

BIO-603(SH)

**Practical - Stahlberg Lab**

Stahlberg Henning

Cursus	Sem.	Type
Molecular Life Sciences		Obl.

Language of teaching	English
Credits	1
Session	
Exam	Oral presentation
Workload	30h
<b>Hours</b>	<b>28</b>
Lecture	6
Exercises	6
Practical work	16
<b>Number of positions</b>	<b>3</b>

**Frequency**

Every year

**Remark**

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

**Summary**

Cryo-electron microscopy structural analysis of proteins. The course aims at demonstrating the workflow from sample purification to determining the atomic structure of a soluble or membrane protein.

**Content**

Students will be introduced to the principles of protein purification, biophysical characterization of the state of the proteins, and structure determination by cryo-EM. The latter will involve sample preparation for negative stain EM and cryo-EM, image recording in an advanced and automated electron microscope, image processing, and 3D structure reconstruction.

**Note**

Please note that you are not allowed to inscribe in your own group!

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**

Structural biology, membrane protein structure, cryo-electron microscopy, image processing, 3D reconstruction

**Resources****Websites**

- <https://www.epfl.ch/labs/lbem/>