



## Postdoctoral Researcher: Advanced Vectorization

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 Advanced Vectorization. Specific tasks will be to

- Develop library routines and programming tools to uncover opportunities for vectorization of the center's current application and candidate development options,
- Design performance models to measure the effect of vectorization,
- Analyze code performance to validate and enhance the performance model, and
- Plan and implement platform dependent optimizations using existing and new tools and measure their impact using performance models and execution-time measurements.

Faculty working in this area within XPACC include David Padua and Bill Gropp.

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 includes 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 Computer Science 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](mailto: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](http://www.inclusiveillinois.illinois.edu)).

