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:

- **Optical timescale for high-precision atomic clock comparisons**

The work will entail:

- This position focuses on the development of optical hardware for atomic clocks networks and for atomic clock comparisons.

Key responsibilities will include, but are not limited to:

- Develop and maintain free-space and fiber-based optical systems for clock networking experiments
- Implement and operate optical frequency dissemination and phase-stabilized fiber links
- Operate ultrafast modelocked lasers (optical frequency combs) for frequency and phase-based clock measurement
- Perform data analysis on collected clock data.
- Use stability and phase noise characterization techniques to assess fiber link and frequency comb performance.

Qualifications

- U.S. Citizen Preferred
- Bachelors+ in physics, electrical engineering, or a closely related field
- Strong background in one or more of:
    - Laser science
    - RF control systems
    - Computer based automation
- Strong oral and written communication skills.
- Preferred experience or familiarity with:
    - Ultrafast modelocked lasers
    - Experience with fiber-based systems and free-space or guided-wave optics
    - Oscillator noise characterization

COLORADO O*NET WAGE CATEGORIES FOR PREP POST POSITIONS ONLY!

Choose of the available options on the following link: FLCDataCenter.com.

- **17-2199.07 Photonics Engineers**
  Design technologies specializing in light information or light energy, such as laser or fiber optics technology.
  O*Net™ JobZone: 4
  Education & Training Code: No Level Set

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.