



**ASMS Fall Workshop on
R Fundamentals and Best Practices for
Mass Spectrometry Data Analysis**

**November 7-8 & 14-15, 2020
Remote**

Organizers:

Ryan Benz, *Seer*, Meena Choi, *Genentech*
& Olga Vitek, *Northeastern University*

Preliminary Program

This workshop is focused on introducing the R programming language to those who have little-to-no experience with R and/or coding in general. While the main goal of the workshop is to cover the basic fundamentals of R and best practices, mass spectrometry-based data sets will be used throughout the course to make it relevant for those in the mass spectrometry field. To help participant get over some of the initial challenges new R users often face, the workshop will be divided into focused lectures followed by small group working sessions with teaching assistants (1 TA per ~5 participants) who will actively work with participants to answer questions and assist with practice exercises.

Attendee Requirements

Zoom application installed on your computer and a reliable internet connection. Workshop will be taught using RStudio Cloud (requires the creation of a free account). At this time, we do not anticipate any software will need to be installed on attendee computers (aside from the Zoom application and a modern web browser)

Instructors & Teaching Assistants

Ryan Benz (Seer, Inc.)
Meena Choi (Northeastern University)
Olga Vitek (Northeastern University)
Teaching Assistants from Northeastern University

Preliminary Schedule (subject to minor changes)

Due to the online delivery of the workshop, the content will be spread across 4 days (two weekends) with sessions lasting ~3 hours each day, with two topics presented each day. Each topic will be split between a lecture component and a hands-on exercise component with assistance from TA's.

Saturday, November 7 (12:00 – 3:15 PM Eastern)

- Module #1: R Fundamentals
- Module #2: Basic Data Manipulation

Sunday, November 8 (12:00 – 3:15 PM Eastern)

- Module #3: Basic Data Visualization with ggplot2
- Module #4: Data Preparation for Visualization and Extended ggplot2 Syntax

Saturday, November 14 (12:00 – 3:15 PM Eastern)

- Module #5: Reproducible Data Analysis with RMarkdown
- Module #6: Application of Topics with a Case Study

Sunday, November 15 (12:00 – 3:15 PM Eastern)

- Module #7: Applied MS Topics and R Packages #1
- Module #8: Applied MS Topics and R Packages #2