

**Job Opportunity: Postdoctoral Researcher  
National Institute of Standards and Technology (NIST)**

**Research Title:** Postdoc in Light-Scatter Nanoscopy of Gene Delivery Particles

**Salary:** \$78,593

**The work will entail:**

Support a newly funded, 5-year NIST program to develop light-scattering interferometric nanoscopy methods for rapid, multi-attribute characterization of gene therapy particles at the single particle level. The postdoc will work closely with a collaborative, multidisciplinary team of researchers to design, build, and model novel instrumentation to provide physical measurements (e.g. mass, size, concentration, composition) of individual gene delivery particles. See program website for more details <https://www.nist.gov/programs-projects/gene-delivery-particle-analysis-high-throughput-light-scattering-microscopy>.

**Key responsibilities will include but are not limited to:**

- Integration and automation of hardware components, such as lasers, detectors, and optics, to develop a robust and user-friendly light scattering microscope for nanoparticle characterization.
- Optimizing imaging parameters and data acquisition protocols to enhance measurement accuracy and efficiency.
- Building optical models of gene delivery particles and nanoscopy instruments.
- Collaborate with researchers and engineers to develop innovative algorithms for data analysis and interpretation.
- Conduct experimental investigations to validate instrument performance, characterize particle physical characteristics and heterogeneity, and evaluate the impact of particle heterogeneity on gene delivery efficacy.
- Publish research findings in peer-reviewed journals and present at conferences and workshops.

**Qualifications:**

- A PhD in Physics, Optics, Biophysics, or a related field.
- Less than 5 years of relevant post-PhD experience.
- Experience with optical imaging and/or microscopy.
- Experience building, designing, and/or modifying scientific instrumentation.
- Some familiarity with optical models of particle light scatter and/or optical instruments.
- Programming experience with Python, MATLAB, or similar.

**Inquiries for the Position:**

Candidates should submit a CV with a complete list of publications to [aaron.goldfain@nist.gov](mailto:aaron.goldfain@nist.gov). The work location for this position will be at the NIST campus in Gaithersburg, Maryland, a suburb of Washington, D.C.

**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.