

TITLE: Infrared Microscopy for Microplastics Characterization (U.S. Citizens preferred)

Overview

The Material Measurement Laboratory of the National Institute of Standards and Technology is seeking qualified persons (U.S. Citizens preferred) to advance a novel quantum cascade laser (QCL) infrared (IR) microscopy technique for high-throughput measurement of size distribution and chemical identification of microplastic samples. The position will harness a groundbreaking QCL-IR imaging of microplastics in water by addressing nontrivial measurement problems due to the strong IR absorption by water and strong scattering contribution at <10 µm microplastics. The outputs of this work will help improve measurement assurance for microplastics characterization with less irregularity in sample preparation and more reproducibility in size quantitation. Working at NIST offers the rare opportunity to collaborate with world-class experts in a mission-driven environment, utilizing state-of-the-art microscopes to turn observations into reproducible science. It is a chance to leave a lasting legacy on the circular and champion sustainability by ensuring a foundation of sound measurement science.

Duties

- Advance the instrumentation for high-throughput QCL-IR microscopy
- Collect and analyze IR hyperspectral images of microplastics
- Discuss progress and results with NIST staff
- Present results at internal meetings, and occasional meetings with external stakeholders
- Write papers based on method advancements and datasets collected

Required Skills, Expertise, and Qualifications

- Ph.D. degree in Chemistry, Physics, Polymer Physics, or a related field
- 2+ years of experience with IR microscopy
- Ability to analyze vibrational spectral data
- Strong oral and written communication skills

Employment Terms: This opportunity is to be a postdoctoral associate researcher in Biosystems and Biomaterials Division at NIST for a term of one (1) year, with the potential to renew. Associate researchers are NOT Federal Employees, but they work alongside NIST researchers and with NIST's often world-class instrumentation. Relocation expenses will not be provided. U.S. Citizens hired into associate positions may have the opportunity to seek longer term Federal Employment.

Salary: \$75,000 - \$85,000

How to express interest: Persons (U.S. Citizens Preferred) who meet all of the required qualifications and who would be interested in taking this position are invited to express their interest by sending an email that briefly describes their qualifications along with a CV to 644assoc@nist.gov. US Citizens should note "US Citizen" and the opportunity title in the email subject line. All others should note "Non-US Citizen" and the opportunity title in the email subject line.