

TITLE: Mechanical/Chemical/Aerospace Engineer – Modeling of Pressure Gain Combustion Processes

DEPARTMENT: U.S. Department of Energy

AGENCY: National Energy Technology Laboratory (NETL)

LEVEL: Graduate or Post-Doctoral Researcher

POSITION INFORMATION: Temporary Appointment: 1 year between approximately September 1, 2015 and August 31 2016; Full-time (40 hours per week)

DUTY LOCATION: Morgantown, West Virginia

WHO MAY BE CONSIDERED: United States Citizens

SUMMARY:

A graduate student or post-doctoral researcher is sought for a position in Morgantown, West Virginia at the National Energy Technology Laboratory - the U.S. Department of Energy's primary lab supporting fossil fuel-based energy research. An ideal candidate will have demonstrated completion of coursework pursuant to a PhD in science or engineering, and wishes to engage in a funded research project formulating the publication of a Dissertation in that field. Post-doctoral candidates are also being sought. The candidate will research for a period of 1 year, with the possibility of extending that appointment. The candidate will perform research collaboratively with NETL Federal Researcher Scientists in the following area:

Modeling of pressure-gain combustion processes. The candidate will develop and apply Computational Fluid Dynamics (CFD) modeling to a wide range of problems relevant to rotating detonation engines (RDE's) as well as more fundamental detonation and deflagration processes including deflagration to detonation transition. The candidate may utilize both commercial and non-commercial CFD codes as well as in-house codes. The candidate is expected to develop and test new combustion sub-models as well as develop boundary conditions and numerical approaches applicable to detonative processes.

QUALIFICATIONS:

An ideal candidate will have a working understanding of current CFD approaches for modeling turbulent reacting flows, specifically in the realm of combustion modeling for detonation and deflagration modes of combustion. Expertise in thermodynamics, heat transfer, fluid mechanics and numerical methods is necessary. A knowledge of combustion chemistry as well as detonation physics would be ideal. Interested candidates may contact Dr. Pete Strakey (peter.strakey@netl.doe.gov) directly with a current CV at the earliest opportunity.

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, post-doctoral 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/>

- If you have additional questions please contact Nancy Andres, Nancy.Andres@netl.doe.gov, who is the NETL ORISE program contact.