

BIO-659

**Advanced Microscopy for Life Science**

Seitz Arne

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

Language of teaching	English
Credits	3
Session	
Exam	Oral presentation
Workload	90h
<b>Hours</b>	<b>45</b>
Lecture	15
Exercises	5
Practical work	25
<b>Number of positions</b>	<b>16</b>

**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**

Please do not register by yourself to this course, this will be done by the EDMS program administrator once you'll be selected by the course organizer (upon motivation letter)!

### **Keywords**

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

### **Assessment methods**

Presentation

### **Resources**

#### **Websites**

- <http://biop.epfl.ch/>