Postdoc Position Available at CU DENVER NIST PREP Program

NIST Organization (DIV/Group): Guided Wave Electromagnetics 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.

Research Title:
On-wafer complex permittivity measurements of materials

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

The work will entail:

Key responsibilities will include but are not limited to:
- The PREP student will coordinate all stakeholder engagement to understand industries need and coordinate regular updates to solicit feedback.
- The PREP student will design, simulate, and assemble on-wafer electronics for mmWave test and measurement.
- The PREP student will design, simulate, and assemble resonator methods for mmWave test and measurement.
- With the measurement systems integrated, the PREP student will perform all measurements and analysis on the data.
- In coordination with NIST researcher, the PREP student will develop and carry out on-wafer metrology.
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Qualifications

- A PhD degree in Materials Science Engineering, or a related field.
- 2 years of relevant experience with microelectronic fabrication.
- Familiarity with programming in MATLAB and Python.
- Experience with finite element simulations in ANSYS or COMSOL.
- Strong oral and written communication skills.

NIST Sponsor Name: Nate Orloff nathan.orloff@nist.gov

Level of Appointment: Postdoc
Salary Determination: $79,000 - $90,000
               Salary will be commensurate with experience

Start Date: 2025-01-13
End Date: 2027-01-12

For possible consideration and to apply to this position, qualified candidates should send a current CV, including contact information for three references and a publication list, to Hamid Fardi (hamid.fardi@ucdenver.edu). Please submit a single pdf file.

CU Denver PREP posting:

https://engineering.ucdenver.edu/research/prep-research program