



Postdoctoral Researcher: Turbulent combustion simulation

The Center for Exascale Simulation of Plasma-coupled Combustion (XPACC — <http://xpacc.illinois.edu>) at the University of Illinois at Urbana-Champaign seeks a Postdoctoral Research Associate in the area of turbulent combustion modeling and simulation. Specific tasks will be to:

- Design and perform large-scale simulations of gas phase turbulent combustion, mediated by plasma,
- Develop and test physically-based turbulence and combustion models, and
- Work with a team of experimentalists to plan experiments and measurements to inform computational models.

Applicants should possess a strong background in the fundamentals of fluid mechanics, combustion, numerical methods, and high-performance computing. The ideal applicant would also have experience in large-eddy simulation and/or direct numerical simulation techniques applied to turbulent and, ideally, mixing and combustion. Faculty working in this area within XPACC include Carlos Pantano, Jonathan Freund, Daniel Bodony, and Greg Elliott.

This is a large center-level effort, and there will be tremendous opportunities for leadership and career development within the center. There will also be opportunities for close collaborative interaction with computer scientists, computational scientists, and experimentalists, as well as the international high-performance computing community. Interest and ability to interact productively with our DOE sponsors is essential. The center also involves more senior staff-level personnel, which provides opportunities for promotion within XPACC.

XPACC researchers have access to state-of-the-art computing platforms at all DOE/NNSA labs and the Blue Waters system (<https://bluewaters.ncsa.illinois.edu/>) at the University of Illinois.

Applicants should have a PhD in a Mechanical or Aerospace Engineering or a related field. A competitive salary will be set in accordance with University of Illinois policy. Appointments will be for 1 year, with the possibility of renewal for additional years.

To apply, email applications in PDF format to xpacc@illinois.edu. These should include a full CV (including publications and details of graduate studies) and at least 3 references. The target start date is November 15, 2015. Please be sure to indicate the specific position to which you are applying.

Illinois is an equal opportunity employer and all qualified applicants will receive consideration for employment without regard to race, religion, color, national origin, sex, age, status as a protected veteran, or status as a qualified individual with a disability. Illinois welcomes individuals with diverse backgrounds, experiences, and ideas who embrace and value diversity and inclusivity (www.inclusiveillinois.illinois.edu).

