PhD and Postdoctoral Position
Physiological Basis of TrueBOLD at ultra-high Fields

The High-Field MR Center (MRC) at the Max Planck Institute for Biological Cybernetics invites applications for a postdoc or PhD position (2 open positions) in ultra-high field functional MRI acquisition, analysis and biophysical modeling to probe the mechanisms of the vascular fingerprint in GE, SE and balanced SSFP acquisition schemes at 3T, 9.4T and 14.1T.

The successful candidate(s) will work in an outstanding ultra-high field MRI environment led by Prof. Klaus Scheffler to apply cutting-edge acquisition and analysis techniques for high spatiotemporal resolution functional MRI in humans and possibly also in small animals. The position is supported by a recent Koselleck DFG grant dedicated to the analysis of MR signal formation in neurovascular tissue.

The project aims to explore the temporal and spatial limits of the neuronal specificity of functional MRI acquired with different MR methods using concurrent optical and MR measurements combined with detailed maps of human and animal microvasculature measured with synchrotron radiation. The project will also include biophysical modeling of MR signal formation on a microscopic and mesoscopic scale. The research will be carried out in close collaboration with the groups of Dr. Xin Yu (MPI, Tübingen), Dr. Olga Garaschuk (Uni, Tübingen) and Dr. Bruno Weber (ETH Zürich).

Postdoc applicants should have an advanced knowledge in MR-physics and sequence design. Preference will be given to candidates with an extensive experience in sequence programming on the Siemens IDEA platform (both VB and VD version) as well as accelerated (sparse, parallel etc.) reconstruction techniques. PhD applicants should have a solid basis in MR-Physics and data analysis techniques.

The MRC Department is equipped with two whole body Siemens Systems (3T Prisma and 9.4T), a low-field 2mT experimental MR system with hyperpolarization, and a Bruker animal system operating at 14.1T. The MRC Department is also affiliated to the Department of Biomedical Magnetic Resonance at the University Hospital Tübingen which allows implementation and application of new MR techniques within a clinical setting.

The positions are available from 01.02.2016 for an initial period of three years. Further extensions will be possible.

The Max Planck Society is an equal opportunity employer: Handicapped individuals are strongly encouraged to apply, and so are women in areas in which they are underrepresented. Application should include a curriculum vitae, list of publications, a summary of past research experience and a statement of research interests and future plans. All materials should be sent electronically to:

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