

## NIST/MML/MSED Research Associate Opportunity

TITLE: Electrochemical Recovery of Critical Minerals from Microelectronic Waste

### Overview

The Materials Measurement Laboratory of the National Institute of Standards and Technology is seeking qualified persons (U.S. Citizens preferred) to advance critical mineral recovery. The role would join a world-class team developing technologies for, and the measurements that enable, the recovery of critical minerals from e-waste, utilizing state of the art instrumentation for in-situ characterization in a collaborative, cutting edge environment.

### Duties

- Develop and optimize electrochemical and polymer-based technologies for the selective separation of critical materials from complex e-waste streams.
- Design in-situ/operando electrochemical cells for a variety of techniques including CV, EIS, QCM, UVvis, FTIR, and x-ray scattering.
- Conduct electrodeposition and electrowinning experiments to recover critical materials from simulated and real e-waste leachates.
- Prepare technical documents and present research findings to internal teams and external stakeholders.

### Required Skills, Expertise and Qualifications

- Ph.D. in Materials Science, Chemistry or related disciplines.
- Demonstrated experience with electrodeposition, electrochemical characterization techniques, and polymer-based capacitive methods.
- Proficiency in in-situ/operando analysis (EIS, CV, QCM, WAXS, SEM, TEM).
- Proficiency in Python for data collection, analysis, and modeling.
- Strong experimental design, data analysis, and communication skills.

Employment Terms: This opportunity is to be an associate researcher in the NIST Materials Science and Engineering Division for a term of 1 year, with options to renew. Associate researchers are NOT Federal Employees, but they work along with 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: Between \$75,000 and \$95,000

How to express interest: Interested persons (U.S. Citizens preferred) who meet all of the required qualifications are invited to express their interest by sending an email that briefly describes their qualifications along with a CV to [642assoc@nist.gov](mailto:642assoc@nist.gov). U.S. 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.