations in both normal and perturbed murine brain. Cutting-edge spatial transcriptomics technologies will be applied to obtain a comprehensive description of the spatiotemporal patterning of the ventricular zones across different brain regions.

The study involves a cell-type centric comparison between normal development and clinically relevant perturbations associated with congenital malformations and mental disabilities. The high-throughput measurements will identify key system-level parameters affected and if they are conditional to particular cell types.

The overarching goal is understanding the functional implications of the distribution and abundance of radial glial subtypes and the modalities teratogens and metabolic alterations can disrupt it.

Candidate Qualifications

An advanced degree of experience with mouse work and, in particular, with in-utero manipulations is required. Furthermore, some degree of experience with histology preparation and imaging of the developing brain is expected. In particular, having used single-molecule fluorescent in situ hybridization will be considered a significant plus.

A keen interest in image analysis or programming is a plus; however, no significant previous experience is required. The candidate will have the possibility to learn the bioinformatics skills required for a fulfilling analysis of the generated data.

Ideally, there will be a track record of peer-reviewed publications. Good written and oral skills and the ability to work collaboratively in a team are expected.

About us

The Laboratory of Neurodevelopmental Systems Biology is part of the Brain Mind Institute at the Swiss Federal Institute of Technology Lausanne (EPFL). EPFL is one of the top-ranking universities in the world, and its research environment is characterized by its multi-disciplinarity, bridging neuroscience, computation, and engineering.

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The long-term goal of the La Manno lab is the description and modeling of the different cellular states appearing during neurodevelopment, their diversification and fate commitment. Using single-cell genomics and spatial transcriptomics tools, we aim to answer key questions in developmental biology, neuroscience, and pathology.

We have been analyzing single-cell genomics data since its early times (Islam et al., Nature Methods 2013). We have developed RNA velocity, a new analysis framework that allows the inference of lineage relationships from scRNA-seq data (La Manno et al., Nature 2018).

We contributed discovered new radial-glial populations in the human midbrain (La Manno et al., Cell 2016), and more recently released a single-cell atlas of the entire prenatal nervous system development (La Manno et al., Biorxiv 2020)

What we offer

We offer a well-funded, low-risk high-gain project to be performed in a friendly and constructive work environment. We will provide you with the freedom to be a creative, independent scientist. We strive to ensure a good work/life balance and flexible working hours.

The successful candidate will have the opportunity to interact and participate in the scientific activities of the EPFL School of Life Sciences. The laboratory is located in Lausanne with state-of-the-art facilities and a vibrant interdisciplinary research community.

EPFL offers an English-speaking work environment and competitive salaries and benefits. The position is fully funded for four years (renewed yearly). Remuneration is determined in accordance with the EPFL "Scientific collaborator" directive (a minimum salary of 82,000 Swiss francs, and adapted depending on years of experience).

EPFL is an equal opportunity employer and a family-friendly university. We strive to increase diversity and strongly encourage minorities to apply.

Application

Please send your request as a single PDF file – including a CV, a complete list of publications, a statement of research interests, and the contact information of at least two reference persons – to nsbl.openings@epfl.ch

We are looking forward to receiving your application.