



EBERHARD KARLS  
UNIVERSITÄT  
TÜBINGEN



## CSC-Tübingen PhD Scholarship Program

2024 application round: prospective PhD positions at the University of Tübingen

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<b>Faculty:</b>	Faculty of Science
<b>Institute / Section / Subject:</b>	Centre for Integrative Neuroscience / Institute of Neurobiology / Neural Circuits and Behavior Laboratory
<b>Supervising Professor(s):</b>	Prof. Dr. Andrea Burgalossi
<b>About the Supervisor(s):</b>	Research in our lab is focused on the cellular mechanisms underlying memory formation and consolidation within cortico-hippocampal circuits. To investigate these mechanisms, we have pioneered single-cell techniques, which allow us to record, identify and stimulate single neurons in freely behaving mice. To examine the relationship between neural activity and behavior, we also combine multielectrode electrophysiology, optogenetics, and neural circuit tracing with behavioral analysis. Further information on the lab can be found at: <a href="https://www.burgalossilab.com">https://www.burgalossilab.com</a>
<b>Specification:</b>	Neuronal mechanisms of hippocampal memory
<b>Topic Description:</b>	The project focuses on entorhinal-hippocampal representations (place cells, grid cells, head-direction cells) in mice. We aim at investigating the mechanisms that contribute to the plasticity of these representations during natural behaviors. We will use targeted optogenetic interventions, in combination with in-vivo electrophysiology (or miniscope Ca <sup>2+</sup> imaging) for studying neural dynamics during memory encoding and during sleep-mediated memory consolidation.
<b>Degree:</b>	Dr. rer. nat. in Biology (Faculty of Science) or Neuroscience (via our international Graduate Training Centre, GTC)
<b>Required Degrees:</b>	Master in Life Science (e.g. Biology, Medicine, Medicine Technology) or Computer Science (& related subjects, e.g. mathematics, physics)
<b>Language Requirements:</b>	Fluent command of English, C1-level