

PhD on human motor learning at the Leibniz Institute for Neurobiology in Magdeburg

A 3-year PhD position is available for a research project on the role of

Neural Oscillations for Motor Learning in Humans

with Dr Max-Philipp Stenner and Prof Jens-Max Hopf. The project involves non-invasive (MEG/EEG) and invasive human electrophysiology (intracranial/spinal recordings in neurological patients) combined with behavioural (motor and psychophysical) paradigms. The successful candidate will examine how neural synchrony, both local and interregional, contributes to an integration of sensory and motoric information and thereby drives motor learning. Results from this PhD project will advance our understanding of the mechanisms of motor learning and could contribute, in the long run, to the development of (brain stimulation) techniques for improved motor learning, e.g., in neurorehabilitation.

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, PET-MRI, 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** (via deep brain stimulation electrodes and spinal electrodes) and, more generally, **studies in clinical populations**. The Leibniz Institute provides a **vibrant, international, highly inspiring, friendly and supportive research environment**. Magdeburg is a growing city with lots of activities beyond work (second greenest city in Germany) and a familiar academic community.

Qualities we are looking for

Suitable candidates should hold a master degree (or equivalent) in one of the following fields: psychology, neuroscience, engineering, mathematics, computer science, physics, or related. Experience with programming, in particular MatLab, as well as prior experimental work is strongly desirable or otherwise will have to be learned quickly. High proficiency in spoken and written English is necessary.

Terms & conditions

The position is for three years. A preferable starting date is beginning of May 2017. The position will remain open until filled. Salary is based on E 13 TV-L; 65%.

Selected Reading

Shadmehr, Smith & Krakauer, Ann Rev Neurosci 2010
(<http://annualreviews.org/doi/abs/10.1146/annurev-neuro-060909-153135>)

Tan et al., J Neurosci 2016
(<http://www.jneurosci.org/content/36/5/1516.full>)

Stenner et al., J Neurophysiol 2014
(<http://jn.physiology.org/content/113/6/1752>)

More information?

Informal enquiries can be sent to Dr Max-Philipp Stenner: max-philipp.stenner@med.ovgu.de
see also the Motor Learning Group's website:
http://www.lin-magdeburg.de/en/departments/behavioral_neurology/physiology_motorlearning/index.jsp

How to apply

The application should include the following documents (in a single PDF-file): Cover letter (max 1 page) describing personal qualifications, research interests and motivation, Curriculum vitae, including a list of publications, contact details of two scientists who can provide references

The application deadline is May 1st 2017. Please email this PDF file to Max-Philipp Stenner (max-philipp.stenner@med.ovgu.de) by the deadline.

The LIN seeks to increase the number of female personnel in those areas where women are underrepresented and therefore explicitly encourages women to apply. Applicants with a severe disability will receive preferential treatment if their qualifications and experience are equal to those of the other candidates.