

Opportunity Title: Advanced Process Modeling and Simulation

Opportunity Reference Code: DOE-MSIPP-18-4-SRNL

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 Vivian Cato at vivian.cato@srnl.doe.gov.

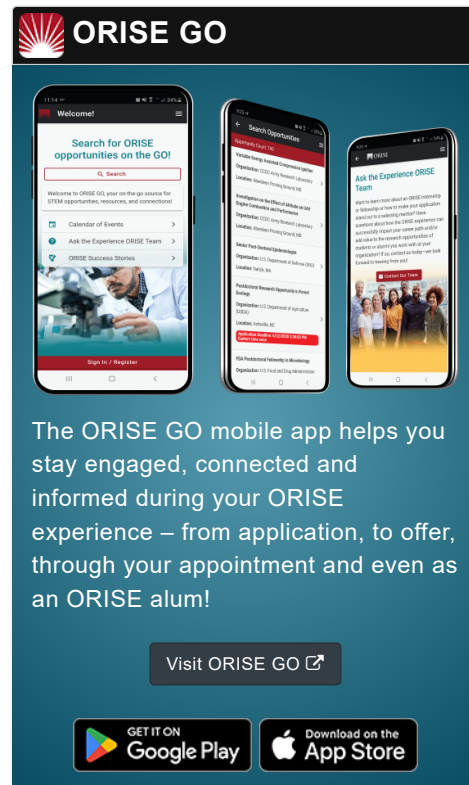
Application Deadline 1/12/2018 11:59:00 PM Eastern Time Zone

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.

Project: The Environmental Stewardship Directorate has been at the forefront of work at DOE's Savannah River Site (SRS); playing an essential role in the success of Environmental Management (EM) operations at SRS, and an increasingly important role in the success of EM's broader national program. We are focused on developing and deploying real solutions that address our client's most critical problems. Our innovative approaches for improving and validating critical processes and our execution of tests and analyses touch a broad range of EM activities from large projects such as the Hanford Waste

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Treatment & Immobilization Plant, to critical support for small site remediation, to waste mixing and treatment options, to the development and deployment of new technologies through DOE-funded programs. The Environmental Stewardship Directorate's impact on the DOE-EM mission is measured in billions of dollars of lifecycle cost saved and multiple years removed from clean-up schedules. (http://srnl.doe.gov/about/enviro_restoration.htm)

For this internship, the selected candidate will:

- Create steady state and dynamic models of complex, real chemical processes
- Creatively use numerical simulation tools to solve problems
- Collaborate closely with senior level engineers
- Develop custom chemical process models
- Develop critical thinking skills

The intern will typically modify existing and/or develop new models that will be integrated into complex numeric simulation systems.

An intern at SRNL will be exposed to engineers and scientists working in many disciplines. Interns will have the opportunity to network with other interns and learn about the many opportunities at the SRS in addition to that of SRNL.

Location: This internship will be located at Savannah River 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: January 12, 2018

Expected Start Date: The program is 10 weeks in duration, starting May 21, 2018. Start date is flexible based on laboratory and candidate availability.

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.ornl.gov/msipp/documents/approved->

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[msi-school-list.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 pursuing a degree in chemical engineering, or related field.

Desired Knowledge, Skills, Work Experience, and Education

It is desirable for the candidate to have:

- Interest in computational simulation, a strong background in fundamentals of chemical engineering (fluid flow, transport, mass transfer, thermodynamics, numerical simulation, etc.), familiarity with process simulation software such as Aspen, gProms, Hysys, etc., advanced mathematics skills, experience with Linux operating system and script coding or computer science courses, and strong communication and writing skills.

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Currently pursuing a Bachelor's Degree or Master's Degree.
- **Overall GPA:** 3.00
- **Discipline(s):**
 - **Chemistry and Materials Sciences** (12 )
 - **Computer, Information, and Data Sciences** (16 )
 - **Engineering** (27 )

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).