

Opportunity Title: ORNL Computational Biology Post Bachelor's Research

Associate

Opportunity Reference Code: ORNL16-32-EESD

Organization Oak Ridge National Laboratory (ORNL)

Reference Code ORNL16-32-EESD

Description A BSc in computational biology, mathematics, statistics, computer science, chemistry, physics, engineering or biology.

Under general supervision, the incumbent will conduct research within the Plant-Microbial Interfaces (PMI) and/or Bioenergy Science Center (BESC) programs at ORNL. Specific research tasks include the analysis of omics data, computer programming, statistics, mathematics, network analysis and high performance computing. Focused, self-directed research is also expected. This position resides in the Biosciences Division (BSD) at the Oak Ridge National Laboratory (ORNL).

The BESC program is a multi-institutional (18 partners), Department of Energy-funded research organization performing basic and applied science dedicated to improving yields of biofuels by focusing on the fundamental understanding and elimination of biomass recalcitrance. This multidisciplinary research encompasses the biological, chemical, physical, and computational sciences, as well as mathematics and engineering. This position will focus on the analysis of omics data from plant and/or microbes.

The PMI program at ORNL is focused on the understanding the dynamic interface that exists between plants, microbes and their environment. A specific focus is on defining the genetic bases of molecular communication between *Populus* and its microbial consortia. Understanding the inherent chemical and physical processes involved will facilitate natural routes to the cycling and sequestration of carbon in terrestrial environments, ecosystem response to climate change, and the development and management of renewable energy sources.

ORNL is home to one of the worlds largest supercomputers. Our group uses petascale computing to analyze and model complex biological systems and will be actively involved in the development of exascale applications for biology. This position will provide an excellent opportunity to be on the cutting edge of computational biology and supercomputing.

Qualifications Extensive experience in computer programing. Experience with high performance computing is a plus.

An excellent record of productive and creative research demonstrated by publications in peer-reviewed journals

Expertise, as measured through first-author publications and/or major conference presentations, preferably focused on computational biology.

Excellent written and oral communication skills and the ability to communicate in English to an international scientific audience.

Must be interested in working on large-scale, challenging systems biology projects.



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Applicants cannot have received the most recent degree more than three years prior to the date of application and must complete all degree requirements before starting their appointment.

This appointment is offered through the ORNL Postgraduate Research Associates Program and is administered by ORAU through the Oak Ridge Institute for Science and Education (ORISE).

- Eligibility Requirements**
- **Degree:** Bachelor's Degree received within the last 36 month(s).
 - **Discipline(s):**
 - **Chemistry and Materials Sciences** ([12](#) )
 - **Computer, Information, and Data Sciences** ([16](#) )
 - **Engineering** ([27](#) )
 - **Environmental and Marine Sciences** ([13](#) )
 - **Life Health and Medical Sciences** ([45](#) )
 - **Mathematics and Statistics** ([10](#) )
 - **Physics** ([16](#) )

Affirmation I certify that I have completed coursework towards a degree in science, technology, engineering, mathematics, or a related field.

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