TWO-DAY COURSE, Saturday and Sunday
Glycans and Glycoproteins in Mass Spectrometry

Instructors

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This course is designed for scientists who want to learn specific techniques for the MS and MS/MS characterization of glycans and glycoproteins. The course will address fundamental aspects of glycobiology, sample preparation and handling, mass spectrometry (hardware and software), and bioinformatic tools for interpretation of results.

Real-world examples of the application of these techniques will include characterization of intact glycoproteins, characterization of released glycans, analysis of complex mixtures of glycoproteins and glycans. The role of MS-based methods in interdisciplinary efforts to solve these complex problems will also be addressed.

Day 1
- Introduction to glycosylation
- Chemical manipulation/derivatization of oligosaccharides, GC-MS for linkage and composition analyses
- MALDI MS and ESI of oligosaccharides
- Tandem MS of oligosaccharides
- Glycoproteins -- release and analyze, and glycomic approaches
- Glycopeptides, methods for site specific glycosylation analysis, glycoproteomic approaches

Day 2
- Glycoprotein applications and case studies
- Glycosaminoglycans: Background, fundamentals, Tandem MS
- Glycolipids
- Glycan Quantitation
- Bioinformatics

Prerequisites: A basic knowledge of mass spectrometry and some rudimentary knowledge of biology and chemistry is desirable.