

**Opportunity Title:** Summer Intern, X-Ray Chemist  
**Opportunity Reference Code:** DOE-MSIPP-18-13-SRNL

**Organization** U.S. Department of Energy (DOE)

**Reference Code** DOE-MSIPP-18-13-SRNL

**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@oraui.org](mailto:kerri.fomby@oraui.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](mailto: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 project would be an investigation in the analytical method of X-Ray Fluorescence (XRF), the components of sample preparation, learning how to develop new analytical methods, and an introduction into statistical analysis of results. The project will explore in the laboratory how to prepare samples for XRF, this will include weighing samples, grinding samples by hand in a mortar, and using a furnace to flux the sample into a glass. They will make multiples, at least 5, of the same sample so that a statistical analysis can be done. This will allow them to see if the preparation they did can generate consistent results.



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The participant will not be allowed to use any X-Ray generating equipment, but will be able to observe the PI using the equipment. After the samples the participant made are analyzed the data will be given to the participant so that a statistical analysis can be done. After one sample has been sufficiently characterized, a second and third sample will be analyzed as well. On top of analyzing unknown samples, they will also explore how standards are chosen and the importance of standards in analytical chemistry. At the end of the summer they will generate and present a poster on the work they did.

**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.orau.gov/msipp/documents/approved-  
msi-school-list.pdf](http://orise.orau.gov/msipp/documents/approved-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 chemistry, physics, scientific computing, material

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science, or related scientific field.

**Desired Knowledge, Skills, Work Experience, and Education**

**It is desirable for the candidate to have on or more of the following:**

- Completion of instrumental coursework
- Analytical instrument experience
- Scientific programming
- Introductory statistics

**Eligibility Requirements**

- **Citizenship:** U.S. Citizen Only
- **Degree:** Currently pursuing a 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** (2 )
  - **Physics** (16 )

**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).