



The **fMRI lab** (<http://fmri.at>) at the MR Centre of Excellence of the Medical University of Vienna, Austria (<http://meduniwien.ac.at>) invites applications for two fully funded PhD student positions. We are a functional neuroimaging research group at the Center for Medical Physics and Biomedical Engineering and the MR Center of the Medical University of Vienna. Closely connected to the Vienna General Hospital, one of the largest hospitals in the world, and not too far away from the University of Vienna, the MR Center is an ideal place for our fMRI group for interdisciplinary clinical and basic biomedical research, as well as collaborations in biological psychology and cognitive science projects. Furthermore, the improvement and development of novel acquisition, data processing and analysis methods are central topics of our group.

### **Concurrent transcranial magnetic stimulation (TMS) and fMRI**

Transcranial magnetic stimulation (TMS) is a promising tool for neuroscientific research allowing for transient manipulation of activity in specific brain areas to demonstrate causal brain-behaviour relationships. TMS is also a treatment option for various psychiatric diseases. Main sources of variability in responses include inaccuracies in the stimulation process, in particular target localisation and stimulation dose. The primary aim of this project is to further develop and test a TMS/fMRI setup combining TMS, in-bore neuronavigation and multiple MR receive-coil arrays for simultaneous brain stimulation and imaging at 3 Tesla. In particular, tailored MR hardware developed in our lab will be used to obtain accurate subject-specific stimulation threshold assessment in order to improve TMS response.

The successful candidate should hold an MSc in physics, biomedical engineering, computer science, neuroscience, psychology, or a related field. Prior experience in fMRI acquisition and analysis is beneficial.

Please send your CV, names of two referees, one-page letter of motivation (emphasizing any related work/projects) and representative publications if any to Christian Windischberger [christian.windischberger@meduniwien.ac.at](mailto:christian.windischberger@meduniwien.ac.at). Applications will continue to be considered until the position is filled.

