neu510 - Computation in Sensory Systems

Module label
Computation in Sensory Systems

Module code
neu510

Credit points
15.0 KP

Workload
450 h

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

Contact person
Module responsibility
- Jutta Kretzberg

Authorized examiners
- Alle hier genannten

Module counseling
- Martin Greschner
- Jannis Hildebrandt
- Jochem Rieger

Entry requirements
attendance in pre-meeting, priority is given to students who attended BM Computational Neuroscience

Skills to be acquired in this module

Students perform individual research projects to learn:
- planning, performing and analyzing experiments and / or simulations
- working with scientific background literature on the specific context of the project
- oral presentation and discussion of backgrounds and results in the lab seminar
- write a scientific report
- prepare and present a scientific poster

Module contents
Module can serve as preparation for a Master's thesis.
Students can choose between five options (explained in more detail during the pre-meeting):
1. invertebrate somatosensory system (Kretzberg)
2. vertebrate visual system (Greschner)
3. vertebrate auditory system (Hildebrandt)
4. human perception-action cycle (Rieger)
5. advanced analysis of physiological data (Anemüller)

In options 1-4, depending on the student's interests and background, projects can be focussed on:
- experiments (neurophysiology / behavior)
- simulation
- data analysis or
- combinations of these approaches

In all systems, project can be focussed on experiments (neurophysiology / behavior), simulation, data analysis or combinations of these approaches.

Will be given to the students depending on the project

Reader's advisory
The timing of individual projects can be discussed with the supervisor. Projects can also be scheduled during semester breaks, part-time options (lasting more than 7 weeks) are available.

Priority for admission to the module is given to students who passed computational neuroscience background modules (neu240 / neu250)

Participation in a joint poster presentation of concurrent research modules is highly recommended.

Language of instruction
English

Duration (semesters)
1 Semester

Module frequency
halbjährlich

Module capacity
unlimited

Reference text
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Participation in a joint poster presentation of concurrent research modules is highly recommended.
### Modullevel
MM (Mastermodul)

### Modulart
Wahlpflicht

### Lern-/Lehrform / Type of program

<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, 6 weeks after individual project</td>
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### Vorkenntnisse / Previous knowledge

<table>
<thead>
<tr>
<th>Course type</th>
<th>Comment</th>
<th>SWS</th>
<th>Frequency</th>
<th>Workload attendance</th>
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<tbody>
<tr>
<td>Seminar</td>
<td></td>
<td>1.00</td>
<td></td>
<td>14 h</td>
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<tr>
<td>Projektorientiertes Modul</td>
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<td>9.00</td>
<td>WiSe</td>
<td>126 h</td>
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### Total time of attendance for the module
140 h