

Hospital rechts der Isar (MRI) of Munich Technical University (TUM)

37 specializations



founded 1834



6600 employees



160 professions



In the heart of Munich

PhD (m/f/d) - Translational Metabolic Magnetic Resonance Imaging

Full-time | temporary contract (36 months) | Klinik und Poliklinik für Nuklearmedizin

The **Department of Nuclear Medicine** is seeking applications from highly motivated candidates for a PhD position in hyperpolarized ¹³C magnetic resonance imaging embedded within the multi-disciplinary BMBF consortium "Revolutionising Cancer Imaging by Quantum Technologies" (QuE-MRT). The main aim is the development and translation of hyperpolarized ¹³C metabolic imaging techniques to the clinic. The PhD position is embedded within the Research Group "Biomedical Magnetic Resonance" led by Prof. Dr. Franz Schilling (www.schillinglab.com). The imaging infrastructure located at the Department of Nuclear Medicine (www.nuk.mri.tum.de) and the Center for Translational Cancer Research (TranslaTUM, www.translatum.tum.de) provides a unique and multi-faceted research environment.

Your research project:

- Development of ¹³C-MRI spectroscopic imaging methods for quantum-based hyperpolarization (parahydrogen-induced polarization) of pyruvate for preclinical in vitro and in vivo experiments as well as human translation
- Setup, acquisition and data analysis of preclinical and clinical metabolic imaging studies in tumor models and cancer patients
- Preclinical development of novel hyperpolarized agents

Your profile:

- M.Sc. or equivalent degree in physics, computer science, bioengineering, electrical engineering or other related subjects
- Previous experience in biomedical imaging is beneficial
- Team spirit, capability of independent self-motivated work
- Very good English and communication skills are a prerequisite
- Excellent programming skills (e.g. MATLAB, Python) and experience in data analysis are required

We offer:

- Well-equipped, cutting edge research environment within the Klinikum rechts der Isar including a 3T PET-MRI, a preclinical imaging facility with a 7T preclinical animal MRI, a 3T PET-MRI, a tabletop NMR spectrometer, a SPECT-CT and a HyperSense dissolution DNP polarizer.
- An opportunity to work in the city centre of Munich on Max-Weber-Platz with good access to public transport systems and benefits in the form of specially discounted public transport tickets (Job ticket).

- You will become a member of the TUM Graduate School, which offers excellent opportunities for career development, continued education, and life-long learning (<https://www.gs.tum.de/en/gS/doctorate-at-tum/>).
- Situated next to the Alps, Munich is consistently ranked as one of the most enjoyable cities in the world
- The doctoral candidate will be employed by Klinikum rechts der Isar (MRI) for a total duration of three years with a possibility for extension. The employment is in accordance with TV-L (German Salary Grade 75% TV-L E13).

We are looking forward to your application.

Applications should include a curriculum vitae, certificates and transcripts of academic degrees, a letter of motivation detailing the applicant's research interests, and contact information for at least 2 references. The position can be filled starting earliest in November 2022. The position will remain open until filled.

Please submit your complete application documents by e-mail including

- **reference number 09_051,**
- **your preferred starting date.**

Prof. Dr. Franz Schilling

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If the candidates' suitability for the position in question is equal, severely disabled applicants shall be given preference.

Interview-related costs can, unfortunately, not be reimbursed.