



School VI of Medicine and Health Sciences comprises the fields of human medicine, medical physics and acoustics, neurosciences, psychology and health services research. Together with the four regional hospitals, School VI forms the University Medicine Oldenburg. Furthermore, there is close cooperation with the University Medicine of the University of Groningen.

In the Department for Psychology are available:

3 PhD positions (m/f/d) Oldenburg | E13 TV-L, 75 %

starting as soon as possible for an initially limited period of 3 years. There is the possibility of personal scientific qualification [doctorate].

The DFG-funded Research Training Group “Neuromodulation of Motor and Cognitive Function in Brain Health and Disease” (GRK 2783) aims to understand neural mechanisms of non-invasive neuromodulatory approaches and promote technology development to improve motor and cognitive functions in patients with stroke and Parkinson’s Disease. PhD students will receive a comprehensive and transdisciplinary training in the field of neuromodulation (magnetic/electric brain stimulation, psychopharmacology and neurofeedback) and specialize in state-of-the-art neuroimaging and neurophysiological methods, experience sampling, patient’s expectations or sensor-based assessment of brain activity and behaviour in daily life scenarios.

Candidates should hold (or hold at the date of employment) an academic university degree (Master or equivalent), practical scientific experience in the project relevant field and willingness to work in an interdisciplinary environment. Good oral and written English skills are essential. Prior experience in programming is favourable for all projects. Available projects and required additional qualifications are listed on our website and below:

<https://uol.de/en/neuromodulation/open-positions>

P9 Interference resolution in older volunteers and patients with Parkinson’s disease

PI: Herrmann

Collaborator: Witt

Prior studies have shown changes in oscillatory activity in the beta, gamma and theta range in patients with Parkinson’s disease. Theta activity originating from medial prefrontal cortex has been tightly linked to interference control. First evidence points to reduced theta oscillations in a cognitive control task in Parkinson’s disease patients and changes in anterior cingulate dopamine metabolism which may contribute to dysexecutive behaviour. Oscillatory brain activity can be modulated by transcranial alternating current stimulation (tACS). In young, healthy volunteers we have previously used tACS to up-regulate theta oscillations. In this PhD project, we plan to use a widely used visual go/no-go paradigm which reliably evokes theta responses. These theta oscillations will be up-regulated in healthy humans by tACS to demonstrate that up-regulated theta oscillations in fact improve behaviour. If successful, a second study will apply theta-tACS in Parkinson’s disease patients in cooperation with PI Witt.

Applicants should hold a degree (master or equivalent) in psychology, cognitive science, neuroscience, or a related discipline. Prior experience with analysis of neurophysiological data (EEG) and good programming skills in MATLAB are required. Good knowledge of German is of advantage. Workplace is Oldenburg.

P10 Cholinergic modulation of functional connectivity related to motor performance and interference resolution in older volunteers and patients with Parkinson’s disease

PI: Thiel

Collaborator: Witt

Cholinergic neuromodulation is of interest for improvement of cognitive and motor function, in both, Parkinson’s disease and stroke. The PhD project will aim to identify how cholinergic neuromodulation impacts on dual task interference and neural activity in older volunteers receiving the cholinergic drug donepezil or placebo using resting state, structural and task-based fMRI.

Applicants should hold a degree (master or equivalent) in psychology, cognitive science, neuroscience, engineering or a related discipline. Prior experience with analysis of neuroimaging/neurophysiological data or otherwise excellent programming skills (e.g. MATLAB, python) are required. Due to legal regulations in drug studies a sufficient command of German is required. Workplace is Oldenburg.

P13 How to translate neuromodulation into routine care?

PI: Brütt

Collaborator: Hildebrandt, Hein

The implementation of neuromodulation should be informed by the perspectives of those who will ultimately use it. In the forefront, patients can offer valuable input regarding how they perceive neuromodulation interventions, including their effects, benefits, and potential harms, as well as the mechanisms of action and any barriers and facilitators for its translation to routine care. This PhD project will aim to explore patients’ expectations and preferences regarding neuromodulation, as well as identify barriers and facilitators for the translation of neuromodulation techniques into routine care from the patients’ perspectives.

Applicants should hold a degree (master or equivalent) in health sciences, psychology, or a related discipline. Prior experience with qualitative data analysis, including software skills (e.g., MAXQDA), is required. As candidates are expected to interview patients with stroke and Parkinson’s Disease, proficiency in German is essential (native speaker or C2). Workplace is Oldenburg.

We offer:

- Payment in accordance with collective bargaining law (special annual payment, company pension scheme, asset-related benefits) incl. 30 days annual leave
- Option for 4th year funding to complete the PhD
- Support and guidance during your induction phase
- A family-friendly environment with flexible working hours (flexitime) and the possibility of pro-rata mobile work
- Benefits from the company’s health promotion programme
- An extensive free further education programme as well as our own scientific promotion of young academics (<https://uol.de/medizin/nachwuchs>)

The University of Oldenburg aims to increase the proportion of women in the academic field. Therefore, women are strongly encouraged to apply. According to § 21 para. 3 NHG, female applicants should be given preferential consideration if their qualifications are equivalent. Applicants with disabilities are given preference in the event of equal suitability.

Please send your electronic application (one pdf file) including a cover letter, CV, publication list (if applicable), list of two potential referees, and copies of certificates of academic grades to the RTG Office rtgoffice@uol.de. Please indicate which Project(s) you are interested in. For general questions contact rtgoffice@uol.de.