

ONE-DAY COURSE, Sunday
MS for Structural Biology
An Introduction to Technologies, Methods, and their Integration

Instructors



Vicki Hopper Wysocki
Georgia Institute of Technology



Sophie Harvey
The Ohio State University



David H. Russell
Texas A&M University



Arthur Laganowsky
Texas A&M University



Brandon Ruotolo
University of Michigan



Steffen Lindert
UCLA

Course Level: Introductory/Intermediate (must be familiar with MS analyzers and ionization)

Introduction: Mass spectrometry has seen rapid growth as a tool for structural biology. Native MS is making significant contributions to structural biology along with complementary non-native approaches. Because of its ease of use and broad applicability, native MS often leads and guides an integrated approach that includes other structural biology tools. This course is designed to introduce the broad field of structural MS to those who already understand the basics of mass analyzers, ionization methods, and tandem MS.

Topics to be covered include

- MS for Structural Biology Overview
- Sample Preparation for Structural Biology MS
- Chemical Labeling-MS (including HDX, FPOP, other chemical Labeling)
- Cross-linking and limited proteolysis
- Native MS - fundamentals/thermo
- Hands on activity, which structural MS fits a given problem? interpret data
- Complex-down/Native Top-down/Substructure
- IM, CIU and related Concepts
- CDMS/DMT: DHRussell/VWyssocki
- Connections to other structural biology tools
- Computational approaches to Data Integration
- Hands on activity/roundtable