



## Four PhD positions in Ultra High-Field MRI

The “MR Spectroscopy and Ultra-High field Methodology” Research Group of the High-Field MR Center (MRC) at the Max Planck Institute for Biological Cybernetics in Tübingen / Germany invites applications for four PhD positions in methodological development for ultra-high-field MRI. The global aim is the development of ultra-high-field MR spectroscopy technology for neuroscientific applications in humans with focus on psychiatric disorders and for application in the human myocardium.

Potential topics include:

- parallel transmit RF pulse design (especially spectral-spatial and multi-band) and its implementation at the 9.4T human MRI system
- establishment and calibration of a real-time motion correction and very high order dynamic  $B_0$  shim system for 9.4 T human MRI / MRS
- pulse sequence and quantification methods development for  $^{31}\text{P}$  and  $^{13}\text{C}$  MRSI in brain and heart at 9.4 T
- accelerated  $^1\text{H}$  MRSI at 9.4T – sequence implementation, reconstruction and image processing

The MRC Department is equipped with two whole body Siemens MRI scanners (3 T and 9.4 T) and one rodent Bruker 14.1 T MRI scanner, RF lab and a biochemical lab for MR contrast agent development. The research group is also affiliated with the Institute of Physics (Biomedical Imaging group), Ernst-Moritz-Arndt University of Greifswald, Germany with access to a 3T clinical MRI system and a 7T rodent MRI system.

Applicants for this position should have an **physics, electrical engineering, control engineering, biomedical engineering, computational science, physical chemistry** or **applied mathematics** background, work independently, get acquainted with new methods and knowledge quickly, be able to work in a team with a RF engineer, postdoctoral fellows and fellow PhD students and be willing to work with experimental hardware and interested in clinical applications.

The position is financially secured for the entire duration of the PhD by an ERC starting grant (project duration: 5 years) and is available immediately. Payment on a PhD contract base is 50% of TVöD Bund EG 13.

The Max Planck Society is an equal opportunity employer: women, people from minority groups and handicapped individuals are strongly encouraged to apply.

Applications should include a letter of motivation, a curriculum vitae, if applicable a list of publications (peer-reviewed original articles; review articles; book chapters; conference contributions; other), PhD and Master certificates (including a list of classes taken during Bachelor and Master studies and grades obtained); three references (contact details or reference letters) and a short summary of past research experience and future research interests.

All materials should be sent to [anke.henning - at - tuebingen.mpg.de](mailto:anke.henning - at - tuebingen.mpg.de) electronically or to

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Further information on the Max Planck Institute for Biological Cybernetics and the offered positions can be obtained at [www.kyb.tuebingen.mpg.de](http://www.kyb.tuebingen.mpg.de) and via [anke.henning - at - tuebingen.mpg.de](mailto:anke.henning - at - tuebingen.mpg.de).