

Opportunity Title: Understanding the Biogeochemistry of Radionuclide and Metal-reducing Bacteria

Opportunity Reference Code: DOE-MSIPP-16-34-PNNL



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Organization U.S. Department of Energy (DOE)

Reference Code DOE-MSIPP-16-34-PNNL

How to Apply A complete application must include the following to be considered:

- Completion of all required fields in the application
- Undergraduate transcripts
- One Recommendation (minimum)

If you have questions, send an email to Elizabeth Nelson at Elizabeth.Nelson@ornl.org . Please include the reference code for this opportunity in your email.

Application Deadline 3/16/2016 11:59:00 PM Eastern Time Zone

Description The Minority Serving Institutions Partnership Program (MSIPP) Internships is a new program to promote the education and development of the next generation workforce in critical science, engineering, technology, and math (STEM) related disciplines that complement current and future missions of DOE national laboratories. The MSIPP Internship program is designed to provide an enhanced training environment for next generation scientists and engineers by exposing them to research challenges unique to our industry.

MSIPP Interns will be given the opportunity to complete Summer Internships aligned with ongoing U.S. Department of Energy Office of Environmental Management (DOE-EM) research under the direction of a host national laboratory. The internship will be performed at the host national laboratory, utilizing their facilities and equipment under the guidance of a research staff member.

Minority Serving Institutions are institutions of higher education enrolling populations with significant percentages of undergraduate minority students.

A number of radionuclide and metal reducing bacteria have been isolated from Hanford sediments over the past couple of years. Genomes of these isolates will be sequenced, which leads into the objective of this project which is to assemble sequence fragments into contigs and then annotate genes found. Genome assembly tools such as the Linux based A5-miseq assembly pipeline, MetAMOS and BASys for annotation and assembly will be used. Genome information used will then be used to construct a metabolic model for ES6 based on growth and contaminant conversion data from experiments used to look at metal and radionuclide conversion by this organism.

Qualifications The successful candidate will be studying microbiology,

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geochemistry, environmental engineering, or a related scientific discipline. Previous laboratory experience in a microbiology laboratory is strongly preferred.

Eligibility Requirements:

1. Be currently enrolled as a full-time undergraduate or graduate student at an accredited Minority Serving Institution *see criteria for Minority Serving Institutions here <http://srnl.doe.gov/msipp/internships.htm>
2. Be working towards a science, technology, engineering, or mathematics (STEM) degree
3. Have an undergraduate cumulative minimum Grade Point Average (GPA) of 3.0 on a 4.0 scale
4. Be a United States citizen
5. Pass a drug test upon selection to participate in the MSIPP
*The process and timing for drug testing varies from lab to lab. Use of Marijuana/Cannabis or its derivatives if prescribed is legal in some states. However, having these drugs in your system is NOT legal at United States Federal Contractor sites and National Laboratories.
6. Reference must be received by March 6, 2016 at 11:59 PM ET

For more information about The Minority Serving Institutions Partnership Program (MSIPP) Internships, please visit <http://srnl.doe.gov/msipp/internships.htm>

To see all MSIPP position postings visit:
www.orise.orau.gov/MSIPP

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Bachelor's Degree or Master's Degree.
- **Overall GPA:** 3.00
- **Discipline(s):**
 - **Chemistry and Materials Sciences** (12 )
 - **Computer, Information, and Data Sciences** (16 )
 - **Earth and Geosciences** (21 )
 - **Engineering** (27 )
 - **Environmental and Marine Sciences** (14 )
 - **Life Health and Medical Sciences** (45 )
 - **Mathematics and Statistics** (10 )
 - **Physics** (16 )
 - **Science & Engineering-related** (1 )

Affirmation

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