

## Postdoc position in Systems Neuroscience

Applications are sought for a Postdoc position for a collaborative project in the groups of [Thomas Euler](#) and [Philipp Berens](#) at the [Institute for Ophthalmic Research](#), the [CIN](#), and the Bernstein Centre for Computational Neuroscience (BCCN) of the University of Tübingen. The project is part of the DFG Priority Programme „Computational Connectomics“ (SPP 2041).

### The Project:

The goal of the project is to combine functional imaging of excitatory and inhibitory signals with computational modeling based on connectomics data from electron microscopy to study the role of amacrine cell circuits in the retina.

### Background:

Visual processing begins in the retina – here, within only two synaptic layers, more than 40 parallel channels emerge, which relay highly processed visual information to different parts of the brain. The origin of this vast functional diversity lies in the retina’s second synaptic layer, the inner plexiform layer, where bipolar cells, amacrine cells and ganglion cells form complex interconnected networks. In particular the amacrine cells, the most diverse class of retinal interneurons, are crucial for decorrelating different functional channels: They tune the ganglion cells’ responses, which represent the retina’s output, by modulating glutamate release from bipolar cells as well as heavily shaping the signal integration in the ganglion cell dendritic arbors. Despite decades of research, however, only a few amacrine cells circuits have been characterized in detail. We expect that our project will provide the most exhaustive account of the role of amacrine cells for visual processing to date.

### What we are looking for:

The candidate for the position ...

- must have a PhD in a relevant discipline (e.g. neuroscience)
- must have experimental skills ideally in functional 2P imaging, alternatively in electrophysiology
- has a strong background in neuroscience at the circuit or systems level, ideally in the visual system
- is proficient in modern programming languages (i.e. Python)
- is experienced in data analysis.

The ideal candidate is self-motivated, independent, and able to learn quickly, is proficient in English verbal and written communication and has strong problem-solving skills.

### What we offer:

The positions is available immediately, with funding for 3 years and possible extension depending on further funding. The postdoc will work embedded in an highly collaborative, interdisciplinary environment, providing ample possibilities for career development.

We offer employment with a salary and social benefits based on the collective agreement for public service employees in the academic and science sector, TV-L. The University of Tübingen promotes gender equality and therefore particularly encourages female scientists to apply. Preferential status will be given to handicapped persons, if equally qualified.

#### How to apply:

Applications should include a CV, a statement of research motivation and experience, and the names of at least two referees. Please compile your application in one single PDF-file and email it to [positions@eulerlab.org](mailto:positions@eulerlab.org).

#### Where we are:

The Werner Reichardt Centre for Integrative Neuroscience ([CIN](#)) is an interdisciplinary institution funded by the German Excellence Initiative program. The CIN strives to deepen our understanding of how the brain generates function and how brain diseases impair functions. Its scientific program is guided by the conviction that progress in the understanding of brain function can be achieved with an integrative approach spanning multiple levels of organization and pooling the knowledge of researchers from many different fields.

The [Institute for Ophthalmic Research](#) cooperates closely with the University Eye Hospital under the umbrella of the Centre for Ophthalmology. The Institute aims at uncovering the causes for degenerative, inflammatory, neoplastic, and vascular diseases of the eye and developing diagnostics and therapies based on these discoveries. Translational research is jointly performed with the University Eye Hospital Tuebingen.

Tübingen is a vibrant university city in the south of Germany. Besides the CIN and Institute for Ophthalmic Research, Tübingen is also home to the Hertie Institute for Cognitive Neurology and several institutes of the Max Planck Society, among others. This allows for a tremendous exposure to the latest advances in neuroscience, vision/robotics, human-computer interaction, brain-computer interfaces, etc., offering ample opportunities for collaborative projects across labs/institutes.