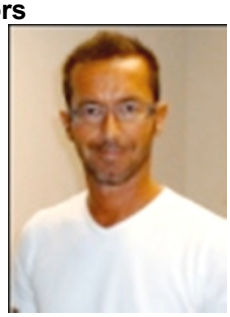
TWO-DAY COURSE, Saturday and Sunday
11 MS/MS: An Introduction to Instrumentation, Fundamentals, and Spectral Interpretation

Instructors

Linda Breci
University of Arizona

Arpad Somogyi
Ohio State



George Tsaprailis
University of Arizona

Vicki Wysocki
Ohio State University

This course is designed for the student who wants to understand more about the fundamental, instrumental and practical aspects of tandem mass spectrometry.

DAY 1: The first day of this 2-day short course focuses on instrumentation (TOF, Q, QIT, LIT, Orbitrap, FTICR) with emphasis on combinations that are used for MS/MS (QqTOF, QqQ, QIT, LIT, LIT-Orbitrap or QqFTICR), how these analyzers work together and a brief discussion of how ion mobility MS fits in. This is followed by descriptions of the different modes of scanning (product ion, precursor, neutral loss, SRM/MRM) with literature examples and interactive problem solving. There will be a brief discussion of sample effects, i.e. why you might derivatize and how you might avoid undesired interferences.

DAY 2: The second day begins with MS/MS rate theory and comparison of energy deposition mechanisms and dissociation times associated with popular instruments, including discussion of how these influence fragmentation patterns. Specific activation methods CID, IRMPD, ECD, ETD, and SID will be described. The remainder of the day will be spent on interpretation of MS/MS spectra, with sections devoted to small molecules and to peptides.

This course that attracts students with a wide variety of backgrounds as well as applications, and so the material is designed for the general audience. We encourage participants to contact us in advance if there are particular molecule types or questions that we might address in the course.

Prerequisite: New users of MS/MS who have some basic knowledge of mass spectrometry (i.e. familiar with ESI and MALDI, and understand the basic principles of at least one type of mass analyzer.)