

Applications are invited for a

3-year PhD position

in an NIH & BMBF funded US-Germany project aimed at creating biophysically realistic multi-scale computer models of TMS (transcranial magnetic stimulation)-induced changes of neuronal and synaptic properties. The position will be based at the Justus Liebig University (Giessen). This project in collaboration with the University of Freiburg, the University of Minnesota and the Temple University (Philadelphia). The student will be using computer simulations to reproduce/predict data from electrophysiology and functional optical imaging experiments in hippocampal tissue cultures. Visits to Freiburg and to US for short-term and long-term periods of time to learn techniques and exchange information are part of the activities of this grant. The successful candidate should have a background in physics, mathematics, engineering, computational neuroscience or closely related field. Experience in scientific programming is highly desirable.

The appointment will be starting in November/December 2018.

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. Peter Jedlicka; Peter.Jedlicka@informatik.med.uni-giessen.de

The project is related to these recent 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

Beining M, Mongiat LA, Schwarzacher SW, Cuntz H, Jedlicka P (2017) T2N as a new tool for robust electrophysiological modeling demonstrated for mature and adult-born dentate granule cells. *Elife* 6:e26517

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.

P.S. If you are interested and will be attending Bernstein Conference in Berlin, feel free to send me an email so that we can meet for an in-person interview.