

## PREP Research Associate

This position is part of the National Institute of Standards and Technology (NIST) Professional Research Experience Program (PREP). NIST recognizes that its research staff may want to collaborate with researchers at academic institutions on specific projects of mutual interest and, therefore, requires those institutions to be recipients of a PREP award. The PREP program involves staff from a wide range of backgrounds conducting scientific research across various fields. Individuals in this position will perform technical work supporting the collaboration's scientific research.

### Research Title:

Indoor Air Quality Modeling – Artificial Intelligence to Support CONTAM Model Development

### The work will entail:

Identifying and developing AI-based methods to generate and exercise CONTAM building models.

### U.S. Citizen Preferred

### Key responsibilities will include, but are not limited to:

- Gain familiarity with the use of existing CONTAM IAQ modeling software
- Gain a strong understanding of the newly developed CONTAM APIs
- Apply CONTAM APIs to generate, modify, and perform simulations on CONTAM Project files
- Develop AI-based methods to generate CONTAM building models

### Qualifications

- Ph.D. in Mechanical Engineering, or a related field
- Familiarity with multiple programming languages, e.g., C, C#, Python, or Java
- Familiarity with Git DevOps and CI/CD pipelines
- Familiarity with developing and applying agent-based AI
- 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 not 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 the 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 the information you submit for the purpose stated.