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. Employees in this position will perform technical work that underpins the scientific research of the collaboration.

Research Title: Laboratory Automation for Cell-Based Assays (U.S. Citizens preferred)

The work will entail: The Material Measurement Laboratory (MML) of the National Institute of Standards and Technology (NIST) is seeking qualified persons (U.S. citizens preferred) to contribute to the development of advanced measurement infrastructure for biomanufacturing and the automation of biological assays. These activities underpin distributed manufacturing concepts made possible by the emergence of biofoundry networks and cloud laboratories. The selected candidate will join a dynamic, multidisciplinary team developing transferable cell expansion processes and assay performance specifications for automated systems to ensure reliability in next-generation platform manufacturing. The candidate will contribute to the unique measurement and tooling needs required to facilitate innovation in the U.S. bioeconomy.

Key responsibilities will include but are not limited to:

- Conduct innovative research in transferable manufacturing systems for living-cell reference materials.
- Translate experimental designs into automated laboratory instrumentation programs.
- Design and execute experiments, analyze data, and interpret results.
- Collaborate with multidisciplinary teams across the institute.
- Write and publish manuscripts for peer-reviewed and open-science mediums.

Qualifications:

Ph.D. in Bioengineering, Chemical Engineering, Cell Biology, Synthetic Biology, or a related field.

- Experience working with mammalian cell cultures, specifically induced pluripotent stem cells (iPSCs).
- Experience writing and executing programs on large laboratory automation systems (e.g., liquid handlers, automated microscopes) for cellular measurements.
- A track record in interdisciplinary research, particularly within automated laboratory frameworks.
- Strong oral and written communication skills and the ability to travel occasionally for collaborations.
- Present findings at national conferences and institutional meetings.

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.