

**Title:** Post-Doctoral Researcher – Materials Science and Engineering  
**Department:** Department of Energy  
**Agency:** National Energy Technology Laboratory (NETL)  
**Level:** Post-Doctoral  
**Position Information:** Temporary, 12 months Full-Time, (40 hours per week)  
**Duty Location:** Albany, Oregon  
**Who May be Considered:** United States Citizens & Foreign Nationals with appropriate approval  
**Position Closing Date:** Any application received by September 12, 2014 will be considered

**SUMMARY:**

Through the Oak Ridge Institute for Science and Education (ORISE) this posting seeks motivated, post-graduates (PhD) interested in working as part of Geologic-Environmental-Materials focus area with specific expertise and interest in materials research at NETL that pertains to Materials Performance in Deep Well Environments. NETL is a multi-disciplinary, scientific and technical-oriented National Laboratory. NETL's Office of Research and Development (ORD) conducts research to evaluate environmental impacts and risk assessments associated with domestic energy resource development.

For several years NETL researchers have been working on failure mechanisms and rates of failure for critical metal components (blowout preventers (BOP), risers, pipelines, etc.) through observed/reported behavior in the field, augmented with laboratory experimental studies on materials behavior under simulated extreme offshore hydrocarbon conditions, both sweet and sour, in order to reduce or eliminate catastrophic loss-of-control events. In addition, research has focused on determining the environmental and mechanical factors that affect metal performance and influence effective life of these metal barrier and control infrastructures (i.e., drilling, completion and production materials, subsea BOP, etc.) and evaluate new metal alloys (ultra-high strength steels, nickel superalloys, etc.) for improved performance in ultra-deep well environments. The scope of the work effort is to evaluate alloy capability for ultra-deep wellbore environments by understanding environmental and mechanical factors that affect performance and influence effective life, through laboratory experimentation, post corrosion testing analysis utilizing electron optical instrumentation, collation of existing information into useful formats and dissemination of this information.

In general applicants for this position should have expertise and/or familiarity in the physical and mechanical behavior of materials with experience in evaluating fatigue and fracture behavior of metallic materials or expertise with testing and characterization of steels and/or nickel superalloys using electrochemical instrumentation in aqueous environments or experience in mechanical testing (i.e., tensile, fatigue, fracture toughness and hardness) of metallic materials and alloys.

For more information about research ongoing in the Offshore Portfolio at NETL please visit <https://edx.netl.doe.gov/offshore/>

**KEY REQUIREMENTS:**

- Applicants must be U.S. Citizens or approved Foreign Nationals
- Suitable for Federal employment, as determined by background investigation.
- Must hold PhD degree from an accredited institution in a field appropriate for the applicant's area of expertise.

**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. NETL utilizes the ORISE program to support research and work within NETL's Office of Research & Development.

- Interested applicants should complete the online application at <http://www.ornl.gov/netl/>
- In the online application list Jeffrey Hawk as your requested mentor. This will associate your application with this job posting.
- If you have additional questions please contact Nancy Andres, [Nancy.Andres@NETL.DOE.GOV](mailto:Nancy.Andres@NETL.DOE.GOV), who is the NETL ORISE program contact.