

**GLYCOMICS, GLYCOPROTEOMICS AND BIOINFORMATICS TOOLS FOR DATA
INTERPRETATION OF MASS SPECTROMETRY OF GLYCOPROTEINS**

October 7-11, 2019

Note : A 30-minute session each day is available to discuss participants' respective research with Dr. Parastoo Azadi. You may make an appointment with her or you can visit her office concerning this matter (during the coffee break, lunch time, or after the lab exercise) .

Monday, October 7, 2019

9:00 a.m. – 9:05 a.m.

Introduction

Dr. Parastoo Azadi

9:05 a.m. – 10:30 a.m.

Lecture: “Introduction to Techniques in Mass Spectrometry”

Dr. Franklin E. Leach

10:30 a.m. – 10:45 a.m. **BREAK**

10:45 a.m. – 12:00 p.m.

Lecture: “Release and Analysis of N and O-Linked Glycans from Glycoproteins”

Dr. Parastoo Azadi

12:00 p.m. - 1:00 p.m. - **LUNCH**

1:00 p.m. – 3:00 p.m.

Demonstration: Sample Preparation for Glycopeptide Analysis

3:00 p.m. – 3:15 p.m. **BREAK**

3:15 p.m. – 5:00 p.m.

Lecture and Demonstration: “Analysis of glycans and glycopeptides by Permethylated”

Dr. Asif Shajahan

Tuesday, October 8, 2019

9:00 a.m. – 12:00 a.m.

Glycan Analysis by Waters System

12:00 p.m. - 1:00 p.m. – **LUNCH**

1:00 p.m. - 2:00 p.m.

Demonstration: Analysis of Glycopeptides by LC-MS/MS

2:00 p.m. – 2:10 p.m. - **BREAK**

2:10 p.m. – 5:00 p.m.

Lecture: “Glycoproteomics”

Dr. Lance Wells

Wednesday, October 9, 2019

9:00 a.m. – 10:00 a.m.

Lecture: “Introduction to Glycopeptide-Method Development”

Dr. Stephanie Archer-Hartmann

10:00 a.m. – 10:10 a.m. **BREAK**

10:10 a.m. – 11:15 a.m.

Demo: “Glycoproteomics”

Dr. Asif Shajahan

11:15 a.m. – 12:15 p.m.

Lecture: “Glycomics and Glycoproteomics Databases”

Dr. Rene Ranzinger

12:15 p.m. – 1:45 p.m. - **LUNCH and CCRC tour**

1:45 p.m. – 2:45 p.m.

Overview: Software tools for interpretation of MS data

Dr. Rene Ranzinger

2:45 p.m. – 3:00 p.m. **BREAK**

3:00 p.m. – 5:00 p.m.

Manual annotation of Glycomics MS data

Dr. Stephanie Archer-Hartmann

Thursday, October 10, 2019

9:00 a.m. – 10:00 a.m.

Glyco Workbench: Glycomics data processing I

Dr. Rene Ranzinger/ Sena Arpinar

10:00 a.m. – 10:15 a.m. - **BREAK**

10:15 a.m. – 11:15 a.m.

Glyco Workbench: Glycomics data processing II

Dr. Rene Ranzinger/ Sena Arpinar

11:15 a.m. – 12:15 p.m.

GRITS Toolbox: Glycomics data processing I

Dr. Rene Ranzinger/ Sena Arpinar

12:15 p.m. – 1:15 p.m. - **LUNCH**

1:15 p.m. – 2:45 p.m.

GRITS Toolbox: Glycomics data processing II

Dr. Rene Ranzinger/ Sena Arpinar

2:45 p.m. – 3:00 p.m. - **BREAK**

3:00 p.m. – 4:00 p.m.

**GRITS Toolbox: MIRAGE and Meta data reporting
support**

Dr. Rene Ranzinger/ Sena Arpinar

4:00 p.m. – 5:00 p.m.

Manual annotation of glycopeptide MS data

Dr. Stephanie Archer-Hartmann

Friday, October 11, 2019

9:00 a.m. – 10:00 a.m.

Introduction in Byonic/Proteindiscoverer and method setup

Dr. Stephanie Archer-Hartmann

10:00 a.m. – 10:15 a.m. - **BREAK**

10:15 a.m. – 12:15 p.m.

Data analysis with bionic/Proteindiscoverer

Dr. Asif Shajahan

12:15 p.m. – 1:15 p.m. **LUNCH**

1:15 p.m. – 2:15 p.m.

Running own data using Byonic or GRITS

**Dr. Rene Ranzinger,
Dr. Stephanie Archer-Hartmann**

2:15 p.m. – 3:00 p.m.

Course summary, Course evaluation, Final Questions & Answers

3:00 p.m. – 4:00 p.m.

Free time to meet with instructors