ORNL Publications

Job Posting Title

Distinguished Postdoctoral Associate in Computational Nuclear Physics NB50628776

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Purpose

The Oak Ridge National Laboratory's Leadership Computing Facility (OLCF) has the charge to develop and apply groundbreaking computational science capabilities in support of dramatic advances in our understanding of the physical world using that knowledge to address the most pressing national and international concerns. As a designated User Facility, the OLCF hosts one of the most powerful computers in the world and delivers an unparalleled environment in which to make new discoveries that will dramatically impact the nation's ability to produce a secure energy economy and increase mankind's fundamental understanding of our world. The facility has a goal of assisting in building the next generation of computational scientists using current and emerging high-end computing resources to take on the most demanding scientific challenges of tomorrow, and are seeking to grow our current postdoctoral fellowship program and develop the next generation computational science workforce with strong expertise in individual science domains, as well as expertise in the programming models needed for the development of methods and their implementation on state of the art, high-end computational resources.

A Distinguished Postdoctoral Associate position in Computational Nuclear Physics is available immediately for anyone passionate about and capable of performing leading-edge computational nuclear physics research and development. Priorities include the development of methodologies and their efficient massively parallel implementation on current state-of-the-art accelerated computer architectures, as well as their application on large scientific challenge problems.

You will be mentored and teamed with staff in the Scientific Computing Group in the OLCF. They will collaborate with leading computer and computational scientists at ORNL in the development and application of new computational techniques specifically targeted at modeling atomic nuclei using the NUCCOR many-body software supporting the nuclear physics mission of the DOE Office of Science.

Major Duties/Responsibilities

• Work closely with ORNL researchers in using the resources of the OLCF effectively and efficiently, including:
• Developing and porting of scalable science applications and algorithms for OLCF and other leadership computers.
• Debugging and tuning applications for high performance.
• Applying large-scale computational methodologies to meet scientific objectives.
• Conduct research and report results in journal publications, conference papers and technical manuals.

Qualifications Required

Basic Qualifications:

• Ph.D. degree in a Computational Nuclear Physics or related discipline

Preferred Qualifications:

• Experience with one or more prominent computational science software packages is highly desirable.

• Familiar with common scientific programming languages such as C/C++ and fortran, and have experience with or interested in CUDA, OpenMP, and OpenACC compiler directives, vectorization, MPI, and one-sided asynchronous programming models.

• Experience in heterogeneous computing, developing and debugging massively parallel algorithms and code performance profiling is desirable.

• In addition, you should have interest in application development techniques (programming models, algorithms, software) at scale (large processor counts).

Additional Information:

Applicants cannot have received their Ph.D. more than five years prior to the date of application must complete all degree requirements before starting their appointment. Certain exceptions may be considered. This appointment will initially be for 24 months with a possibility of an extension of up to 12 months. Initial appointments and extensions are subject to performance and availability of funding.

This position will remain open for a minimum of 5 days after which it will close when a qualified candidate is identified and/or hired.

We accept Word(.doc, .docx), Excel(.xls, .xlsx), PowerPoint(.ppt, .pptx), Adobe(.pdf), Rich Text Format(.rtf), HTML(.htm, .hmtl) and text files(.txt) up to 2MB in size. Resumes from third party vendors will not be accepted; these resumes will be deleted and the candidates submitted will not be considered for employment.

If you have trouble applying for a position, please email ORNLRecruiting@ornl.gov.

Notice: If the position requires a Security Clearance, reviews and tests for the absence of any illegal drug as defined in 10 CFR 707.4 will be conducted by the employer and a background investigation by the Federal government may be required to obtain an access authorization prior to employment and subsequent reinvestigations may be required.

If the position is covered by the Counterintelligence Evaluation Program regulations at 10 CFR 709, a counterintelligence evaluation may include a counterintelligence-scope polygraph examination.

ORNL is an equal opportunity employer. All qualified applicants, including individuals with disabilities and protected veterans, are encouraged to apply. UT-Battelle is an E-Verify Employer.