

NMSU NIST PREP Program

Superconducting Nanowire Single-Photon Detector Development Postdoctoral Researcher

The Applied Physics Division at NIST seeks qualified postdoctoral researchers to design, fabricate, and test a new type of superconducting single-photon detector. We anticipate multiple open positions in support of our efforts in developing superconducting nanowire single-photon detectors (SNSPDs). Our group is working to better understand basic superconductor device physics and to design, fabricate, and test next-generation SNSPDs for future applications in quantum optics, astronomy, and biomedical imaging.

The positions will be based in Boulder, Colorado, in the Quantum Nanophotonics and Faint Photonics groups led by Rich Mirin and Marty Stevens. Candidates will have access to the NIST-Boulder Microfabrication Facility, a state-of-the-art 18,000 square foot cleanroom dedicated primarily to superconductor micro- and nano-fabrication, and to extensive electrical and optical testing equipment.

Qualifications

- PhD in electrical engineering, physics, or a related field
- Expertise in one or more of the following: superconductivity, nanofabrication, cryogenics, microwave electronics, or optics.
- Additional experience beyond the Ph.D. is not required.
- US citizenship: Not required.

Salary Range: \$80,665 - \$85,000, NIST Grade Equivalent: ZP-III: ZP-III

Length of Term: Start dates are anticipated to be between July and December 2024.

To Apply: Qualified candidates should send a current CV, including contact information for three references and a publication list, to Dr. Patricia Sullivan (patsulli@nmsu.edu).

The logo for New Mexico State University (NMSU) is located at the bottom center of the page. It consists of the letters "NM" stacked above "STATE" in a bold, serif font, all contained within a white square that has a maroon border. The square is set against a maroon background.

NM
STATE

NMSU NIST PREP Program

On-Wafer Standards (CHIPS) Postdoctoral Researcher

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.

This PREP position focuses on developing traceable on-wafer standards for 5G, 6G, and beyond. The position requires finite element simulations, programming, network analysis, dimensional metrology, web-based programming, and other skills. The position will use on-wafer methods to develop standards for mmWave industry to validate the authenticity of integrated circuits.

Qualifications

- PhD in electrical engineering, physics, or a related field
- Expertise in one or more of the following: superconductivity, nanofabrication, cryogenics, microwave electronics, or optics.
- Additional experience beyond the Ph.D. is not required.
- US citizenship: Not required.

Salary Range: \$79,000 - \$81,000, NIST Grade Equivalent: ZP-III: ZP-III

Length of Term: August 12, 2024 - August 11, 2026

To Apply: Qualified candidates should send a current CV, including contact information for three references and a publication list, to Dr. Patricia Sullivan (patsulli@nmsu.edu).

The logo for Northern Michigan State University (NMSU) is located at the bottom center of the page. It consists of the letters "NM" stacked above "STATE" in a bold, serif font, all contained within a white square that has a maroon border. The square is set against a maroon background.

NM
STATE

NMSU NIST PREP Program

Sensing Metrology Postdoctoral Researcher

NIST Organization (Div/Group): Sensing Metrology - Shared Spectrum Metrology Group

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.

The candidate will mainly support the measurement work of remote sensing and antenna measurements, and support the development of antenna theory, remote-sensing metrology techniques, and calibration standards for satellite measurements.

The researcher will provide significant support on theoretical formulation, experimental design, implementation and measurement uncertainty analysis. Familiarity with the scientific instruments and components are required. These instruments include vector network analyzers, spectrum analyzers, analog and digital signal generators, high-frequency extenders, antennas, mechanical scanning and alignment systems, optical mirrors and lens, among others.

Qualifications

- PhD in electrical engineering, computer engineering or related area within the past 5 years or will receive a PhD by October 2024
- A strong candidate who has studied or worked at a university in the U.S. in the past three or more years will also be considered
- Must be eligible to work in the USA by time of application

Salary Range: \$80,000

Length of Term: August 1, 2024 - July 31, 2025

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.

To Apply: Qualified candidates should send a current CV, including contact information for three references and a publication list, to Dr. Patricia Sullivan (patsulli@nmsu.edu).

