

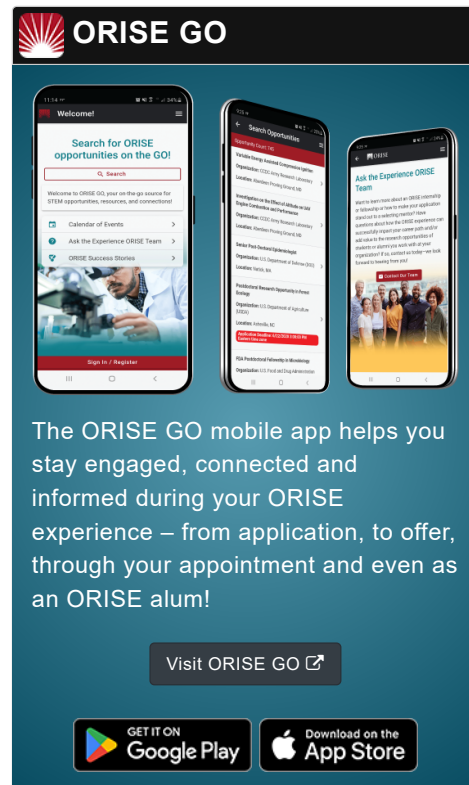
Opportunity Title: Cyber Security Internship
Opportunity Reference Code: DOE-MSIPP-18-2-INL

Organization	U.S. Department of Energy (DOE)
Reference Code	DOE-MSIPP-18-2-INL
How to Apply	<p>A complete application must include the following to be considered:</p> <ul style="list-style-type: none"> • Completion of all required fields in the application and successful application submission • Undergraduate or graduate transcripts as appropriate • Two recommendations <p>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.</p> <p>For Technical information, contact Myken Johnson at myken.johnson@inl.gov.</p>
Application Deadline	1/12/2018 11:59:00 PM Eastern Time Zone
Description	<p>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.</p>


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: Idaho National Laboratory's concurrent cooling–Dynamic Line Rating (DLR) methodology is an example of additional data that needs to be effectively integrated into control rooms, and adding forecast (future) data sets to the already complex electric grid operations will require improved - methodic integration and management. The Concurrent Cooling - DLR suite of projects supports the DOE mission to provide high-impact research, development, and demonstration to make clean energy as affordable and convenient as traditional forms of energy by establishing a means to increase the integration of

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renewable energy generation with the associated increase in transmission line capacity, which are traditionally limited by conductor thermal capacity and can be significantly underutilized. These projects take a science-based approach to advance line rating standards through an innovative methodology. These projects also develop various technology improvements utilizing dynamic, real-time environmental conditions measured and modeled using computational fluid dynamics, leading to average line capacity improvements of 10–40% above static ratings. The weather station data and transmission ampere capacity, or ampacity, calculations comprise an additional layer of data that utilities must react to. Utilities would like to utilize this new capacity to enable additional power flow when the need to transmit power coincides with meteorological conditions (concurrent cooling). Conveying the information to allow the operator to make an informed decision based on this additional information is important to more effective utilization of the transmission asset. Even more important is the timely notification when conditions change in a negative direction as the extra capacity is actively being used. This particular portion of the portfolio of projects aims to look at the cyber security components of advanced data handling and operations within the electric utility industry.

Location: This internship will be located at Idaho National Laboratory.

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-msi-school-list.pdf>,
- Working toward a science, technology, engineering, or mathematics (STEM) degree,

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- 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 computer science, computer engineering, electrical engineering, power systems engineering, software development, or related field.

Desired Knowledge, Skills, Work Experience, and Education

It is desirable for the candidate to have:

- Cyber security, computer engineering, computer science, electrical engineering/power systems engineering; software development; physics; statistics; business management; marketing; web development; file management; technical writing; organization.

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Currently pursuing a Bachelor's Degree or Master's Degree.
- **Overall GPA:** 3.00
- **Discipline(s):**
 - **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).