Dear colleagues,

We invite you to register for our workshop, *Modern Statistical Methods and Cyberinfrastructure for Mass Spectrometry*, to be held at the 2025 AGU Fall Meeting on Wednesday, December 17th from 8:30am-12pm.

The workshop will center on the application of modern statistical techniques to improve isotope geochemistry. We will focus on the use of the Tripoli software package for MS data reduction (https://github.com/CIRDLES/Tripoli). Tripoli supports the visualization of temporal trends and scatter during measurement, the statistically rigorous filtering of data, and the calculation of statistical parameters. We provide hands-on instruction for downloading, installing, and applying the package to example and user-supplied datasets.

Students and postdoctoral researchers are especially encouraged to participate in the workshop, as well as lab managers and early-career scientists. F**unding is available to defray the cost of travel and participation, with a minimum of $500 for all participants and the potential for additional funding for students, early-career researchers, and lab managers/support personnel.** If you are interested in applying, please provide your information by filling out this survey: *Funding Application Survey*

Workshop Abstract:
The relative abundance of isotopes – elements with similar chemical properties but different masses – provides critical clues for understanding the Earth's history, structure, and evolution. Precise measurements of isotope ratios can be made with mass spectrometers (MS). Measurements made with two types, the thermal ionization mass spectrometer (TIMS) and multi-collector inductively coupled plasma mass spectrometer (MC-ICPMS), underpin the study of geochronology and radiogenic isotopic systems. New MS technology, such as linear ion counters, high-resistance amplifiers, and large-capacity vacuum pumping systems, has significantly improved the precision of isotopic analyses and expanded their application to new isotope systems. Improved statistical data reduction and visualization are key in translating these hardware improvements to improved scientific interpretation of isotopic data. In this workshop, we aim to convey state-of-the-art knowledge on methods and software for processing raw mass spectrometer data.

Workshop Highlights:

- Improved statistical methods and treatment of MS time series data.
- Demonstration of new MS data reduction software, Tripoli.
- Hands-on assistance with downloading and running Tripoli on user-supplied data or example datasets.
- Tutorial on commenting and contributing to community-driven cyberinfrastructure.

Best wishes,
Noah McLean, University of Kansas
Jim Bowring, College of Charleston
Scott Burdick, Wayne State University