Postdoctoral position in Microstructural Magnetic Resonance Imaging of Brain Iron

A postdoctoral position is available in the MRI Biophysics Group (Group Leader Evgeniya Kirilina) at the Max Planck Institute for Human Cognitive and Brain Sciences (MPI-CBS) in Leipzig, Germany.

The successful candidate will work in a multidisciplinary team studying iron accumulation in the human brain using advanced Magnetic Resonance Imaging (MRI). Our group develops novel methods for the quantification of age-dependent iron accumulation in the human brain with specificity to the cellular iron distribution and iron binding form. We combine ultra-high field, ultra-high resolution multimodal quantitative magnetic resonance imaging (MRI) in vivo and post mortem with physical methods for cellular iron quantification (such as X-Ray fluorescence, Proton-Induced X-Ray emission (PIXE), Laser Ablation Mass Spectroscopical Imaging (LA ICP MSI)) and biophysical modelling. The novel methods are applied to develop early-stage diagnostics of neurodegeneration (e.g. Parkinson’s disease), and to study iron role in brain development and function.

The postdoc will work in a unique world-class research environment and have access to the latest cutting-edge MRI hardware including 7T, 9.4T, the only 3T Connectom (300 mT/m gradient) in Continental Europe (all equipped with tailored RF coils). Within the cooperation with the Paul Flechsig Institute for Brain Research the candidate will have access to advanced histological methods including state-of-the-art 3D optical microscopy facilities and tissue clearing techniques. Our group has access to computational facilities for biophysical modelling.

The position requires a PhD in physics, neuroscience, biology, computer science, mathematics, biomedical engineering or a comparable subject. The PhD must be obtained by the agreed start date. A strong background in magnetic resonance or MRI is essential. Significant experience in quantitative MRI, basic neuroscience, image analysis and management of interdisciplinary projects are desirable. Applicants must be specialists in at least one of the following areas: magnetic resonance, relaxation theory, quantitative magnetic resonance imaging, quantitative susceptibility mapping, ultra-high resolution MRI, MR anatomical imaging; computational neuroanatomy; SPM, FSL, CBS-Tools or FreeSurfer; high resolution post mortem imaging; microstructural imaging; iron biochemistry, advanced software development. The applicant should be able to demonstrate a consistently outstanding academic record, including publications.

The position is available now and the starting date is as soon as possible. It is funded for two years with the possibility of extension. Remuneration is based on the pay scale of the Max Planck Society.
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. International applicants are strongly encouraged to apply. Furthermore, Max Planck Society strives for gender equity and welcomes applications from all backgrounds.

To apply, please submit a single PDF file containing a full CV (inc. publication list, evidence for software development such as a Github profile, open science activities), personal statement (describing your personal qualifications, research interests, and motivation for applying), two of your key publications, contact information of three referees, and academic certificates (PhD, Diploma/Master, Bachelor). Application is via our online system at [https://www.cbs.mpg.de/vacancies/open-positions](https://www.cbs.mpg.de/vacancies/open-positions) (subject heading: “PD 23/22”). Closing date for applications is **30th October 2022**.

Contact for informal enquiries regarding the post: Dr. Evgeniya Kirilina (kirilina@cbs.mpg.de). For more information: