BIO-693(5) **State-of-the-Art Topics in Neuroscience V (2017)**

Auwerx Johan, Gräff Johannes, Sandi Carmen, Various lecturers

Cursus	Sem.	Type
Neuroscience		Obl.

Language of teaching	English
Credits	1
Session	
Exam	Written
Workload	30h
Hours	**24**
Courses	24
Number of positions	**60**

Remark

Next time: March 14th - 15th, 2018

Summary

The goal of the course is to increase the knowledge in the field of stress in health and disease. The students will acquire knowledge about stress-related human and animal behaviors, mechanisms underlying stress response and stress-related neuropsychic disorders.

Content

Students will be introduced, by experts in the field, to fundamental concepts and recent findings related to stress. The course will not only cover neurobiology as major focus, but also metabolism, psychology and sociological aspects. The students will also be exposed to novel approaches and methodologies in both human and animal systems:
- Stress and coping behaviors: A key role for brain metabolism
- Stress and coping behaviors: A key role for brain metabolism
- Metabolic stress
- Systems genetics approaches to explore mitochondria and aging
- Physical activity and fitness as stress-buffers
- Stress in adolescence as a modifying factor in neurodevelopmental disorders
- Psychobiology of stress-related disorders
- Stress hormones in acute and chronic disease
- The biological consequences of social inequalities
- Traumatic stress across generations: Epigenetic mechanisms in the germline
- Stress in wild chimpanzees
- The impact of stress exposure on stress measures in young children
- Stress and the neurobiology of self-control in decision making
- Insights into remote fear memory extinction
- Stress and memory: implications for treating fear-related disorders
- Stress, affective relevance, and reward
- The use of virtual reality for stress management training
- Stress and accelerated blood clotting
- Molecular dissection of the acute stress response
- Ensemble coding in amygdala circuits
- Habenular encoding of negative states
- Perceptual tendency toward threat and gene transcription patterns: a pilot study
- Genome-guided drug discovery for stress-related disorders

Students will be evaluated by an assignment related to recommended articles and speakers lectures.
The course will take place during 2 days.

Keywords

stress, behavior, brain metabolism, stress-related disorders, epigenetics, fear memory,

Assessment methods

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

Resources

Websites

- https://bmisymposia.epfl.ch