

**Opportunity Title:** Cultural Application of Spatial Data Internship

**Opportunity Reference Code:** DOE-MSIPP-19-8-LANL

**Organization** Department of Energy (DOE)

**Reference Code** DOE-MSIPP-19-8-LANL

**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 us at [MSIPPinternships@orau.org](mailto:MSIPPinternships@orau.org) . Please include the reference code for this opportunity in your email.

For Technical information, contact Katie Higgins at [kwurden@lanl.gov](mailto:kwurden@lanl.gov).

**Application Deadline** 1/21/2019 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.

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: <https://orise.orau.gov/msipp/>

**Project:**

The Los Alamos National Laboratory (LANL) Environmental Stewardship Group currently manages a wide degree of spatial landscape information in a dynamic geographic information system (GIS). This information includes data on flora/fauna, geology, hydrology, wildlife and cultural resources across the Laboratory. These spatial-based landscape data are used by environmental professionals primarily for compliance management and mitigation. As part of this 2019 EM-MSIPP internship opportunity, LANL seeks an undergraduate or graduate level student with knowledge and experience using GIS spatial modeling and statistics to work with the Environmental Stewardship-Resource Management Team, Culture Resources Program, to continue investigation on one of two compliance-based GIS research projects: The projects include 1) Long-term climatic modeling of erosional risk to archaeological sites: For this project, the summer intern will use and modify a LANL constructed GIS model (Revised Universal Soil Loss Equation) to identify key areas of erosional and environmental risk to cultural sites at the Laboratory. This will include GIS modeling and on-the-ground fieldwork for prediction testing of expectations based on the outcome of model analyses. The goal of this project is to aid the LANL long-term strategy for cultural resource compliance and mitigation, or 2) Coalition to Classic period human population movement across the Pajarito Plateau: For this project, the summer intern will use cultural resource spatial data (and associated archaeological site meta-data) to understand landscape level use, and movement, across the Pajarito Plateau (including LANL) by ancestral

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Pueblo human populations during the Coalition and Classic period. This project attempts to systematically identify areas at the laboratory with significant cultural resource types, and identify how compliance mitigation may benefit by identifying GIS trends in past landscape use and activity.

**Location:** This internship will be located at Los Alamos 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 21, 2019

**Expected Start Date:** May 28, 2019

#### 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.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.

#### Successful candidates will:

- Currently pursuing a BA/BS, MA/MSc or PhD. Candidate should have an educational background in environmental science, environmental modelling, and/or anthropology and archaeology, specifically using GIS.

#### Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Currently pursuing a Bachelor's Degree, Master's Degree, or Doctoral Degree.
- **Overall GPA:** 3.00
- **Discipline(s):**
  - **Computer Sciences** (17 )
  - **Earth and Geosciences** (23 )
  - **Environmental and Marine Sciences** (13 )
  - **Life Health and Medical Sciences** (47 )
  - **Other Physical Sciences** (12 )
  - **Social and Behavioral Sciences** (36 )

#### 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.