

Full time PhD Position in Preclinical MRI

The **Experimental Ultra-High Field MR group** at the **Max Delbrück Center for Molecular Medicine in the Helmholtz Association** is seeking a PhD student with a background in physics, medical physics, biophysics or engineering, with a prior experience in cardio MRI (CMR). The candidate will be involved in the project "*Non-invasive Monitoring of Hypertrophic Cardiomyopathy using Cardiac MRI to track the kinetics of myocardial microstructural changes and to predict disease progression in Hypertrophic Cardiomyopathy (HCM).*" The candidate will be deeply involved with preclinical MRI data acquisition and analysis, in conjunction with Artificial Intelligence (AI) and Data Science. A requirement for the candidate is a strong incentive to drive CMR in the HCM model and the interpretation of its data with the help of state-of-the-art methods in AI and data sciences.

Application deadline: 15. May. 2022

Your tasks:

- Optimization of cardiac MRI data acquisition (CMR) using novel MRI pulse sequencing to quantify changes during pathology in small animals.
- MR data processing and analysis e.g. spatial orientation and registration to correct motion artifact
- Statistics and time series assessment between imaging events.
- Collaborate with other project participants to develop machine learning algorithms to predict disease progression in the HCM model and correlate MRI and histology markers to detect interdependences during the disease course.

Your qualifications:

- University degree in physics, engineering or related (Masters degree or equivalent)
- Experience with programming languages such as Python, Matlab
- Practical experience in acquiring and processing MRI data
- Basic knowledge of cardiovascular related topics
- Previous experience with small animals is advantageous

We offer

- Interdisciplinary research environment with interfaces between biomedicine, physics and data science
- Excellent supervision and full-time commitment
- National and international networks and outstanding research infrastructure
- Pay scale in German salary group 13 TVöD

Please submit your application via our online portal (<https://www.mdc-berlin.de/career/jobs/phd-studentin-mwd-praklinischer-kardialer-mrt>) with a letter of motivation, curriculum vitae and other relevant attachments