

**TITLE:** Chemical/Mechanical Engineer, Dynamic Modeling  
**DEPARTMENT:** Department of Energy  
**AGENCY:** National Energy Technology Laboratory  
**OPEN PERIOD:** Open until filled  
**LEVEL:** Post-Doc  
**POSITION INFORMATION:** Temporary Appointment: 1 year; Full-Time (40 hours per week); Starting as soon as possible.  
**WHO MAY BE CONSIDERED:** United States Citizens & Foreign Nationals with appropriate approval

**POSITION DESCRIPTION:**

Applications are invited for a postdoctoral position in the Computational Science & Engineering Division of the Office of Research & Development at the National Energy Technology Laboratory (NETL) in Morgantown, WV. The successful candidate will work in close collaboration with NETL researchers on the dynamic simulation and control of supercritical CO<sub>2</sub> recompression Brayton cycles to better understand and optimize operations and system performance for power generation.

Qualifications include:

- 1) Ph.D. degree in chemical engineering, mechanical engineering, or a closely related discipline. The Ph.D. degree must have been completed and granted by the university before starting the appointment. Applicants cannot have received the most recent degree more than five years prior to the date of application.
- 2) Demonstrated experience in the use of commercial steady-state process simulation software (e.g., Aspen Plus).
- 3) Demonstrated experience in the area of pressure-driven dynamic modeling and simulation using commercial process simulation software (e.g., Aspen Plus Dynamics or gPROMS).
- 4) Previous experience with the dynamic modeling and simulation of heat exchange equipment (e.g., recuperators), including heat transfer and pinch analysis.
- 5) Previous experience with the dynamic modeling and simulation of turbomachinery (e.g., compressors, turbines), including the use of compressor/turbine performance curves and maps. Experience with the issues of surge and stall are also desirable.
- 5) Expertise in the use of physical property and thermodynamics packages in connection with process simulators.
- 3) Expertise in process control and related software.

Good communication skills and the ability to work effectively in an interdisciplinary team setting are highly desirable. Interested candidates may contact Dr. Stephen E. Zitney ([stephen.zitney@netl.doe.gov](mailto:stephen.zitney@netl.doe.gov)) directly with an updated copy of their current CV at the earliest opportunity.

**HOW TO APPLY:**

Applicants should apply through the Oak Ridge Institute for Science and Education (ORISE) program ([orise.orau.gov](http://orise.orau.gov)). 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 <https://netl.ornl.gov/>
- In the online **application list Dr. Stephen E. Zitney 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), the NETL ORISE program contact.