



OpenMSIStream

HEMI SHORT COURSE

January 18–19, 2024

Johns Hopkins
Homewood campus

OpenMSI: Data streaming for autonomous laboratory research

Autonomous laboratories are poised to revolutionize research in materials, pharmaceuticals, biology, and other fields. Autonomous experiments combine robotic automation with AI/ML decision making and control. Data streaming—moving data automatically from the instruments where it is collected to storage and compute services—is a core technology for autonomous research because it allows data to be accessed, processed, and acted on in real time. For current (non-autonomous) labs, streaming can vastly improve data throughput, consistency, and reliability.

This HEMI short course will introduce students to OpenMSIStream, a new cross-platform tool for streaming and sharing among data-producing and data-consuming devices.

Participants will learn how to:

- Install OpenMSIStream on their own computer (Windows, macOS, or Linux)
- Stream actual instrument readings in real time to remote storage
- Access streamed data
- Set up automated processes to analyze and act on the data.

Students will leave the short course with the skills necessary to implement OpenMSIStream to stream and process data in their own labs to create new functionality, enable automated workflows, and participate in development of forward-looking, autonomous research paradigms.

This short course is intended for students and postdocs who are interested in autonomous experimental research.

Prerequisites: Basic skill in Python and familiarity with Jupyter.

Register using this QR code.
Visit hemi.jhu.edu for more information.



HEMI

HOPKINS EXTREME
MATERIALS INSTITUTE