Postdoctoral Position in the LIFE and BioAssay Ontology (BAO) Projects at the University of Miami Center for Computational Science

Principe Investigator: Stephan Schürer, PhD

Link to position: http://ccs.miami.edu/?page_id=589
Apply at http://um.hodesiq.com/job_start.asp?user_id= (keyword 043488) or at sschurer@med.miami.edu

Research project links: http://bioassayontology.org/; http://lifekb.org/; http://ccs.miami.edu/?cat=27

General Summary
The primary responsibility of the Bioinformatician and Biocurator is the development and implementation of data standards including minimum information, controlled terminologies, ontologies, data formats and tools.

Description of the Project
Several large-scale high-throughput screening programs have made accessible to public sector research an unprecedented quantity and diversity of datasets describing the effects of bioactive small molecule and genetic perturbagens in various biological model systems. Such efforts include the NIH Molecular Libraries Program (MLP) and the Library if Integrated Network-based Cellular Signatures (LINCS). Seamless integration of these datasets and other resources is required to maximize their translational potential for example by gaining novel insights into the molecular mechanisms that underlie disease and how . We are developing a novel information system leveraging and extending recent Semantic-Web technologies to integrate various types of information and facilitating the analysis of diverse datasets. This project is highly relevant in the context to developing effective chemical probes or new drug candidates and it is therefore suitable for individuals interested in academic research as well as preparation for the pharmaceutical industry. The Center for Computational Science (CCS) is a diverse team of experts in various disciplines including bioinformatics, cheminformatics, computer science, biomedical statistics, software engineering, and high performance computing. We are looking for talented and motivated individuals expertise in bioinformatics and biocuration as described below.

Job Duties
- Development and implementation of data standards and tools (including minimum information specifications, controlled terminologies, ontologies, data formats)
- Contribute to integration and analysis of diverse datasets
- Curation and annotation of biological assays and result sets
- Development of end user requirements and documentation
- Contribute to knowledge modeling / ontology engineering
- Contribute to the development of software tools

Communication
This individual will regularly interact with other CCS personnel as well as other UM faculty and research staff. The position requires the individual to have strong and effective inter-personal and communication skills and the ability to interact professionally with a diverse group.

Supervision of Others
None

Requirements
PhD in bioinformatics, biochemistry, cell biology, chemical biology, pharmacology, or a related field. Any appropriate combination of education, certifications, and/or relevant work experience will be considered. Candidates with knowledge or practical experience in the following areas will be preferred:

- Biological assay technologies for genome-wide transcriptional profiling, biochemical profiling, cell-based toxicity and phenotypic characterization of bioactive small molecule and genetic perturbagens including knowledge of data types and formats
- Bioinformatics and cheminformatics database resources such as PubChem other chemical biology databases (ChEMBL, PDSP, Binding DB), pathway databases (such as KEGG, PID), etc
- Principle approaches and bioinformatics tools and resources to analyze data of the above types
- Minimum information standards, controlled terminologies and biological ontologies (such as GO) and their applications
- Knowledge modeling, description logic, OWL, ontology engineering principles
- Protégé 4 knowledge modeling software

The position requires the ability to work in a multi-disciplinary team in close collaboration with software engineering, computer science, ontology engineering, content development, cheminformatics in a highly collaborative and interdisciplinary work environment.