BIO-610

State of the Art Topics in Neuroscience XI

Invited lecturers (see below), Petersen Carl

Cursus	Sem.	Type
Neuroscience		Opt.

Language of teaching	English
Credits	1
Session	
Exam	Written & Oral
Workload	30h
Hours	**14**
Courses	14
Number of positions	**24**

Frequency

Only this year

Remark

Postponed to July 6-8 2022

Summary

The goal of the course is to increase students' knowledge in the field of Neuroscience, with a particular emphasis on neuronal circuits responsible for sensation, motor control and sensorimotor interactions, as well as on their development and plasticity.

Content

Students will be introduced to the field of tactile whisker sensory processing and motor control by leading world experts from the USA, Canada, Japan and Europe. Woolsey and van der Loos (1970) discovered that the tactile whiskers on the rodent snout are individually represented in the primary somatosensory cortex by somatotopically-arranged anatomical units, which they termed â##barrelsâ##. These precise barrel maps have fascinated neuroscientists ever since their discovery and have allowed detailed structure-function analyses. In this course, we will consider advances in barrel cortex research focusing on the latest discoveries in diverse topics including:

- orofacial sensation and motor control
- whisker sensory coding
- barrel cortex circuits
- long range circuits
- development and plasticity

Students will be evaluated by an assignment related to the research of the invited speakers.

The presentations of the invited speakers will take place during 2.5 days (28-30 June 2021) in SV1717.

Note

Invited speakers: David Kleinfeld, Michael Brecht, Hillel Adesnik, Alison Barth, Soohyun Lee, Patricia Gaspar, and others

Keywords

neural circuits, cortical circuits, motor control, somatosensation, barrel cortex, behavior, rodents, whiskers

Assessment methods

Students will be evaluated by an assignment related to the research of the invited speakers.

Resources

Websites

- https://neurosymposium.epfl.ch/summer2021/