

What You Need

Minimum Job Requirements:

- Demonstrated experience conducting research and development in programming models, environments, or supporting toolchain technologies such as high-level compiler technologies and supporting runtime systems
- Demonstrated ability to code in C and C++
- Demonstrated experience with parallel programming (e.g. MPI, OpenMP, threading, etc.)
- Demonstrated experience with compiler technologies
- Demonstrated software development and engineering experience
- Demonstrated ability to work in a collaborative and multidisciplinary scientific environment by networking with internal and external personnel in own area of expertise
- Demonstrated ability to accept initial direction and requirements from technical project leads
- Demonstrated ability to work both independently and collaboratively to complete deliverables by a deadline
- Evidence of strong interpersonal and communication skills

Additional Job Requirements for Scientist 3:

In addition to the Job Requirements outlined above, qualification at the Scientist 3 level requires:

- Demonstrated experience writing proposals and obtaining funding for research and development in programming models, environments, or supporting toolchain technologies such as high-level compiler technologies and supporting runtime systems
- Demonstrated experience presenting the results of research at conferences, workshops, and meetings

Desired Skills:

- Knowledge of the DOE and NNSA complex
- Knowledge of and experience working within the LLVM Compiler Infrastructure
- Experience with GPU Programming (e.g. CUDA and/or OpenCL)
- Experience working with, designing and debugging complex parallel software systems
- Knowledge of parallel file systems and the supporting software and hardware infrastructure

Education

- Minimum of an M.S. in Computer Science or a related field from an accredited college or university, or an equivalent combination of relevant education and/or experience

Notes to Applicants:

- A cover letter addressing each of the minimum job requirements is required, as well as a CV or resume
- Working on some of the group's projects requires obtaining a Q clearance. To obtain a clearance, an individual must be at least 18 years of age. U.S. citizenship is required except in very limited circumstances. See DOE Order 472.2 for additional information.

What You Will Do

The Applied Computer Science group (CCS-7) is the Laboratory's vanguard research organization for scientific applications at extreme scale. The four focus areas of the group are (1) applications, algorithms, and hardware co-design; (2) collaborative programming and development of scientific applications; (3) programming models, runtime systems and tools; and (4) data science and visualization at scale. Projects are funded by a variety of federal funding agencies and typically involve collaborations inside and outside of the Laboratory, in line with the group's commitment to engage with theoretical, experimental, and computer-systems scientists to develop integrated, cross-disciplinary solutions at extreme scale.

CCS-7 invites applicants for a position of Scientist 2 or 3 to join the Programming Models Team and strengthen our existing software efforts in the design and development of the next generation of programming models, environments, and supporting toolchain technologies (e.g. high-level compiler technologies, supporting runtime systems, tools) for emerging processor and high-performance system architectures.

This position will be filled at either the Scientist 2/3 level, depending on the skills of the selected candidate. Additional job responsibilities (outlined below) will be assigned if the candidate is hired at the higher level.
Scientist 2 (\$79,600-\$133,100)

The successful candidate will be required to:

- Conduct research and development in one or more of the following areas: programming models, environments, and supporting toolchain technologies (e.g. high-level compiler technologies, supporting runtime systems, tools) for new and emerging processor designs and high-performance/parallel system architectures
- Work both independently and collaboratively with other members of the team after receiving initial direction and requirements from technical project leads
- Deliver results based on direction received, for example, provide reference implementations for techniques described in a research paper or a technical report, or improve the efficiency / performance of a section of code within a larger code base
- Conduct a literature search to find prior research related to an idea and/or topic area
- Work with team members to make modifications and additions to existing compiler, tool, and runtime infrastructures
- Work with team members to document, design and implement new ideas, approaches and algorithms as well as improve upon existing techniques
- Present the results of research at conferences, workshops, and meetings

Scientist 3 (\$86,400-\$148,200)

In addition to the duties of a Scientist 2, the successful candidate will be required to:

- Contribute to proposals for research and development in one or more of the following areas: programming models, environments, and supporting toolchain technologies (e.g. high-level compiler technologies, supporting runtime systems, tools) for new and emerging processor designs and high-performance/parallel system architectures
- Interact with people from other teams, groups, divisions, directorates, and programs to create collaborations
- Work with limited direction, for example, execute work based on a fragment of an idea or a half-formed idea and carry it to completion
- Mentor junior scientists and students
- Represent LANL and the DOE at workshops and meetings

Maximum Salary