

Postbac Position Available at CU DENVER NIST PREP Program

NIST Organization (Div/Group): [Molecular and Bio-Photonics 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 work will entail:

Quantitative image analysis of optical medical imaging techniques including dark field microscopy, scatterometry, Bessel beam light propagation, and optical coherence tomography.

Level of Appointment: [Postbac](#)

An individual holding a bachelor's degree from an accredited U.S. academic institution who is engaged in temporary mentored research and/or scholarly training to acquire the skills necessary to pursue a career path of their choice. Additionally, these individuals are not allowed to enroll in a degree seeking program at any university/college in the United States or abroad during their time participating in this category. This researcher must start an appointment within 5 years of a bachelor's degree and has an appointment limit of 5 years.

NIST ADVISOR: [Kimberly Briggman](#)

NIST ADVISOR EMAIL: kimberly.briggman@nist.gov

TITLE OF PREP POSITION: [Data Analysis and Simulations to Support Quantitative Optical Medical Imaging Research](#)

SUMMARY OF THE POSITION: The applicant will perform data analysis and simulations to support quantitative optical medical imaging research including: analysis of dark field images of tumor margins, analysis and interpretation of results on scatter images of nanomaterials, cells, tissues or other biomimetic materials, analysis of Bessel beam light propagation, and analysis of layer thicknesses in optical coherence tomography images.

KEY RESPONSIBILITIES:

- Investigating existing data methods for image analysis.
- Developing new data analysis methods and applying them to optical medical images.
- Presenting results at internal meetings, and occasional meetings with external stakeholders.
- Ensuring that results, protocols, software, and documentation have been archived or otherwise transmitted to the larger organization.

REQUIREMENTS:

- A Bachelor's degree in Data Science, Molecular Biology or a related field.
- At least 2 years of relevant experience.
- Experience with Monte Carlo methods, ENVI software, spectral angle mapping algorithms, data statistical analysis, and Matlab.

- Familiarity with programming languages such as Python, Java, SQL.
- Ability to develop prototypes of tools needed to analyze data.
- Strong oral and written communication skills.

Salary Determination: [\\$56,000- \\$58,000](#)

Based on candidate's education and experience. The candidate is equivalent to ZIP-II NIST grade level.

Work Location: [Physically at NIST Boulder Colorado](#)

Length of Term:

[Start date: 2025-03-01](#)

[End Date: 2026-02-28](#)

HOW to APPLY :

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 (if any) to Professor Hamid Fardi (hamid.fardi@ucdenver.edu).

CU Denver PREP posting:

[https://engineering.ucdenver.edu/research/prep-research program](https://engineering.ucdenver.edu/research/prep-research-program)