



**Universität
Zürich^{UZH}**

Block course

BME342

Functional Neuroanatomy

HS 2016

Schedule overview

W1			Thursday Oct 13	Friday Oct 14
08:00-09:45			42-G-53; 9:00 Introduction	42-G-53 Lecture 2/AI Human neuro-anatomy II
10:15-12:00			42-G-53 Lecture 1/AI Human neuro-anatomy I	42-G-53 Lecture 3/AI Cortex cytology
13:00-17:00			42-G-86 P1 Anatomische Sammlung	42-G-86 P1 Anatomische Sammlung
W2	Tuesday Oct 18	Wednesday Oct 19	Thursday Oct 20	Friday Oct 21
08:00-09:45		21-D-68a Lecture 4/CG Mouse neuroanatomy	42-G-53 Lecture 6/MS Emotion & fear	42-G-53 Lecture 8/SL Hippocampus
10:15-12:00		21-D-68a Lecture 5/WD Mouse models of human diseases	42-G-53 Lecture 7/SL Accessory motor system	42-G-53 Lecture 9/AI Lateralization & plasticity
13:00-17:00	42-F-42 P1 Skills lab	42-F-42 P1 Skills lab	42-F-42 P1 Skills lab	42-F-42 P1 Skills lab
W3	Tuesday Oct 25	Wednesday Oct 26	Thursday Oct 27	Friday Oct 28
08:00-12:00		P2-4	P2-4	P2-4
13:00-17:00	42-J-38 P1 Histology lab	P2-4	P2-4	Demo of P2-4
W4	Tuesday Nov 1	Wednesday Nov 2	Thursday Nov 3	Friday Nov 4
08:00-12:00		self-study	self-study	42-G-53 Exam
13:00-17:00	42-G-53 P1 Presentations	self-study	42-G-53 Q+A	

Plan of Lectures

Nr.	Date	Place	Lecturer	Topic
1	Oct 13	42-G-53	Amrein	Human neuroanatomy I
2	Oct 14	42-G-53	Amrein	Human neuroanatomy II
3	Oct 14	42-G-53	Amrein	Cortex cytology
4	Oct 19	21-D-68a	Colacicco	Mouse neuroanatomy
5	Oct 19	21-D-68a	Wolfer	Mouse models of human disease
6	Oct 20	42-G-53	Masneuf	Emotion & fear
7	Oct 20	42-G-53	Slomianka	Accessory motor system
8	Oct 21	42-G-53	Slomianka	Hippocampus
9	Oct 21	42-G-53	Amrein	Lateralization & plasticity

Practical courses

- P1 Human Neuroanatomy** Anatomy Skills Lab, Histology Lab
(all, 8 half-days)
Dissection course of the human brain, neurohistology
- P2 Behavioral testing of brain functions** Anatomy Animal facility
(4 students, 6 half-days)
Behavioral testing of mouse strains for specific brain functions
- P3 Immunohistochemistry** Anatomy Histology Lab
(4 students, 6 half-days)
Histological stains and immunohistochemistry on mouse brain tissue
- P4 Quantitative analysis of brain structures** Anatomy Morpho Lab
(4 students, 6 half-days)
State-of-the-art design-based estimations of quantitative relations in mouse brains using StereoInvestigator

General description

This module takes place in the second quartile of the autumn semester, October 13th – November 4th 2016. The course is subdivided into lectures, hands-on training and practical courses in the laboratories of the Institute of Anatomy.

Aims

This course provides theoretical knowledge and hands-on training of the human neuroanatomy by exploring and investigating major human brain systems in the neuroanatomy dissection course. Subsequent courses will provide practical knowledge of how a scientific question related to brain (dis)function can be tested in a mouse model, starting with behavioral experiments in mice, visualization and quantitative assessment of neuronal traits.

Learning outcome

By the end of the module students should be able to:

- ▶ demonstrate a solid knowledge of the macroscopically visible structures of the human brain
- ▶ explain the spatial arrangements and relations between the human telencephalon, diencephalon and brainstem
- ▶ gain insights into the macroscopically and microscopically features of sensory systems
- ▶ understand the principles of integrative experiments with laboratory animals (behavior, histology and analysis) as translational models

Practical Organization

Maximum of 12 participants

Successfully completed course BIO143, Neurobiology, required

Teaching language English