

TITLE: Research Engineer, Autonomous MOF synthesis (U.S. Citizens preferred)

Overview

The Materials Measurement Laboratory of the National Institute of Standards and Technology is seeking qualified persons (U.S. Citizens preferred) to develop methods and instrumentation for autonomous synthesis and development of metal organic frameworks (MOFs), with an emphasis on designing and building custom measurement systems and testbeds including FTIR and x-ray diffraction.

Duties

- Write code to automate synthesis and characterization tools
- Design, build and validate custom experimental setups
- Developing data pipelines

Required Skills, Expertise and Qualifications

- Science or Engineering degree (B.S. or similar and higher)
- Experience in coding control and data management systems for automated experimental equipment with minimal supervision (e.g., Python, Arduino/Raspberry Pi)
- Experience designing and building equipment or devices (laboratory instrumentation preferred)
- Hands-on laboratory skills and troubleshooting mindset
- Mechanical design and rapid prototyping (CAD, machining, 3D printing)
- Instrumentation integration (sensors, cameras, data acquisition systems)

Other Desirable Qualifications

- Experience working with vacuum and gas systems preferred
- Mechanical design and rapid prototyping (CAD, machining, 3D printing)
- Basic electronics familiarity
- Familiarity with X-ray diffraction
- Familiarity with Fourier transform infrared spectroscopy (FTIR)
- Knowledge of python scientific stack (NumPy, SciPy, pandas, scikit-learn, TensorFlow/PyTorch)
- Data pipeline development experience for large datasets

Employment Terms: This opportunity is to be an associate researcher in the NIST's Materials Measurement Science Division in Gaithersburg, MD, 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 \$65,000 and \$75,000, commensurate with the candidate's qualifications and experience

How to express interest: Persons (US Citizens Preferred) who meet all 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. 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.