

The Process Systems Engineering (PSE) Research Group at the National Energy Technology Laboratory (NETL) has multiple postdoctoral positions available at its Pittsburgh, PA location. These positions will support the Institute for the Design of Advanced Energy Systems (IDAES) which is building and applying a next generation modeling and optimization platform to accelerate development of advanced energy systems. The project entails extensive collaboration with industry, research universities, and other national laboratories.

Specific activities include:

- Dynamic simulation and optimization of existing coal-fired power plants with an emphasis on improving efficiency, flexibility, and reliability during load following operation,
- Simulation, design, and optimization of advanced combustion systems such as chemical looping combustion,
- Development of computational tools for process synthesis, conceptual design, and process intensification,
- Development of optimization-ready kinetic and thermophysical models for use in first-principles representations of chemical systems, and
- Multi-scale modeling of future power generation technologies and grid infrastructure.

Qualifications:

A Ph.D. degree in chemical engineering with an emphasis in process systems engineering is required. 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. Both U.S. citizens and foreign nationals may apply.

Previous experience in the areas of process synthesis, conceptual design and optimization using either algebraic modeling languages (such as Pyomo, GAMS or AMPL) or commercial process simulation software (such as Aspen Custom Modeler or gPROMS) is required.

Salary & Benefits:

The position includes a competitive stipend, paid health benefits and a relocation allowance.

How to Apply:

Qualified applicants should send (1) a cover letter addressing their qualifications, (2) resume or CV, and (3) copies of up to 3 of their most relevant publications to PSEPostDoc@netl.doe.gov. Applicants should clearly state relevant experience and skills, including their level of proficiency. Review of applications will be conducted as they are received.

This appointment is offered through the NETL Research Associate Program via the Oak Ridge Institute for Science and Education (ORISE) Program. This appointment is open to all qualified applicants without regard to race, color, age, religion, sex, national origin, physical or mental disability, or status as a Vietnam-era veteran or disabled veteran.