

BIO-639

Practical - D'Angelo Lab

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Cursus	Sem.	Type
Molecular Life Sciences		Opt.

Language of teaching	English
Credits	1
Session	
Exam	Oral presentation
Workload	30h
Hours	24
Courses	6
TP	18
Number of positions	4

Frequency

Every year

Remark

3-day Block course, every year in January. To register, contact EDMS Administration

Summary

Cells produce thousands of lipids that impact biological processes in ways we are only starting to characterize. In this course we will introduce MALDI imaging mass spectrometry to study lipid composition in a space resolved fashion.

Content

Imaging of lipids bi MALDI - IMS

- Introduction to lipid biology
- Introduction to MALDI-IMS
- Introduction to the neurochemistry of lipids

Practical

- Sample preparation for MALDI-IMS experiments
- Sample fixation
- Acquisition of correlative image (IHC or IF)
- Matrix deposition

- Data acquisition
- MALDI-MSI acquisition

- Data analysis
- Lipid image extraction
- Image alignment
- single pixel analysis

Note

Please note that you cannot register in your own group Practical!

Note that 3 practical courses are mandatory for all EDMS students and that they have the priority; each course has

between 2 to 4 possible slots.

Therefore, please do not register by yourself to this course, this will be done by the EDMS program administrator!

Keywords

Lipid biology, imaging mass spectrometry

Learning Prerequisites

Required courses

Basic Biochemistry courses

Learning Outcomes

By the end of the course, the student must be able to:

- understand the principles of MALDI-IMS

Assessment methods

Oral presentation

Resources

Websites

- <https://www.epfl.ch/labs/dangelo-lab/>