Opportunity Title: ORNL HPC Languages and Tools Post-Master's Research Associate

Opportunity Reference Code: ORNL16-53-CSMD

Organization	Oak Ridge National Laboratory (ORNL)
Reference Code	ORNL16-53-CSMD
Description	Master's Degree in Computer Science or related field.

The Computer Science Research Group (CSR) in the Computer Science and Mathematics Division at the Oak Ridge National Laboratory has an opening for a Postgraduate Software Engineer in the field of HPC languages and tools.

Major Duties/Responsibilities
The successful candidate will carry out research and development in the areas of compiler-based tools for refactoring and related areas for high-performance computing under the guidance of CSR Group researchers. The position will involve working closely with scientific applications, and is partly in conjunction with the Oak Ridge Leadership Computing Facility (OLCF). The position is flexible with regard to the research (as opposed to development) component based on the qualifications and interests of the successful candidate. Participation in publication of research results in peer-reviewed journals and conference proceedings is expected.
The candidate should be familiar with at least one of these areas: compilers, static analysis and code-transformation tools, HPC languages.

Qualifications

Qualifications Required
• An M.S. in computer science, computer engineering, or a closely related field
• Substantive and demonstrated experience in HPC languages, compilers, and related tools through thesis research or in-depth projects
• Background in compilers, runtimes, and computer architecture
• Demonstrated development experience with at least one compiler tool chain
• Strong programming and software development skills
• Demonstrated written and oral communication skills
• Effective interpersonal skills

Additional Qualifications Desired
• Development experience with one or more of the following compiler tool chains: LLVM, ROSE, GCC, Open64/OpenUH
• Experience working with the Fortran language, from the perspective of compiler-based tools
• Experience with parallel computing
• Demonstrated ability to work successfully in interdisciplinary teams, crossing the traditional boundaries of computer science and computational science research

Technical questions may be directed to:

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Applicants cannot have received the most recent degree more than five years prior to the date of application and must complete all degree requirements before starting their appointment.

This ORNL Postgraduate Research Associates Program is administered by ORAU through its contract with the U.S. Department of Energy to manage the Oak Ridge Institute for Science and Education (ORISE).

Eligibility Requirements	• **Degree:** Master's Degree received within the last 60 month(s). • **Discipline(s):** ○ **Computer, Information, and Data Sciences** (16 👁)
Affirmation	I certify that I have completed coursework towards a degree in science, technology, engineering, mathematics, or a related field.

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