

Opportunity Title: Post-Doc Researcher – Alloy development

Opportunity Reference Code: NETL-2016-06-2-Jablonski

Organization National Energy Technology Laboratory (NETL)

Reference Code NETL-2016-06-2-Jablonski

Application Deadline 7/29/2016 12:00:00 AM Eastern Time Zone

Description TITLE: Post-Doctoral Researcher – Alloy development, melt processing and alloy fabrication, Metallurgical Engineering /Materials Science & Engineering

DEPARTMENT: Department of Energy

AGENCY: National Energy Technology Laboratory

LEVEL: Post-Doctoral

POSITION INFORMATION: 1 year appointment, full-time (40 hours per week), with the possibility of extension

CLOSING DATE: July 29, 2016

DUTY LOCATION: Albany, Oregon

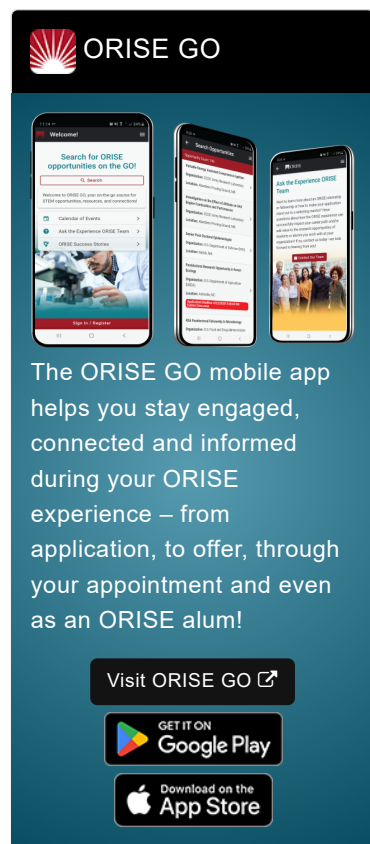
WHO MAY BE CONSIDERED: United States Citizens, LPRs, & Foreign Nationals with appropriate approval which includes F-1 OPT with EAD (STEM extension not valid), J-1 Exchange Visitor, and LPR with EAD

SUMMARY:

Through the Oak Ridge Institute for Science and Education (ORISE) this posting seeks motivated post-graduates (PhD) interested in alloy development, melt processing and alloy fabrication of metals suitable for applications at high temperatures as a member of the Research and Innovation Center (R&IC) at NETL. R&IC conducts research on development of clean energy conversion technologies and evaluates environmental impacts and risks associated with domestic energy resource development.

NETL is investigating a number of high temperature alloys for fossil fuel power generation with the aim of increased efficiency, lower cost, and reduced environmental impact. Alloy families include Fe-based, Ni-based and the so-called High Entropy Alloy (HEA) group which does not have a single main element composing the matrix. The successful applicant will collaborate with other researchers to assist in alloy development to achieve various program goals. As such they will be involved in alloy formulation/design, melting, heat treating and hot and cold metal fabrication operations of alloys ranging in scale from ~10 to ~100lbs.

In general applicants for this position should have at least some experience in alloy design either by reading and understanding phase diagrams or by use of thermodynamic modeling software such as ThermoCalc; at least some experience in alloy melt processing such as induction melting, Vacuum Arc Remelting (VAR) and/or Electro-Slag Remelting (ESR) and associated simulation software such as MeltFlow VAR, MeltFlow ESR, Flow 3D Cast or similar software. Ability to work safely in the lab is a must. A



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thorough understanding of the mechanical and environmental behaviors of alloys is important as is the understanding and interpretation of microstructures. Applicants should be able to develop new test techniques or modify existing ones to appropriately simulate service conditions.

The selected applicant will have excellent verbal and written English communication skills as well as ability to represent NETL effectively in conferences and publish research findings in peer-reviewed journals.

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 R&IC.

- Interested applicants should complete the online application at <http://www.ornl.gov/netl/>
- In the online application list **Paul D. Jablonski** 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, who is the NETL ORISE program contact.

**Eligibility
Requirements**

- **Degree:** Doctoral Degree.
- **Discipline(s):**
 - **Chemistry and Materials Sciences** ([12](#) )
 - **Communications and Graphics Design** ([1](#) )
 - **Computer, Information, and Data Sciences** ([16](#) )
 - **Earth and Geosciences** ([21](#) )
 - **Engineering** ([27](#) )
 - **Environmental and Marine Sciences** ([14](#) )
 - **Life Health and Medical Sciences** ([45](#) )
 - **Mathematics and Statistics** ([10](#) )
 - **Other Non-Science & Engineering** ([13](#) )
 - **Physics** ([16](#) )
 - **Science & Engineering-related** ([1](#) )
 - **Social and Behavioral Sciences** ([28](#) )