



**PhD Position (65% TV-L, 3 years) – Hertie Institute for Clinical Brain Research and Department of Neurology & Stroke, Eberhard-Karls-University of Tübingen, Germany**

**The PhD position** is funded by a DFG project grant to Dr. Til Ole Bergmann for investigating the neurophysiology underlying mu-alpha (8-14 Hz) oscillations in the human sensorimotor cortex, their function for gating information flow and synaptic plasticity in the brain, and the mechanisms mediating their prefrontal top-down control by attention. The project involves the novel technique of brain-state-dependent real-time EEG-triggered transcranial magnetic stimulation (TMS), which allows to directly interact with ongoing neuronal oscillations to study their causal contribution to cognitive and motor functions. Pharmacologic interventions will be used to study the role of acetylcholine in mediating attention-related oscillatory changes. The PhD student will be working in a highly-motivated, multidisciplinary team and gain substantial expertise in transcranial brain stimulation, neurophysiology (EEG, EMG), neuroimaging (MRI), and pharmacological interventions. He/she is expected to develop experimental setups, plan and conduct combined TMS-EEG experiments, analyse EEG/EMG data, present the results at conferences, and write publication drafts.

**The ideal candidate** holds a Master degree in neuroscience, psychology, biology, engineering, or related fields, but in any case has background knowledge in cognitive neuroscience, as well as good technical skills and programming experience (MATLAB). Fluency in written and spoken English, an independent but collaborative working style, and basic training in experimental methods and statistics are required. Prior experience with the recording and analysis of EEG data is desirable. Experience with transcranial brain stimulation techniques, MRI, or pharmacology is a plus but not mandatory.

**Research environment:** Tübingen is a vibrant university city in the south of Germany with an internationally renowned focus on the neurosciences and an excellent PhD programme (Graduate Training Center of Neuroscience: [www.neuroschoo-uebingen.de](http://www.neuroschoo-uebingen.de)). The PhD position, supervised by Dr. Til Ole Bergmann, is associated with the Brain Networks and Plasticity (BNP) lab of Prof. Ulf Ziemann (Dpt. of Neurology / Hertie Institute for Clinical Brain Research). The BNP lab specializes on transcranial brain stimulation (TMS, TDCS/TACS), particularly in combination with high-density EEG and pharmacological manipulations. The lab is equipped with multiple state-of-the-art setups for MR-neuronavigated, real-time EEG-triggered TMS and has access to two 3T MRI scanners and an MEG system.

**Employment:** The University Hospital Tübingen (UKT) offers employment with a salary and social benefits based on the collective agreement for public service employees in the academic and science sector (65% of a full TV-L 13 position). The UKT promotes gender equality and therefore particularly encourages female scientists to apply. Preferential status will be given to handicapped persons, if equally qualified. Funding is immediately available for 3 years, with a planned start of the project end of 2017 / beginning of 2018. The position will be filled as soon as a suitable candidate has been found.

**Applications** should be written in English, include a detailed CV, a brief (max 500 words) personal statement of research motivation/interest/experience, university degree with grades, and names of at least 2 people that are willing to provide letters of reference (applicants are encouraged to already provide reference letters, sent independently by the referees). Please compile your application into one single PDF-file and email it to Dr. Til Ole Bergmann ([til.bergmann@uni-tuebingen.de](mailto:til.bergmann@uni-tuebingen.de)).

**Dr. Til Ole Bergmann**

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