

Post Master's Research Associates in the Pipeline Processing Solutions for Computational Proteomics

**Computer Science and Mathematics Division
Computer and Computational Sciences Directorate
Oak Ridge National Laboratory
Oak Ridge, Tennessee**

ORNL08-104-CSMD

Project Description:

This position will be developing complex workflow processing solutions needed for computational proteomics work as related to DOE Biopilot project. Specifically, the following two tasks are planned for the current funding period:

- 1) Extend methodology of protein complex prediction through PDB projection technology for homodimer templates (dominating type of templated in PDB). Improve mathematical methods for prediction validation. Construct predictions for several organisms, address computational bottlenecks of the process, translate corresponding pipeline solutions for machines of 1000 processors. Develop and perform several types of validation and verification studies, including comparison with two-hybrid experiments.
- 2) Develop evaluation techniques and corresponding scripting/database solutions for integrating PPM technology in pull-down experiments. Demonstrate significant improvements in the confidence of the identified peptide. Develop pipeline solutions for proteome characterization experiments using the developed mathematical theory of such processes.

Qualifications:

Candidates must have a master's degree a related discipline. Applicants cannot have received the most recent degree more than five years prior to the date of application appointment and must complete all degree requirements before starting their appointment.

How to Apply:

Qualified applicants may apply online at https://www2.ornl.gov/ORNL_POST/. All applicants will need to register before they can begin the online application. For complete instructions, on how to apply, please see the instructions at <http://www.ornl.gov/orise/edu/ornl/ornl-pdpm/application.htm>. When applying for this position, please reference the position title and number.

This appointment is offered through the ORNL Postdoctoral Research Associates Program and is administered by Oak Ridge Associated Universities (ORAU). This appointment is open to all qualified U.S. and non-U.S. citizens without regard to race, color, age, religion, sex, national origin, physical or mental disability, or status as a Vietnam-era veteran or disabled veteran.