



Postdoctoral Position in Advanced MRI Acquisition Methods

Dept. of Neurophysics, MPI for Human Cognitive and Brain Sciences, Leipzig, Germany

The Dept. of Neurophysics at the Max Planck Institute for Human Cognitive and Brain Sciences (MPI CBS) in Leipzig (Germany) invites applications for a Postdoc Position in Advanced MRI Acquisition Methods.

Our vision is to develop and apply microstructure imaging and in-vivo histology using MRI ([Weiskopf et al., Nature Rev. Phys. 2022](#)). To resolve the subtle microanatomy and its changes in health and disease, unprecedented spatial resolution, minimal artifact levels and high tissue specificity of the imaging are essential.

The postdoc will develop MRI pulse sequences on the latest Siemens 7T Terra and 3T Connectom platforms and integrate them with advanced image reconstruction methods and frameworks (e.g. BART, LORAKS). In particular, the successful candidate will work on exciting projects related to one or more of the following: non-Cartesian trajectories, pTx, parallel imaging, MR fingerprinting and correction of artifacts using optical motion tracking and field cameras.

The ideal candidate must have a strong background in MR physics and pulse sequence programming (ideally IDEA VE), and hold a PhD in physics, biomedical engineering, computer science or a comparable subject. Strong programming skills in C++ are essential and in other high-level languages (e.g. Matlab, Python) and CUDA/OpenCL highly desired. Additional experience in image reconstruction (e.g., ICE, BART) or SPM/FreeSurfer/FSL or similar MRI data processing is highly desired. A proven record of participating in open-source or other larger-scale software projects is highly advantageous. Applicants should demonstrate a consistently outstanding academic record including publications, and be highly proficient in spoken and written English.

We offer:

- the possibility to conduct truly fundamental research to change the field of neuroimaging,
- an international, friendly and highly supportive interdisciplinary environment (working language English),
- the chance to work with top researchers (inc. experienced IDEA programmers) from diverse backgrounds in an internationally leading neuroimaging center within the renowned Max Planck Society,
- access to world-leading facilities, including a Siemens 7T Terra MRI scanner (64-ch Rx, 16-ch Tx), 3T Connectom (300 mT/m gradients) and numerous other 3T scanners, all dedicated to fundamental research with excellent scanner access, outstanding technical support, and the latest peripherals (Skope field camera system, Kinetico PMC).

The preferred starting date is immediate but negotiable. The duration of the post is 2 years in the first instance. Remuneration is based on the pay scale of the Max Planck Society. Female and international applicants are particularly encouraged to apply. The Max-Planck Society is committed to increasing the number of individuals with disabilities in its workforce and therefore encourages applications from such qualified individuals.

To apply, please submit a single PDF file containing a personal statement (describing your personal qualifications, research interests and motivation for applying), full CV (inc. publication list), strong evidence for advanced software development experience (active Github/Gitlab profile or similar), two of your key publications, contact information of three referees and academic certificates (PhD, Diploma/Master, Bachelor certificates). Please submit your application via our [online system](#) (subject heading: "PD 1/23") by **9th March 2023 deadline**. Interviews of shortlisted candidates will take place likely via video-conference between 27th-31st March.

Further information: More information on our work on <https://www.cbs.mpg.de/departments/neurophysics>.



MAX PLANCK INSTITUTE
FOR HUMAN COGNITIVE AND BRAIN SCIENCES

Leipzig is a vibrant city that has been called “Germany’s new cultural hot spot” by the Guardian and listed as one of the 52 places to go in 2020 by the New York Times. It has a long-standing history of classical music, academic education, and –recently– modern arts. With its many parks, forests, canals and lakes, Leipzig is a perfect place for recreation, sports, and leisure time. It is located a one hour train ride south of Berlin.

If you have any questions, please contact Nik Weiskopf at weiskopf@cbs.mpg.de