

Postdoctoral Appointee

SHARP Group

Argonne National Laboratory invites candidates to apply for a postdoctoral appointee position in the Simulation-based High-efficiency Advanced Reactor Prototyping (SHARP) group in the Mathematics and Computer Science (MCS) Division.

The successful candidate will work with members of the SHARP group, which is a team of nuclear engineers and computational scientists working together to develop the next-generation computational tools for the design and licensing of advanced nuclear reactors. This SHARP project exists to study mesh and geometry techniques for particle accelerator modeling. The SciDAC ComPASS project seeks to develop a comprehensive computational infrastructure for accelerator modeling and optimization. A critical part of this infrastructure is the geometric representation of accelerator cavities and the discretization of this geometry. Performing this modeling at the petascale requires advances in both the initial mesh generation and geometry/mesh evaluations during the parallel analysis. In this project, the candidate will work closely with those developing physics models for these applications.

Candidates should have comprehensive knowledge of computing and code development skills, preferably in a parallel computing environment; considerable knowledge of mesh-based solution of partial differential equations strongly preferred.

The MCS Division has a vigorous research program in applied mathematics and computer science. In addition to Blue Gene access, the computational environment includes several other large Linux clusters, a distributed systems laboratory, and a virtual environments laboratory. For more information, see <http://www.mcs.anl.gov>. Argonne is located in the southwestern suburbs of Chicago, offering the advantages of affordable housing, good schools, and easy access to the cultural attractions of the city.

Applicants must have recently received a Ph.D. in computer science or a related discipline and should have expertise in system software for supercomputers. Considerable knowledge is required in one or more of the following areas: parallel file systems, storage organization, operating systems and the Linux kernel, fault detection or fault tolerance, and parallel programming. Candidates should be able to create, maintain, and support high-quality software. Also desired are good collaborative skills, including the ability to work well with other laboratories and universities. The appointment is for a one-year term (renewable).

Via the Argonne website under division postdoctoral job openings for job requisition MCS-313899, candidates should submit a curriculum vitae; research proposal; list of publications, abstracts, and significant presentations; and the names of three references, other than Argonne staff, who can attest to the candidate's ability and potential.

For further information about the Argonne division postdoctoral appointments, see the website. For answers to questions, please contact Giselle Sandi, in Argonne's Division of Educational Programs at gsandi@anl.gov. A U.S. Department of Energy laboratory managed by UChicago Argonne, LLC. Argonne is an equal opportunity employer, and we value diversity in our workforce.