

TITLE: Nanocalorimetry Sensor Design and Fabrication (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 join a multi-disciplinary team of scientists working to advance the current state-of-the-art in nanocalorimetry. This individual will work closely with the leaders of this multi-effort project but will personally be responsible for developing and fabricating new sensor designs optimized for a variety of applications, including characterization of thin film materials and in-situ monitoring of plasmas.

Duties

- Work with other project team members to design new nanocalorimetry sensors for multiple applications
- Use Finite Element Analysis to model the thermal and mechanical behavior of new sensor designs prior to fabrication
- Fabricate sensors in the NIST Nanofab
- Utilize multiple techniques to determine the mass of samples prior to thermal analysis
- Perform nanocalorimetry experiments and conduct subsequent data analysis to extract material properties as needed
- Publish results in peer reviewed scientific journals and present results at scientific conferences.

Required Skills, Expertise and Qualifications

- Ph.D. in materials science, physics, chemistry, chemical engineering or related field.
- Expertise in thermal analysis of materials, including calorimetry-based measurements
- Experience with CAD (Solidworks preferred) and FEA (Abaqus preferred) software
- Experience with materials characterization techniques, including LDV, optical profilometry, and electron microscopy
- Experience with cleanroom operations and standard nanofabrication processes
- Strong written and oral communication skills; ability to work independently and as part of a team.

Employment Terms: This opportunity is to be an associate researcher in the Materials Measurement Science Division for a term of 1 year, with options to renew. Associate researchers are NOT Federal Employees, but they work aside 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: \$100,000 to \$105,000

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 643assoc@nist.gov. U.S. Citizens should note "U.S. Citizen" and the opportunity title in the email subject line. All others should note "Non-U.S. Citizen" and the opportunity title in the email subject line.