

An exciting opportunity has become available for a fully funded

PhD position in the field of Human Motor Neuroscience (for 3 years)

in the newly funded Freigeist research group “Motor Learning”
(<https://www.lin-magdeburg.de/forschung/forschungseinheiten/ag-motorisches-lernen>)
led by Dr Max-Philipp Stenner at the Department of Neurology and Leibniz Institute for
Neurobiology in Magdeburg, funded by the Volkswagen Foundation
(<http://portal.volkswagenstiftung.de/search/projectDetails.do?ref=92977>).

Our group

Through an innovative combination of **non-invasive and invasive human electrophysiology** in healthy individuals and neuropsychiatric patients, our group is studying **how the human brain predicts consequences of our own actions**, how these predictions influence our perception and our subjective experience of action, and how they guide motor learning. We are particularly interested in the role **local and interregional neural synchrony – neural oscillations** – play for the integration of sensory and motoric information underlying these processes. A long-term goal of the group is to set the grounds for brain stimulation techniques targeting neural synchrony for improved motor learning, and to understand pathophysiological implications of a deficient motor prediction system, e.g., in ataxia.

What we offer

The Leibniz Institute for Neurobiology (LIN) has a long tradition of **world-leading research on learning and memory**, both in animals and humans. The Motor Learning Group at the Leibniz Institute has first-rate access to Magdeburg's **excellent, state-of-the-art facilities for non-invasive human electrophysiology and neuroimaging**, including MEG, EEG, 7T, 3T MRI (all on the same campus). All facilities are supported by expert IT and physics staff. In addition, a very close collaboration exists with the Departments of Neurology and Stereotactic Neurosurgery (same campus) which allows for **systematic invasive electrophysiology in humans** and, more generally, **studies in clinical populations**. Furthermore, our group is using a **KINARM End-point lab** for measuring and manipulating kinematics & dynamics during reaching movements, and we are in the process of purchasing two additional robots for creating virtual objects for haptic exploration. The Motor Learning Group is participating in Magdeburg's Collaborative Research Center 779 (www.sfb779.de) as well as a current, new CRC initiative in Magdeburg. The Leibniz Institute and Department of Neurology, together with several other neuroscience institutes on the same campus, provide a **vibrant, international, highly inspiring, friendly and supportive research environment**. Magdeburg is a growing, intriguing city with lots of activities beyond work (second greenest city in Germany) and a familiar academic community.

Your tasks

The successful candidate will design, conduct, analyse and publish experimental studies into **mechanisms and functions of predictive motor control**. This entails designing and conducting studies that combine elegant behavioural paradigms with MEG/EEG, with an option for additional invasive electrophysiological recordings in humans (patients).

Qualities we are looking for

We are looking for a highly motivated, team-minded scientist with a strong interest in motor and perceptual neuroscience and a high degree of scientific creativity, passion, and rigor. Demonstrable

experience with MEG or EEG is essential. Good programming skills (in particular MatLab; in addition, Simulink, C, Python, Presentation would help) as well as solid statistical skills and high proficiency in spoken and written English are mandatory. Suitable candidates should hold a Master's degree in neuroscience, physics or engineering (with a previous focus on neuroscience), psychology, biology, or related.

Terms & conditions

The position is for three years. A preferable starting date is March 2020, subject to negotiation. The position will remain open until filled. Salary is based on TV-L E 13 (65%, i.e., basic salary (gross) around 2600,- euros/month).

How to apply

The application should include the following documents (in a single PDF-file): 1) Cover letter (max 1.5 pages) providing a brief description of previous and current research work and achievements, research interests and motivation; 2) Curriculum vitae, including a list of publications; 3) contact details of two scientists who can provide references.

The application deadline is **December 23rd 2019**. Please email this PDF file to

max-philipp.stenner@med.ovgu.de

by that deadline. Should you require any further information, please contact Dr Max-Philipp Stenner.