

TWO-DAY COURSE, Saturday and Sunday
10 Mass Analyzers: Everything You Wanted to Know about Common Mass Spectrometers but Didn't Know Who to Ask

Instructors



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Measuring the mass of an ion requires a bit more sophistication than stepping on your bathroom scale. Thus, it is perhaps no surprise that mass spectrometers use sophisticated ways to measure ion masses, but they also can do so much more, depending on the needs of the analyst. There are a number of different mass analyzers in common use today. Which one is best for your experimental needs, and what performance can you expect from your existing instrument? Among the criteria to consider are: accuracy, precision, speed, sensitivity, limit of detection, and capabilities for multiple stages of mass spectrometry (MS/MS). Understanding the principles and operation of different mass analyzers with regard to these criteria is the foundation for choosing the analyzer(s) best suited for your needs. This course will provide basic knowledge related to time-of-flight, ion cyclotron resonance, quadrupole field based mass analyzers, and combinations thereof. The goal is for students to be able to maximize the potential of the mass spectrometers they currently use and to be able to critically evaluate the options for future instrument purchases. An introductory level knowledge of physics, and some mass spectrometry experience are useful prerequisites.

Day 1: Introduction/Overview, time-of-flight, ion cyclotron resonance

Day 2: Quadrupole ion trap, quadrupole mass filter, hybrid systems