



LUDWIG-
MAXIMILIANS-
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MÜNCHEN

BIOZENTRUM DER LMU
FAKULTÄT FÜR BIOLOGIE
ORGANISMISCHE NEUROBIOLOGIE



PhD position, Vision circuits lab (Laura Busse), Faculty of Biology, LMU Munich

A PhD position is available in Laura Busse's group at the Faculty of Biology, LMU Munich. We study the neural circuits of visual perception in awake, behaving mice, where we combine electrophysiological recordings using silicon probes / neuropixels with genetic tools for circuit manipulation. Our aim is to contribute to the understanding of sensory mechanisms of visual information processing and their dependence on visually guided behavior. The Faculty of Biology at the LMU Munich together with the Graduate School of Systemic Neurosciences (GSN, <https://www.gsn.uni-muenchen.de/index.html>) offers an outstanding environment for a successful PhD in systems neuroscience, with ample opportunities for collaboration with both experimentalists and computational neuroscientists, both within the department as well as with the neighboring Max-Planck-Institute for Neurobiology. The LMU Munich ranks among the top 10 universities in Europe. Munich, located in the south of Germany, is regularly ranked among the world's top cities for quality of living.

The fully funded PhD position is part of an interdisciplinary collaboration with [Thomas Euler's lab](#) at the Center for Integrative Neuroscience in Tübingen within the DFG-funded Collaborative Research Center *Robust vision: Inference Principles and neural mechanisms* (SFB 1233). In the project, we will explore the visual input received by the mouse visual system under naturalistic conditions and how such input is processed along key stages of the early visual system. The project continues from our publication in Qiu et al. (2021), *Current Biology* (<https://doi.org/10.1016/j.cub.2021.05.017>) and will include opportunities for performing recordings of the visual input and eye tracking in freely moving mice, statistical analysis of the recorded video material, and measurements of neural responses from mouse primary visual cortex. While the lab is an experimental neuroscience lab, it embraces the systems neuroscience approach and has several fruitful national and international collaborations with computational neuroscientists. More information about the lab can be found at: <https://visioncircuitslab.org>.

The project requires strong experimental skills, an interest in engineering and programming, and the ability to work in a distributed team. A complementary PhD position based primarily in Tübingen will closely collaborate on the development of the recording hardware and software, and focus on retinal aspects of the project. The starting date will ideally be between July and October 2022.

Interested candidates are welcome to establish contact via email to busse@bio.lmu.de. Applications should include a CV, a statement of research interests, a cover letter with the expected date of availability, and names and contact information of at least two references. Applications will ideally also go through the LMU Graduate School of Systemic Neuroscience (<https://www.gsn.uni-muenchen.de/index.html>, deadline 15. February 2022).