Confocal Microscopy

Course code
PNS0138
Application code
SLU-P0071
Application deadline
2023-03-31

Course period
1 May - 12 May 2023
Cycle
No specific cycle
Subject
Biology
Credits
5.0 credits
Location
Uppsala
Study pace
100
Study time Daytime
Distance
No
Language
English

Syllabus

Syllabus approved

2016-02-23 (from)

Subjects

Biology

Education cycle

Third cycle

Grading scale

Pass / Failed
The requirements for attaining different grades are described in the course assessment criteria which are contained in a supplement to the course syllabus. Current information on assessment criteria shall be made available at the start of the course.

Language

English

Prior knowledge

The practical part of the course is primarily intended for PhD students within the SLU Graduate School Organism Biology, but will be open for all interested PhD students and researchers if space allows. All lectures will be carried out as open events, no registration is required to attend the theoretical part of the course.

Objective, including learning outcomes

After the course students will be able:
- to choose the optimal microscopy method for a given task
- to plan an experiment with controls which will not rely on "seeing is believing" concept
- to perform confocal microscopy
- to use ZEN and ImageJ software for image analysis
- produce publication-quality images

Content

The course includes a solid theoretical background in confocal microscopy in form of lectures and seminars. Students will have an opportunity to learn from experts who are running microscopy facilities and from researchers who are developing cutting edge microscopy techniquess. All students will get hands-on experience with confocal microscope and will have an introduction to advanced confocal microscopy techniques. The course will provide opportunities for students to utilize the SLU confocal microscopy facilities and also learn about other technologies available in Sweden and abroad. Students will be introduced to a set of available software for image analysis including Carl Zeiss ZEN and open source ImageJ.

Requirements for examination

A student should attend at least 80% of lectures and seminars and complete the practical part of the course. During the practical part students will work in small groups. Each student will have to write a brief report in form of a materials and methods chapter plus a figure, prepared as it would be for a publication.

Additional information

The course is organized by Adrian Dauphinee and Stefanie Rosa on behalf of the SLU graduate school Organism Biology. Maximum 16 students per course occasion.

Responsible department

Department of Plant Biology

Course leader

Adrian Dauphinee
Telephone: 072 296-5430
E-mail: adrian.dauphinee@slu.se

Examiner