

Opportunity Title: Porous-medium Flow and Solute Transport Simulations of Radioactive Waste Disposal Scenarios

Opportunity Reference Code: DOE-MSIPP16-31-SRNL

Organization U.S. Department of Energy (DOE)

Reference Code DOE-MSIPP16-31-SRNL

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

1. Completion of all required fields in the application
2. Undergraduate transcripts
3. One Recommendation (minimum)

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

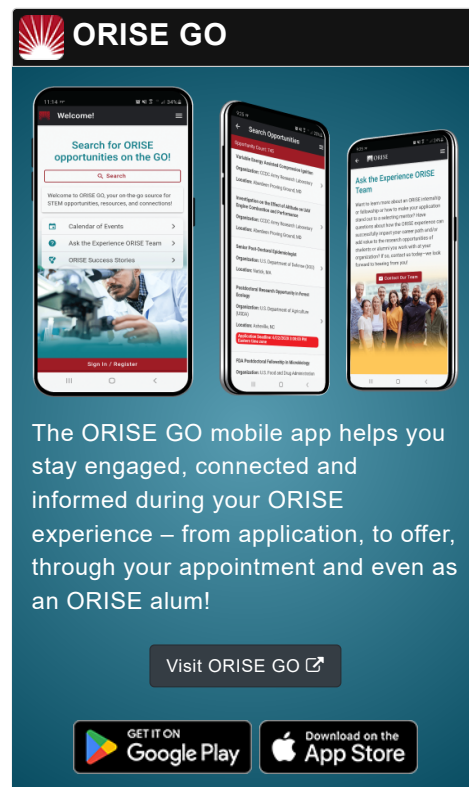
Application Deadline 3/16/2016 11:59:00 PM Eastern Time Zone

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.

This research project will focus on numerical simulations of porous-medium flow and solute transport phenomena in support of US Department of Energy Performance Assessments of waste disposal. The intern will typically modify existing and/or develop new finite-volume models of groundwater flow, vadose zone flow, and/or transport of radionuclides and chemicals through waste forms, engineered barriers, and/or natural systems. Model simulations may be performed to provide best-estimate forecasts of waste disposal performance, determine model sensitivity to input parameters, and/or quantify uncertainty in model predictions. Insights and results gained from modeling will be documented in one or more technical reports.

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Qualifications The successful candidate will be an undergraduate senior or graduate student studying earth science, engineering, or a related scientific field. Preferred candidates will have a basic knowledge of numerical simulation methods (e.g. finite-difference, finite-element, finite-volume), experience with Linux, proficiency with a high-level programming language (e.g Python), and some familiarity with porous-medium flow and transport phenomena gained from earth science or engineering coursework.

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

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towards a degree in science, technology, engineering,
mathematics, or a related field.