

**Opportunity Title:** Mechanistic Understanding of Hydrated Surface Layer

Formation at the Solid-Fluid Interface

**Opportunity Reference Code:** DOE-MSIPP-16-22-ORNL

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

**Reference Code** DOE-MSIPP-16-22-ORNL

**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@ornl.gov](mailto:Elizabeth.Nelson@ornl.gov). Please include the reference code for this opportunity in your email.

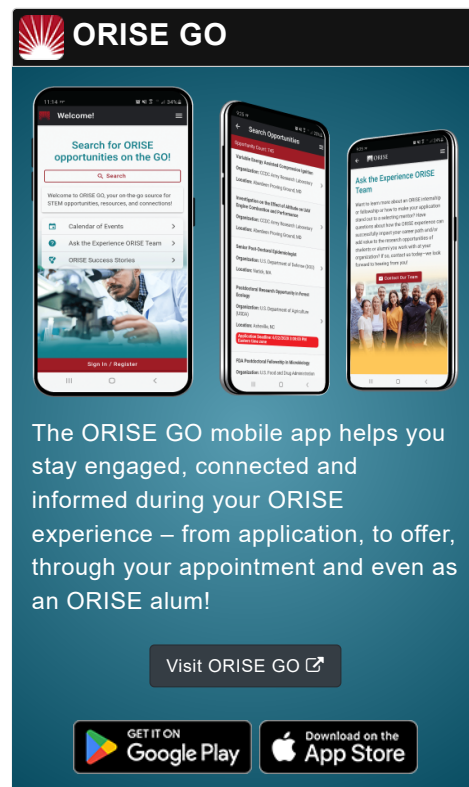
**Application Deadline** 3/16/2016 11:59:00 PM Eastern Time Zone

**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.

The Environmental Sciences Division (ESD), <http://www.esd.ornl.gov>, at Oak Ridge National Laboratory (ORNL), <http://www.ornl.gov>, has an immediate opening for one undergraduate research fellowship in geochemistry, chemistry, environmental science, geology, soil chemistry, or a related field. The successful candidate will be responsible for conducting dissolution experiments involving the weathering of aluminosilicate minerals and glasses under alkaline conditions. The laboratory scale experiments will involve conducting static and flow-through experiments using atomic force microscopy to develop a mechanistic understanding of solid-fluid reactions. Responsibilities include data collection and analysis, interpretation, and publication of experimental results.

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**Qualifications** The successful candidate will be an undergraduate or graduate student studying material sciences, physics, physical chemistry, chemistry, geochemistry, mineralogy or microbiology. Previous experience in a laboratory environment is strongly preferred. Prior experience with conducting AFM measurements not required.

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](http://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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mathematics, or a related field.