Post-doctoral Researcher in Systems Biology and Medicine at CNRS-EISBM, Lyon, France, in relation to the IMI-eTRIKS Consortium

Module-based development of disease-specific network reconstructions for data interpretation, disease stratification and biomarker discovery

Employer: CNRS
Website: http://www.eisbm.org
Location: CNRS-EISBM, Lyon, France
Expires: 15th February 2016
Qualifications: PhD
Salary: Depending on qualifications and experience, based on CNRS salary grid
Duration: 18 months
Starting date: March/April 2016

Keywords: computational systems biology, systems medicine, network reconstruction, pathways, SBGN, module-based approach

A post-doctoral researcher position in Systems Biology is available as part of the European Translational Research Information and Knowledge Management Services project (eTRIKS, https://www.etriks.org/; http://www.imi.europa.eu/content/etriks), funded by the Innovative Medicines Initiative (IMI, http://www.imi.europa.eu/) of the European Commission 7th Framework Programme and the European Federation of Pharmaceutical Industries and Associations (EFPIA).

EU project: The eTRIKS Consortium is dedicated to delivering knowledge management services initially for all IMI projects and then for other translational research projects. These projects encompass translational bioinformatics, clinical research informatics, health/clinical informatics and the development of new analytical tools. They use tranSMART as part of the software knowledge management platform: http://www.transmartproject.org. eTRIKS is a collaboration between multiple partners from academia and industry, merging their resources and expertise in data hosting, curation, analysis and compliance with the international standards. Within the eTRIKS project, the CNRS-EISBM team works on developing tools for advanced data analysis and interpretation.

Job context: High-throughput experimental methods are generating large amounts of data associated with patient populations. These data have the potential to further a mechanistic understanding of disease and to impact on strategies for personalised medicine. However, a bottleneck is data interpretation. Systematic data interpretation in a disease-specific context can be facilitated by viewing all relevant molecular mechanisms as a single high-quality reconstruction and using it for network/pathway-based data analysis for hypothesis generation. This quickly evolving systems approach complements the state-of-the-art pathway analysis tools such as Ingenuity Pathway Analysis and MetaCore Pathway Analysis.

Job description: The successful applicant will work on improving approaches for disease-specific network reconstructions and their application for experimental data analysis and interpretation, disease stratification for personalised medicine, biomarker discovery and drug targets identification. The goal of this project is to produce a set of reusable sub-pathway modules. These modules will be used as building blocks for efficient semi-automatic generation of extensive reconstructions for particular diseases. Published comprehensive maps and well-curated trusted pathway databases will be used to develop those modules. Particular initial focus is on immune pathways and inflammation.

The selected candidate will be based in Lyon-Gerland within the CNRS-EISBM team led by Dr. Charles Auffray, hosted by Claude Bernard University on the Charles Mérieux campus (http://www.eisbm.org).

Required experience / Skills: Candidates should have a PhD in computational biology, systems biology, bioinformatics or equivalent. Experience in pathway reconstruction and familiarity with Systems Biology standards (SBGN, BioPAX, SBML) is desirable. Experience in programming (Java, Python) would also be an advantage. The position requires good communication skills in English and involves working in collaboration with eTRIKS partners on translational medicine projects across Europe.

Application: Please send your CV, motivation letter and names of two references to Dr. Charles Auffray: jobs@eisbm.org. Please also mention in your application the reference 'EISBM-12-15-AM'.