

Opportunity Title: Compositional Study of the Relative Durability of Various Waste Forms

Opportunity Reference Code: DOE-MSIPP-17-4-PNNL

Organization U.S. Department of Energy (DOE)

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

- Completion of all required fields in the application and successful application submission
- Undergraduate or graduate transcripts as appropriate
- Two recommendations

If you have questions, send an email to Kerri Fomby at kerri.fomby@orau.org. Please include the reference code for this opportunity in your email.

For technical questions, please contact Sabrina Hoyle at sabrina.hoyle@pnnl.gov.

Application Deadline 3/27/2017 12:00:00 AM 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.

Project: Various materials can potentially be used to confine radioactive waste, including glass and cement waste forms. After being fabricated, these waste forms must be stable in a repository environment to ensure that the release of radionuclides and other contaminants are below regulatory requirements.

In this study, the student will aid in the design of a simulant nuclear waste form and design a set of experiments to understand the role of different components on the relative durability of the waste form in an aqueous environment. The student will be exposed to various analytical techniques in the project. These analytical techniques will include both analysis of solutions and solids.



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Location: This internship will be located at Pacific Northwest National Lab.

Salary: Selected candidate will be compensated by either a stipend or salary, and may include one round trip domestic travel to and from the host laboratory. Stipends and salaries will be commensurate with cost of living at the location of the host laboratory. Housing information will be provided to interns prior to arrival at the host laboratory, and will vary from lab to lab.

Application Deadline: March 27, 2017

Expected Start Date: June 5, 2017

Qualifications Eligible applicants must:

- Be a citizen of the United States,
- Be at least 18 years of age,
- Currently enrolled as a full-time undergraduate or graduate student at an accredited Minority Serving Institution,
<http://orise.orau.gov/sepreview/msipp/Approved%20MSI%20School%20List%202017.pdf>,
- Working toward a science, technology, engineering, or mathematics (STEM) degree,
- Have an undergraduate or graduate cumulative minimum Grade Point Average (GPA) of 3.0 on a 4.0 scale, and
- 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.

Required Knowledge, Skills, Work Experience, and Education

Successful candidates will:

- Be a current undergraduate or graduate student in Materials Engineering, Chemistry, Earth Sciences, Environmental Sciences, or Geological Sciences.
- The candidate should have, at a minimum, taken a class in General Chemistry, Geology, or Geochemistry, and the candidate should have taken a course where work in the laboratory was performed.
- A preference will be given to candidates who have or will be taking an Analytical Chemistry, Physical Chemistry, or Materials Science course. The candidate should be familiar with Microsoft Office.

Desired Knowledge, Skills, Work Experience, and Education

It is desirable for the candidate to have:

- Coursework in Chemistry, Geology, or Geochemistry.

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- Eligibility**
- **Citizenship:** U.S. Citizen Only
- Requirements**
- **Degree:** Currently pursuing a Bachelor's Degree or Master's Degree.
 - **Overall GPA:** 3.00
 - **Discipline(s):**
 - **Chemistry and Materials Sciences** ([12](#) 👁)
 - **Earth and Geosciences** ([21](#) 👁)
 - **Environmental and Marine Sciences** ([14](#) 👁)

Affirmation I certify that I am at least 18 years of age and a US citizen, and am currently enrolled as a student in a degree seeking undergraduate or graduate program in a STEM field at an accredited Minority Serving Institution (MSI).