Multiple positions for bioinformaticians and computer scientists in the field of high-dimensional immunological data analysis.

Job description:

The i3 laboratory (www.i3-immuno.fr) is seeking to recruit multiple research engineers and post-doctoral fellows with strong interest in using computational methods for the analysis of high-throughput immunological data collected in the context of autoimmune diseases and clinical trials.

i3 secured 3 major grants in the field of systems immunology of autoimmune diseases (AIDs):

- TRiPoD is an ERC grant aimed at studying the TCR repertoire of regulatory T cells in health and diseases;
- Transimmunom is a Laboratory of Excellence aimed at deep phenotyping of 1000 patients with various AIDs (www.transimmunom.fr);
- iMAP is a Recherche Hospitalo-Universitaire grant aimed at developing low dose IL2 as a therapy of autoimmune diseases, and likewise study the biology of IL2 in humans.

These three programs are producing a unique and massive harmonized collection of clinical and biological data in several AIDs, including deep immunophenotyping (by flow cytometry), transcriptome (by RNA-seq) on whole blood and sorted T-cell subsets, T-Cell Receptor repertoire on sorted T-cell subsets (by AIRR-seq), and microbiome studies (by metagenomics) with the aim of identifying biomarkers, which will ultimately sustain the rational development of innovative biotherapies.

We are seeking both **bioinformaticians or computer scientists** for improving and developing analysis pipelines, databases, tools, and interfaces needed for proper analysis and integration of such complex data, **and immunologists with interest in high-dimensional data analysis**, for implementing available tools to decipher the biological complexity of AIDs. Selected candidates will work in strong collaboration with immunologists, clinicians, bioinformaticians, mathematicians and statisticians.

Priority will be given to candidates interested in either integration of heterogeneous data to understand diseases at different complexity levels or in T-cell Receptor repertoire analysis.

The i3 laboratory is offering a unique interdisciplinary environment located in the center of Paris at the Pitié-Salpêtrière hospital campus in Paris (13ème), with strong connection with on-site research labs and facilities as well as with Sorbonne Université Medical School and Science and Engineering school faculties.

Candidate profile:

For bioinformatician/computer science positions: a MSc or PhD is required in bioinformatics, biostatistics, statistics, mathematics or computer science. Significant experience with R tools and other coding languages (Python, C++), as well as high throughput data analysis, management and integration are required.

For Immunologists positions, a MSc or PhD is required in biology, immunology. Significant knowledge in immunology is required as well as experience in high-dimensional data analysis using R tools or other coding languages (Python, C++).

Contact:

Please send CV and motivation letter at Nicolas Tchitchek (nicolas.tchitchek@sorbonne-universite.fr), Encarnita Mariotti-Ferrandiz (encarnita.mariotti@sorbonne-universite) and Caroline Aheng (caroline.aheng@sorbonne-universite.fr).