PREP Research Associate

This position is part of the National Institute of Standards (NIST) Professional Research Experience (PREP) program. NIST recognizes that its research staff may wish to collaborate with researchers at academic institutions on specific projects of mutual interest, thus requires that such institutions must be the recipient of a PREP award. The PREP program requires staff from a wide range of backgrounds to work on scientific research in many areas. The Research Engineering Technician will work within the Materials and Structural Systems Division of the Engineering Laboratory, performing technical, hands-on work to support scientific projects.

Research Title:
Research Technician Assistant – Materials and Structural Systems Division, Engineering Laboratory, NIST

The work will entail:

Providing essential technical support to multiple research projects conducted within the Division's laboratories by utilizing advanced apparatuses, under close supervision from senior technician staff and researchers. Contributes technical expertise to the development, evaluation, and refinement of research plans and experimental testing procedures, focused on 3D Concrete printing, tensile testing of structural welds specimens under high temperature (up to 1,000 deg C), testing of concrete specimens with fiber reinforced polymers (FRP), including materials and large-scale structural testing (structural steel specimens **and/or** 3D printed concrete specimens). Under the supervision of senior technician staff, executes complex experimental tasks, ensuring the successful execution of research projects with a focus on material properties and structural testing.

Key responsibilities will include but are not limited to:

- Supporting senior technician staff to ensure lab equipment is operating optimally, lab spaces are well organized and safe to conduct experimental work.
- Collaborating with senior technician staff and researchers to execute smaller tasks within projects. This includes in-person meetings, detailed email communications, preparation of power point presentations tailored to be delivered to other groups within the Division and external stakeholders.
- Assisting in performing market research for purchases required for the laboratories.
- Collecting and analyzing data as requested by researchers and senior technician staff.
- Helping set-up data acquisition systems and instrumentation on large scale structural testing specimens.
- Using CAD software to design parts and fixtures for different test set-ups.

Qualifications

Not all the qualifications below are required.

- Enrolled in a two-year or four-year degree program in Civil Engineering or Mechanical Engineering.
- Experience in using software like Python, LabVIEW, AutoCAD, SolidWorks for supporting experimental work in the laboratories.

- Ability to safely operate power tools (concrete saws, concrete drilling equipment, hammer drills, portable hand saws etc.), scissor lifts, forklifts, and overhead cranes. Training will be provided.
- Additional skills in Microsoft Office applications, such as Excel, PowerPoint, and Word, for data analysis and reporting.
- Be able to work without close supervision in a team environment.
- Experience with basic machine tools (e.g., drill press, band saw, lathe, etc.)
- Strong oral and written communication skills.

Privacy Act Statement

Authority: 15 U.S.C. § 278g-1(e)(1) and (e)(3) and 15 U.S.C. § 272(b) and (c)

Purpose: The National Institute for Standards and Technology (NIST) hosts the Professional Research Experience Program (PREP) which is designed to provide valuable laboratory experience and financial assistance to undergraduates, post-bachelor's degree holders, graduate students, master's degree holders, postdocs, and faculty.

PREP is a 5-year cooperative agreement between NIST laboratories and participating PREP Universities to establish a collaborative research relationship between NIST and U.S. institutions of higher education in the following disciplines including (but may not be limited to) biochemistry, biological sciences, chemistry, computer science, engineering, electronics, materials science, mathematics, nanoscale science, neutron science, physical science, physics, and statistics. This collection of information is needed to facilitate administrative functions of the PREP Program.

Routine Uses: NIST will use the information collected to perform the requisite reviews of the applications to determine eligibility, and to meet programmatic requirements. Disclosure of this information is also subject to all the published routine uses as identified in the Privacy Act System of Records Notices: NIST-1: NIST Associates.

Disclosure: Furnishing this information is voluntary. When you submit the form, you are indicating your voluntary consent for NIST to use of the information you submit for the purpose stated.