



The Department of Neuroanatomy at the Institute of Anatomy and Cell Biology in D - 79104 Freiburg offers

1 x PostDoc Position and 1 x PhD Position

Starting Date: at the earliest possible date

Applications are invited for a PostDoc and a PhD position to work with Prof. **Andreas Vlachos** (Institute of Anatomy and Cell Biology, Department of Neuroanatomy, Albert-Ludwigs-University Freiburg, Germany) in an NIH-RO1 funded project aimed at deciphering the cellular and molecular mechanisms of neural plasticity induced by non-invasive brain stimulation (NIBS).

Successful applicants will combine electrophysiology and optical stimulation/imaging experiments in rodent and human brain tissue to assess effects of electromagnetic fields (i.e., transcranial magnetic stimulation, TMS). Visits to our collaborators in the US for short-term and long-term periods of time to learn additional techniques (e.g., in vivo recordings and computational modeling) are part of the activities in this project.

The successful candidate should have a background in neurobiology/neuroscience, engineering, physics or closely related field. Experience in electrophysiology, optogenetics, functional optical imaging and tissue culturing techniques is highly desirable.

The appointment can start any time after October 1st in 2019.

Please submit **a single pdf file** including CV, list of publications, statement of research interests and names and email addresses of three references to:

Prof. Dr. Andreas Vlachos: Vlachos@anat.uni-freiburg.de

The project is related to the following publications:

Lenz M, Galanis C, Müller-Dahlhaus F, Opitz A, Wierenga CJ, Szabó G, Ziemann U, Deller T, Funke K, Vlachos A (2016) Repetitive magnetic stimulation induces plasticity of inhibitory synapses. *Nature Communications* 7:10020.

Lenz M, Platschek S, Priesemann V, Becker D, Willems LM, Ziemann U, Deller T, Müller-Dahlhaus F, Jedlicka P, Vlachos A (2015) Repetitive magnetic stimulation induces plasticity of excitatory postsynapses on proximal dendrites of cultured mouse CA1 pyramidal neurons. *Brain Structure & Function* 220:3323–3337.

Vlachos A, Müller-Dahlhaus F, Roskopp J, Lenz M, Ziemann U, Deller T (2012) Repetitive magnetic stimulation induces functional and structural plasticity of excitatory postsynapses in mouse organotypic hippocampal slice cultures. *J Neurosci* 32:17514-17523.