BIO-659

Advanced Microscopy for Life Science

Seitz Arne

Cursus	Sem.	Type
Molecular Life Sciences		Obl.
Neuroscience		Obl.

Language of teaching	English
Credits	3
Session	
Exam	Oral presentation
Workload	90h
Hours	**45**
Courses	15
Exercises	5
TP	25
Number of positions	**16**

Frequency

Every year

Remark

Every year in September. To register, contact EDMS Administration

Summary

For further information, please get in contact with the instructor or have a look on the following web-site:
http://biop.epfl.ch/

Content

• Basic optical principles
• Light microscopy, fluorescence microscopy
• Confocal microscopy
• Fluorescence Resonance Energy Transfer (FRET)
• Photobleaching, photoactivation techniques, Fluorescence Recovery after Photobleaching (FRAP)
• Structured Illumination microscopy
• Localization techniques (PALM, STORM)
• Stimulated emission depletion microscopy (STED)

Note

Places are limited (16 students) due to hand-on sessions. The selection (if necessary) will be made based on the scientific needs, expressed in a letter of intent (maximally 2000 characters) by the PhD student. It should contain a brief description of the project emphasizing the need of advanced light-microscopy methods.
For further information please get in contact with the instructor or have a look on the following web-site:
http://biop.epfl.ch/

Keywords

Light-microscopy, live-cell imaging, high/super resolution light microscopy.

Assessment methods

Presentation

Resources

Websites

- http://biop.epfl.ch/