

BIO-693(9)

State-of-the-Art Topics in Neuroscience IX (2019)

Invited lecturers (see below), Ramdya Pavan P, Sandi Carmen

Cursus	Sem.	Type
Neuroscience		Obl.

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

Frequency

Only this year

Remark

Next time: January 16, 2020

Summary

The goal of the course is to increase students' knowledge in the fields of Systems Neuroscience, Neurorobotics, and Neurobiology. The students will acquire knowledge about state-of-the-art discoveries from visiting Stanford Neuroscience professors and EPFL Neuroscience professors.

Content

Students will be introduced, by experts from Stanford University and EPFL, to fundamental concepts and recent findings related to the systems-level understanding of how neural circuits control cognition, and behavior. As well there will be a focus on the applications and development of neurotechnologies. Students will be exposed to novel approaches and methodologies in both animal and robotic systems:

- Using primates to study neuronal processes mediating visual perception and visually guided behavior
- Using Drosophila to study the development, function, and disruption of neural circuits
- Using robots to model locomotion and behavior
- Using rodents to dissect neural circuits from sensory to motor and back again

Students will be evaluated by an assignment related to recommended articles and speakers lectures.

The course will take place during 1 day with assignments performed prior to the Symposium date.

Keywords

neural circuits, dynamical systems, vision, motor control, stress, pain, robots, rodents, primates, insects, humans