Opportunity Title: Process Modeling and Analysis of Pre-Combustion CO2
Opportunity Reference Code: NETL-2018-07-2a-Siefert

Organization	National Energy Technology Laboratory (NETL)
Reference Code	NETL-2018-07-2a-Siefert
Application Deadline	8/30/2018 11:59:00 PM Eastern Time Zone
Description	TITLE: Process Modeling and Analysis of Pre-Combustion CO2

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DEPARTMENT: U.S. Department of Energy/National Energy Technology Laboratory (NETL)

NETL CONTACT: Nick Siefert: Nicholas.siefert@netl.doe.gov

DUTY LOCATION: Pittsburgh, PA

ACADEMIC LEVEL: PhD

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

CLOSING DATE: August 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
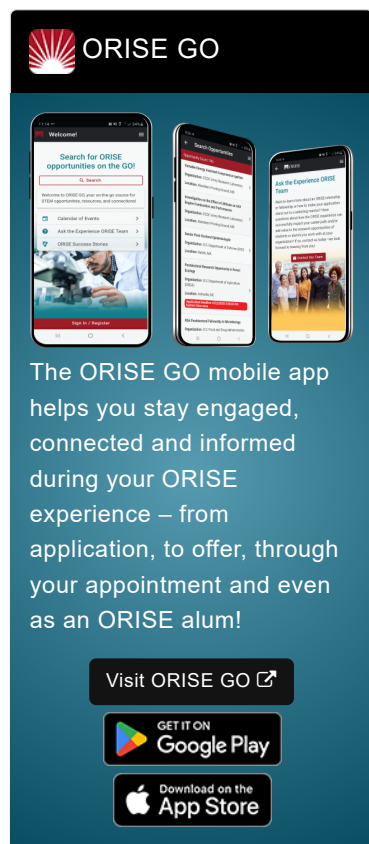
SUMMARY:

The carbon capture group at NETL performs research aimed at accelerating the development of novel materials and efficient, cost-effective processes that can reduce the energy penalty and cost of CO_2 separation over conventional technologies. In this project, an automated approach will be developed to regress the properties of a series of pre-combustion physical solvents and analyze the resulting CO_2 capture process to estimate the cost of capture. Aspen Plus and the CCSI Toolset (including the Framework for Optimization, Quantification of Uncertainty and Surrogates (FOQUS)) will be used.

Basic understanding of and interest in solution thermodynamics is required. Understanding of theory behind NRTL, e-NRTL, PC_SAFT methods will be a plus.

The preferred candidate will have a Ph.D. in Chemical Engineering, along with the qualifications above plus modeling gas absorption in solvents with Aspen Plus. At the minimum, an M.S. in Chemical Engineering, Mechanical Engineering, or a related field, with experience and publications based on process modeling of gas absorption.

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.

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- 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 Dr. Nicholas Siefert as your requested mentor.** This will associate your application with this research opportunity. Please send a CV to nicholas.siefert@netl.doe.gov and copy Jan Steckel at janice.steckel@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.

Eligibility Requirements

- **Degree:** Doctoral Degree.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12 👁)
  - **Communications and Graphics Design** (2 👁)
  - **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** (2 👁)
  - **Physics** (16 👁)
  - **Science & Engineering-related** (1 👁)
  - **Social and Behavioral Sciences** (27 👁)