TWO-DAY COURSE, Saturday and Sunday
09 Getting Started with R for Mass Spectrometrists

Instructors

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This course provides participants with a strong foundation in the fundamentals of the R programming language. It demonstrates how R can be used for various data analysis tasks commonly encountered by scientists. The course focuses on practical aspects of R for data analysis and includes examples from mass spectrometry, making it beneficial for ASMS members. The objective is to empower scientists, especially those new to R and coding, to independently perform basic data analysis tasks and create visualizations. It also serves as a stepping stone for further exploration and mastery of R.

The course will focus on three main topics:

1. A high-level and practical introduction to R and RStudio, covering the essential fundamentals that one needs to start doing basic data analysis tasks.

2. An introduction to the tidyverse ecosystem of R packages and how they can be used to facilitate efficient and organized data analyses.

3. An introduction to the ggplot2 data visualization package, with an emphasis on practical fundamentals, so participants can start making basic plots and visualizations from their own data.

Please note that this course will not cover specific analysis and statistical methods for mass spectrometry data. Instead, it aims to help new R users grasp the fundamental essentials needed to start using R in their work. While mastery of R takes time, this course aims to help participants overcome initial obstacles commonly faced by new R users. Additional learning resources and recommendations will be provided at the end of the course to support ongoing study of R.

Prerequisites:
All participants must bring a laptop to the course for the example exercises. Instructions for required software and set-up will be provided in advance. Some experience with basic data analysis tasks (e.g., using Excel and/or MS vendor software) is recommended.

While previous programming experience is helpful but not required for this course. The focus is on using R for data analysis, not teaching programming. Beginners are welcome!