|  |  |
| --- | --- |
| **TITLE:** | Mineralogist/Petrologist  |
|  |  |
| **DEPARTMENT:** | U.S. Department of Energy/National Energy Technology Laboratory (NETL) |
|  |  |
| **NETL CONTACT:** | Circe Verba: circe.verba@netl.doe.gov  |
|  |  |
| **DUTY LOCATION:** | Albany, OR |

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

|  |  |
| --- | --- |
| **POSITION** **INFORMATION:** | Part time or full time |
|  |  |
| **CLOSING DATE:** | September 14, 2018 |
|  |  |
| **WHO MAY BE** **CONSIDERED:** | United States Citizens Only  |

**SUMMARY:**

Through the Oak Ridge Institute for Science and Education (ORISE) this posting seeks motivated students interested in researching as part of the Geology & Geospatial Analysis Team within the Geologic and Environmental Sciences 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.

The objective of the research is to assist in the characterization of the rare earth elements (REE) and phases in source coal, in certain surrounding formations (e.g. underclay) and in coal combustion by-products (e.g. slag, bottom ash, fly ash). It is critical to understand the diagenetic history and characterize the coal deposit or by-products to efficiently process and extract REEs. Bridging image analysis and microscopy is a crucial tool for understanding geochemistry and mechanisms of natural and synthetic materials.

**KEY REQUIREMENTS:**

The ideal candidate must be in a degree program or hold an existing bachelor’s degree. BS with 2-3 years/or MS experience is preferred.

Applicants for this position must have a good background in mineralogy, basic petrography, and knowledge in using a scanning electron.

As an ORISE participant, you may collaborate with engineered systems and materials characterization teams to identify, evaluate key attributes of coal deposits, pertinent REE-containing formations, and by-products, characterize samples, and interpret datasets. Specific tasks will include:

* Scanning electron microscope (FEI and JEOL) including cathodoluminescence, potentially a dual beam focused-ion beam (FIB)-SEM.
* Image processing software using INCA, PerGeos software, and photoshop (or equivalent).
* Data interpretation.

Depending on skills and background, applicant may be asked to assist with:

* Producing datasets, including images, graphs, and tables.
* Writing portions of interpretive and data reports and assisting with preparation of data for publication or scientific conferences.

**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 Circe Verba as your requested mentor.** This will associate your application with this research opportunity. Please send a CV to circe.verba@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.