DFG Research Unit:
Modulation of brain networks for memory and learning by transcranial electrical brain stimulation: A systematic, lifespan approach (MeMo-SLAP)
Greifswald (lead), Berlin, Leipzig, Dresden, Essen, Dortmund, Kopenhagen

We are offering 11 positions for PhD students/post-docs that will be employed in the DFG funded collaborative Research Unit 5429: „Modulation of brain networks for memory and learning by transcranial electrical brain stimulation: A systematic, lifespan approach (MeMo-SLAP)“. Position will initially be funded for four years.

The Research Unit aims to investigate effects of transcranial direct current stimulation (tDCS) on human memory and learning in a highly systematic and coordinated way. Eight empirical projects will investigate behavioral effects of individualized and focal tDCS on cognition and motor functions using comparable methods and highly controlled experimental settings. TDCS will be administered concurrently during functional magnetic resonance imaging to reveal the neural mechanisms and predictors underlying behavioral stimulation effects. Two overarching projects will relate the outcomes of individualized current flow simulation to behavioral and neural modulations using the large, coordinated dataset and cross-validate and improve current flow simulations by using in-vivo magnetic current density imaging measurements.

The Research Unit will commence in April 2023 and positions will start between January 1, 2023 and April 1, 2023.

Further information about the Research Unit and online application forms for individual projects can be found under the following link: www.memoslap.de

We offer:
- An outstanding collaborative research environment with excellent career development opportunities in human neuroscience
- Excellent infrastructure for training and research by internationally recognized scientists in facilities with state-of-the-art technologies
- A dedicated mentoring program for junior scientists, including regular symposia and summer schools
A long-term perspective to develop one’s own research portfolio

We are looking for:

- Highly qualified early-/mid-career scientists holding a MSc/PhD/MD in human cognitive neuroscience, psychology, medicine, physics, engineering, neurolinguistics or related areas
- Previous experience with conducting human experimental brain research, functional magnetic resonance imaging (including standard data analysis pipelines), brain stimulation techniques, and/or computational modeling approaches is beneficial
- Good command of both German and English is required for the majority of projects
- Good knowledge of statistics

Projects will be carried out in 8 participating institutions with the following topics:

- University Medicine Greifswald: visuo-spatial learning (Prof. Flöel), language learning (Prof. Meinzer); individualized current flow modeling (Dr. Antonenko); additional central coordination project (Prof. Flöel)
- University of Greifswald (Prof. Fischer): learning-based cognitive control
- Free University Berlin (Prof. Blankenburg): tacto-spatial working memory
- Leibniz Research Centre for Working Environment and Human Factors Dortmund (Prof. Nitsche): motor-sequence learning
- Max-Planck Institute Human Cognitive & Brain Sciences & University Leipzig (Prof. Hartwigen): verbal working memory
- TU Dresden (Prof. Li): value-based learning
- University Medicine Essen (Prof. Timmann): cerebellar-dependent motor learning
- Technical University of Denmark, Copenhagen (Prof. Thielscher): in-vivo MR-based measurement of electrical current flow

For further questions, please contact our team: info@memoslap.de