

Opportunity Title: Radiological Contamination Mapping Using Drones in Savannah River Site Water Bodies

Opportunity Reference Code: DOE-MSIPP-16-26-SRNL

Organization U.S. Department of Energy (DOE)

Reference Code DOE-MSIPP-16-26-SRNL

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@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.

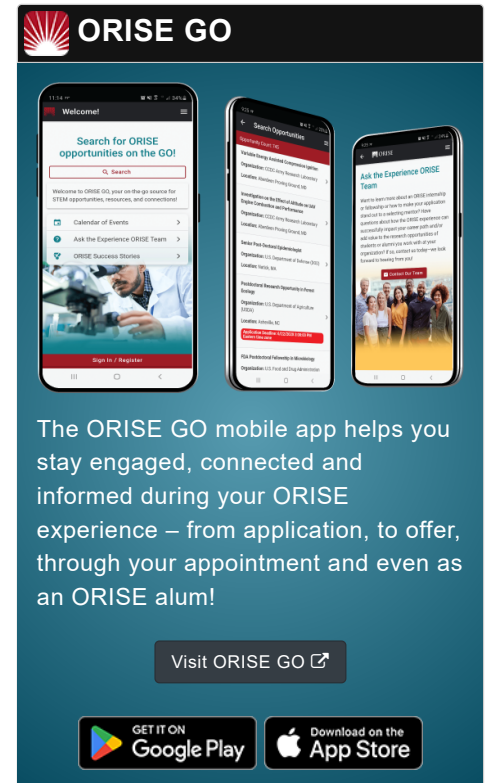
MSIPP Interns will be given the opportunity to complete Summer Internships aligned with ongoing U.S. Department of Energy Office of Environmental Management (DOE-EM) research under the direction of a host national laboratory. The internship will be performed at the host national laboratory, utilizing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

Many water-bodies at the Savannah River Site have areas of radiological contamination. Due to recent heavy rains, dam repair, and other disturbances to the water flow, it would be useful to map out exactly where this contamination is present. This project would build a drone to automate this high-resolution mapping project.

The student would be expected to implement a GPS-based autopilot control system that would control the navigation of a boat or other vehicle along a preplanned route. The vehicle would also consist of a variety of radiation detectors designed to detect contaminants of interest.

The result of this project would be a vehicle capable of following

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a preplanned route and conducting and reporting the measurements of the contamination found along that route.

Qualifications The successful candidate will be studying electrical engineering, physics, software development, robotics, systems engineering, or a related scientific field. Previous experience in Arduino programming, route planning, GPS, robotics projects, system programming, or electrical component connecting is 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
- **Academic Level(s):** Graduate Students, Post-Bachelor's, or Undergraduate Students.
- **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 )

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