|  |  |
| --- | --- |
| **TITLE:** | Geospatial/Geoscience Data Analyst |
|  |  |
| **DEPARTMENT:** | U.S. Department of Energy/National Energy Technology Laboratory (NETL) |
|  |  |
| **NETL CONTACT:** | Jennifer Bauer: Jennifer.bauer@netl.doe.gov |
|  |  |
| **DUTY LOCATION:** | Albany, OR |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ACADEMIC LEVEL:** |  | PhD | **x** | MS | **x** | BS | **x** | Undergrad |  | Faculty |

|  |  |
| --- | --- |
| **POSITION** **INFORMATION:** | Up to 1-year appointment; full or part time, with the possibility of extension |
|  |  |
| **CLOSING DATE:** | September 30, 2018 |
|  |  |
| **WHO MAY BE** **CONSIDERED:** | United States Citizens, LPRs, & Foreign Nationals with appropriate approval which includes F-1 OPT with EAD (STEM extension not valid), J-1 Exchange Visitor, and LPR with EAD |

**SUMMARY:**

Through the Oak Ridge Institute for Science and Education (ORISE) this posting seeks motivated students interested in researching as part of the Geo-Analysis & Monitoring Team within the Geologic and Environmental Systems directorate at the U.S. Department of Energy’s (DOE) National Energy Technology Laboratory (NETL). NETL is a multi-disciplinary, scientific and technical-oriented national laboratory. NETL’s Research & Innovation Center (RIC) conducts research to evaluate environmental impacts and risk assessments associated with domestic energy resource development.

Current research integrates geospatial, geostatistical, and geoscience expertise for performing; i) geospatial-based risk assessments related to CO2 storage, unconventional resources, offshore drilling activities, and other energy related activities, ii) developing tools for quantifying risks within various engineered-natural systems, iii) performing spatio-temporal assessments for various domestic energy infrastructure networks, iv) innovating methods and approaches to reduce or quantify geologic uncertainty, and v) developing novel tools, applications, and frameworks for improved decision support.

At present, the team is looking for an applicant with a background in GIS, data analytics, or data science. Applicants should have demonstrated expertise using GIS software systems (e.g., ESRI’s ArcGIS, QGIS, or other open source GIS software) and familiarity with Python and statistical tools/libraries within Python (e.g., pandas, matplotlib, etc.). Demonstrated experience or coursework in GIS, spatio-temporal statistics, cartography, and statistics is desired.

As an ORISE student researcher you may support geology and geospatial analysis teams to identify, format and integrate key datasets. These datasets are the foundation to conducting advanced research that integrates and quantitatively evaluates key attributes of gas shale, ultra-deep water and frontier regions to estimate potential risks related to oil/natural gas development, and/or carbon storage.

**Preferred Experience:**

* Understanding of data from marine and engineered-natural systems.
* Experience using GitHub, or similar version control system.

**Desired Experience:**

* 3+ yr. undergrad, bachelors or masters in geography, data science, or similar field.
* 1-2 years of advanced experience using ArcGIS or similar GIS software.
* 1-2 years or experience coding using Python and subsequent statistical libraries (e.g., pandas, matplotlib, etc.) or similar.

**Responsibilities:**

* Design, development, and integration of an extensive body of existing GIS information, data and metadata.
* Manipulation of both spatial and non-spatial datasets, potentially including, computer-generated maps, graphs, tables and reports.
* Contribution to geospatial resource studies by collecting and analyzing hydrologic, geologic, engineering, and energy resource data, and reviewing and investigating data quality and integrity.
* Application of spatio-temporal statistical analysis, scripting and various other computer related skills to assist in the scientific evaluation of resource (e.g., water, oil, gas, CO2) relationships and problems.
* Assist with writing technical reports, manuscripts, and the preparation of data for publication and public release.
* Collaborate with other team members, consisting of developers, managers, researchers, and users to ensure comprehensive test coverage.

**Demonstrated** **Skills:**

* Advanced user of tools within ArcGIS or similar software, including geostatistics, spatio-temporal statistics, and traditional spatial analyst tools.
* Production of publication quality maps and data figures/tables for inclusion in reports or presentations.
* Strong attention to detail.
* Strong interpersonal skills with experience building internal and external relationships.
* Excellent verbal and written communication skills
* Excellent time management skills.

**HOW TO APPLY:**

Applicants should apply through the Oak Ridge Institute for Science and Education (ORISE) program. The ORISE Program provides opportunities for undergraduate students, recent graduates, graduate students, postdoctoral researchers, and faculty researchers to apply classroom knowledge in a real-world setting to learn about NETL’s core mission areas.

* Interested applicants should complete the online application at <http://www.orau.gov/netl/>. For questions or issues, please email both Terry.Howard@orau.org and Kerri.Fomby@orau.org .
* In the online application, **list Jennifer Bauer as your requested mentor.** This will associate your application with this research opportunity. Please send a CV to Jennifer.bauer@netl.doe.gov.
* If you have additional questions, please contact Patricia Adkins-Coliane, Patricia.adkins-coliane@netl.doe.gov, who is the NETL Graduate Education Program Manager.

The participant(s) will be assigned to the program solely for the educational benefit it provides. The assigned project should not include activities that are reserved for federal employees nor should it require a participant to perform inherently governmental functions such as: supervise or mentor federal employees or federal contractor staff, hire or fire anyone; have budget, program management, or signature authority; carry an official job title; or function in any way as a representative of the federal government.