

Opportunity Title: Environmental and Wildlife Health
Opportunity Reference Code: DOE-MSIPP-21-3-LANL

Organization U.S. Department of Energy (DOE)

Reference Code DOE-MSIPP-21-3-LANL

- How to Apply**
- 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 at MSIPPInternships@ornl.gov. Please include the reference code for this opportunity in your email.

For Technical information, contact Cassandra Casperson at Casperson@lanl.gov.

Certification:

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).

Application Deadline 1/29/2021 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: This project will use a long-term dataset on wild bird health and condition with respect to climate pressures and environmental conditions. We will use statistical models to estimate correlations between changes in abiotic and biotic factors related to climate and wildlife health. We will then adapt mechanistic disease and population dynamics models to our system, informing parameters with the statistical analysis, allowing for prediction of system states under future climate regimes and novel fusion of mechanistic and statistical models that leverages strengths of both approaches. This project will




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also analyze genomic data from the microbiome of wildlife species and investigate new approaches to the analysis and application for wildlife and environmental health. Long-term datasets will be available to be analyzed as part of this project and there may be the opportunity for field work.

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.

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, <https://orise.ornl.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:

Learn how to use the R programming language and gain experience with other bioinformatic software. The student will also gain experience in scientific writing and will be an author on a scientific publication.






Desired Knowledge, Skills, Work Experience, and Education

It is desirable for the candidate to have:

- Some experience with R programming (not mandatory). Familiarity with statistics and basic genetics. Background or courses in microbiology, genetics, or bioinformatics. Significant scientific writing.
- GPA 3.0 for undergraduate
- GPA 3.2 for graduate

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**Eligibility
Requirements**

- **Citizenship:** U.S. Citizen Only
- **Degree:** Currently pursuing a Bachelor's Degree or Master's Degree to be received by 5/31/2021 12:00:00 AM.
- **Overall GPA:** 3.00
- **Academic Level(s):** Graduate Students or Undergraduate Students.
- **Discipline(s):**
 - **Computer, Information, and Data Sciences** (17 )
 - **Earth and Geosciences** (21 )
 - **Environmental and Marine Sciences** (14 )
 - **Life Health and Medical Sciences** (46 )
 - **Mathematics and Statistics** (10 )

Affirmation Certification:

I certify that I am at least 18 years of age, a US citizen, and currently enrolled as a student in a degree seeking undergraduate or graduate program in a STEM field at an accredited Minority Serving Institution (MSI). Click [here](#) to verify that you are enrolled at a current MSI.