

Masterarbeiten in der AG Schlaf, Kognition und Verhalten

The Research Group Neuroplasticity and Rhythms – Sleep, Cognition and Behavior is interested in the mechanisms of sleep-associated memory processes, in particular the interaction between brain electric rhythms and behavioral performance. For our projects we combine measurements of behavioral performance, brain electric activity and/or amperometry. We aim to interrogate neuronal activity in human subjects or rodents by applying weak electric fields (tDCS, o-tDCS, tACS), sensory stimulation, or by employing optogenetic manipulations, respectively. We offer experimental as well as data analytical thesis topics.

A few examples of our topics for Bachelor and Master Thesis are:

- Topographically specific effect of weak electric stimulation on different types of memory
- The role of hippocampal-prefrontal communication in sleep dependent memory consolidation
- Identifying electrophysiological biomarkers for tDCS efficiency
- Investigating optimal stimulation parameters for improving performance
- Investigating optimal stimulation parameters for modulating endogenous brain rhythms
- Development of improved algorithms for semi-automatic sleep scoring

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