neu440 - Visual Neuroscience

Module label: Visual Neuroscience
Module code: neu440
Credit points: 15.0 KP
Workload: 450 h

Used in course of study:
- Master's Programme Neuroscience > Research Modules

Contact person:
- Ulrike Janssen-Bienhold
- Authorized examiners:
  - Alle hier genannten

Module responsibility
- Karin Dedek
- Martin Greschner

Entry requirements:
- attendance in pre-meeting, priority is given to students who attended neu140 BM Neurophysiology and / or neu150 BM Neuroanatomy

Skills to be acquired in this module:
+ Neurosci. knowlg. Expt. methods Independent research Scient. literature + Social skills
  + Interdiscipl. knowlg. + Maths/Stats/Progr. Data present./disc. + Scientific English + Ethics
  + During the module the students acquire advanced theoretical knowledge of the molecular and cellular characteristics of retinal circuits and physiology.
  + Students learn to plan and perform a research project independently (includes: literature research and usage of data banks (PUBMED, Gene Bank, Expasy etc.)
  + Students are introduced to scientific writing / have to write a scientific report.
  + Students acquire advanced skills in data analysis (including statistics, computational neuroscience, image analysis)
  + The module can serve the purpose of preparing for a Master's thesis.

Module contents:
1. Independent performance of an individual research project in small groups. Dates are individually arranged with the respective supervisor. Available project topics will be presented in the pre-meeting. Methods include:
   - Option 1: Molecular Neuroscience
   - Option 2: Neuroanatomy
   - Option 3: Neurophysiology
2. Participation in the "Journal club" seminar, including presentation of the project and the results obtained.

Reader's advisory:
+ http://webvision.med.utah.edu/ (H. Holb et al. (2016) The organization of the retina and visual system)
+ 20 to 30 selected original papers on vision research (depending on individual project)

Links:
Language of instruction: English
Duration (semesters): 1 Semester
Module frequency: halbjährlich
Module capacity: unlimited
Reference text:
- Regular active participation and presentation(s) within the scope of the seminar are required to pass the module. Furthermore, participation in a joint poster presentation of concurrent research modules is required to pass the module.

Modullevel:
- MM (Mastermodul)

Modulart:
- Wahlpflicht

Lern-/Lehrform / Type of program:
Vorkenntnisse / Previous knowledge:

Examination:
- Time of examination:
  - flexible, after individual project
Type of examination:
- Internship report

Final exam of module:
- Comment: SWS
  - Frequency
  - Workload attendance

Course type:
- Seminar: 2.00
- Projektorientiertes Modul: 8.00

Workload attendance:
- 28 h
- 112 h
- 140 h

Total time of attendance for the module:

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