TITLE: Research Scientist in Computational Crystallography (U.S. Citizens preferred)

Overview

The Materials Measurement Laboratory of the National Institute of Standards and Technology is seeking qualified candidates (U.S. Citizens preferred) to develop a computational framework and software for determining atomic and magnetic order in solid-state matter by integrating complementary measurement techniques and theory. Such capabilities are becoming essential as modern technological materials become increasingly chemically complex. The applicant will be part of a collaborative team advancing fundamental measurement science to uncover how structural complexity and disorder shape the properties of advanced materials.

Duties

- Develop and deliver for public use efficient computational algorithms and their software implementations for structural refinements of large-scale atomistic models by integrating various types of X-ray and neutron scattering data collected on powder and single crystals, and electron microscopy images
- Develop and maintain RMCProfile software (www.rmcprofile.org)
- Demonstrate new capabilities by applying them to determine the unsolved structure of key representative technological materials

Required Skills, Expertise and Qualifications

- Ph.D. in Physics with significant postdoctoral experience in crystallography and development of advanced methods of structural determination, including local structure
- Hands-on experience with the analysis of X-ray and neutron diffuse scattering and total scattering data
- Proficiency in computer programming, including FORTRAN, C/C++, CUDA, Python, including hands-on experience with GPU implementations
- Experience in maintaining high-performance computer systems

Employment Terms: This opportunity is for an associate researcher position in the NIST Materials Science and Engineering Division for a term of one year, with the option to renew. Associate researchers are NOT Federal Employees, but they work alongside NIST researchers and use NIST's often world-class instrumentation and facilities. Relocation expenses will not be provided. U.S. Citizens hired into associate positions may have the opportunity to seek longer-term Federal Employment.

Salary: $100,000 to $120,000 annually, commensurate with the candidate's qualifications

How to express interest: Persons (US Citizens Preferred) who meet all of the required qualifications and who would be interested in taking this position are invited to express their interest by sending an email that briefly describes their qualifications along with a CV to 643assoc@nist.gov. U.S. Citizens should note "US Citizen" and the opportunity title in the email subject line. All others should note "Non-US Citizen" and the opportunity title in the email subject line.