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

Module responsibility

• Ulrike Janssen-Bienhold
Authorized examiners

• Alle hier genannten
Module counseling

• 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

Vorkenntnisse / Previous knowledge

<table>
<thead>
<tr>
<th>Examination</th>
<th>Time of examination</th>
<th>Type of examination</th>
<th>Internship report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final exam of module</td>
<td>flexible, after individual project</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course type</th>
<th>Comment</th>
<th>SWS</th>
<th>Frequency</th>
<th>Workload attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar</td>
<td>2.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Projektorientiertes Modul</td>
<td>8.00</td>
<td>WiSe</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total time of attendance for the module 140 h