



Post-doctoral researcher position in computational biology

The Integrative Genomics in Neurodevelopment group is seeking a highly motivated post-doctoral researcher. The group is part of the NeuroDiderot INSERM research unit, located in the Robert Debré Hospital. The "Integrative Genomics in Neurodevelopment group" carry out advanced systems biology approaches, at the intersection of data science, genomics, and drug discovery, to identify molecular drivers and new therapeutical options for neuropsychiatric disorders.

The successful candidate will be involved in the FAME project (Improving Family Members' Experience in the Intensive Care Units) and in related research projects which aim at characterizing the molecular landscape (genomic, transcriptomic and epigenomic) of the development of neuropsychiatric disorders. Post-traumatic disorder (PTSD) affects one third of family members of Intensive Care Unit patients. In the FAME project, blood samples and follow-up data are collected for 350 family members in order to develop personalized predictive models of the occurrence of PTSD. The post-doctoral researcher will be in charge of the development, and the application of innovative computational pipelines to leverage the new blood-derived multi-omic and phenotypic data.

The appointment is for 24 months. Starting date is flexible, ideally by December 2023.

Tasks:

- development of adapted methods to integrate blood multiomics data and neuropsychiatric features
- benchmark of existing methods using previously published or open-source expression and neuropsychiatric datasets
- adaptation of a multi-step strategy for prioritization of molecular signatures associated to post-traumatic stress syndrome, childhood traumatism and mood disorders
- inference of regulatory networks and knowledge networks from prioritized molecular signatures
- identification of key regulators of the regulatory networks associated to post-traumatic stress syndrome, childhood traumatism and mood disorders
- prioritization of drug targets and drug repurposing
- data management of datasets used for the RHU FAME project and associated projects

Experience / Skills:

- Training in bioinformatics, statistics, or data science with knowledge and interest in biology and neurosciences
- Experience working in a Unix environment and statistical analysis using R and Python
- Experience with (epi)genomic/transcriptome data analysis would be a significant asset

Interested?

For applying, please send a CV, a letter of interest (either in English or French), and the names and addresses of two or three references to Prof Andrée Delahaye-Duriez (email: andree.delahaye@inserm.fr)

<https://neurodiderot.u-paris.fr/en/research-teams/neurodev/integrative-genomics/>

NeuroDiderot, Inserm UMR1141
Robert Debré hospital
48 boulevard Sérurier
75019 Paris