Posting Title: Postdoctoral Research Staff Member
Job #: 100961
Direct Funded
Job Title: Postdoctoral Research Staff Member-Energy Conversion and Storage Group
Organization: 9788 Computational Engineering **Directorate:** Engineering

We have an opening within the Energy Conversion and Storage Group for a Postdoctoral Research Staff Member. The Energy Conversion and Storage Group seeks to gain fundamental and practical insight into combustion processes through numerical simulations and experiments and develop predictive combustion models and software that are fast enough to impact the engine design cycle.

Essential Duties
- Reduce the time, resource cost, or increase accuracy of combustion simulations by designing efficient algorithms guided by applied mathematics and physics.
- Develop and apply numerical tools to simulate high efficiency clean combustion engine regimes and novel combustion systems by combining multidimensional fluid mechanics with chemical kinetics.
- Conduct detailed analysis of high efficiency clean combustion engine regimes and novel combustion processes.
- Document results and findings for internal and external publication.
- Manage time and communication with limited direction in a fast-paced, multitasking environment.
- Utilize technical strengths to perform independent research and develop new business opportunities for internal and external sponsors.
- Perform all assignments in accordance with ES&H, security, and business practice requirements and policies.

Qualifications
- Recent PhD in Engineering, Applied Science, or related field.
- Demonstrated comprehensive training and experience in two or more of the following strengths; fluid dynamics, heat transfer, reactive chemistry, numerical methods, and machine learning.
- Comprehensive knowledge in analysis, modeling, and simulation tools (e.g. CAD, CFD, FEA).
- Desire to bring new knowledge to the field and ability to successfully deliver.
- Ability to thrive autonomously: be pro-active in solving inevitable road blocks, have a persistent attitude, and self-train when necessary.
- Demonstrated fundamental verbal and written communication skills to collaborate effectively in a team environment and present and explain technical information.

Desired Qualifications
- Experience working within a multidisciplinary engineering team.
- Experience in writing technical reports, journal articles and high-quality research proposals.
- Demonstrated project management skills.
- Experience with C++, Python, R, Linux, Unix, GPUs, and massively parallel algorithm development.
- Experience with experiment design and data acquisition.

Pre-Employment Drug Test: External applicant(s) selected for this position will be required to pass a post-offer, pre-employment drug test.

Anticipated Clearance Level: None