



NEUROSCIENCE SUMMER SCHOOL

22.-24. September 2021

Workshop Option 3: 23.09.2021 9 a.m. – 4 p.m.

Mass spectrometry-based proteomics

Workshop description:

Proteins drive almost any biological function in living organisms, tightly orchestrated through complex molecular networks and post-translational modifications. Modern mass spectrometry-based proteomics provides an unbiased approach to study thousands of proteins in biological samples simultaneously and quantitatively. This workshop aims to provide an overview on how to plan, generate and analyse proteomics data obtained using state-of-the-art high resolution mass spectrometry. Principles of sample preparation, data acquisition and analysis will be introduced. Hands-on training on a commonly used and open source statistical environment will provide trainees with fundamentals of data handling and visualization.

The training will have the following specific learning objectives:

- Principles of mass spectrometry based proteomics
- How to prepare sample for proteomic analysis
- Fundamentals of high-resolution mass spectrometry
- How to analyse and interpret quantitative proteomics experiments

Target audience and assumed background:

The course is aimed for a broad audience of post-graduate students that employ (or plan to employ) proteomics approaches in their projects. The training will cover key aspects of data generation and principles of data handling and analysis. Both experimentalists that plan to generate their own data as well as more computationally oriented students that are interested in how proteomics data are generated will benefit from this course. No prior knowledge in bioinformatics, proteomics is required.

Methods:

- Lectures
- Hands on software training (Perseus) in small groups → please bring your own laptop
- End of workshop quiz and open discussion

Instructors by RTG 2155 ProMoAge:

- Therese Dau (*Facility Manager, Core Facility Proteomics, FLI, Jena*)
- Florian Meier (*Juniorprofessor, UKJ, Jena*)
- Alessandro Ori (*Group Leader, FLI, Workshop coordinator*)
- Patrick Winterhalter (*Scientific Coordinator ProMoAge, Martin Luther University Halle-Wittenberg*)

Gefördert durch