CSC-Tübingen PhD Scholarship Program

2025 application round: prospective PhD positions at the University of Tübingen

Faculty: Faculty of Medicine

Institute / Section / Subject: Institute for Preclinical Imaging and Radiopharmacy

Supervising Professor(s): PD Dr. Nicolas BEZIERE

About the Supervisor(s): My research is focused on enabling new diagnostic and therapy monitoring options through cutting-edge imaging modalities, with a particular emphasis on inflammation and infection. The discovery of novel biomarkers enabling the study of underlying biological processes and the development of image-guided drug delivery solutions are crucial aspects of this research. To me, the possibilities offered by molecular imaging represents a fascinating field full of promises in the short and long term for clinical translation and personalized medicine.

http://www.isct.uni-tuebingen.de/wsic/group/staff/staff-member/nicolas-beziere/
http://www.isct.uni-tuebingen.de/wsic/research/research-groups/immunology-inflammation/inflammation

Specification: Image guided diagnosis and therapy monitoring of Mucormycosis.

Topic Description: Mucormycosis is an invasive fungal infection caused by Mucorales group with a dramatically high mortality rate, primarily affecting patients with an underlying immunological condition. The success of therapy relies on timely and accurate diagnosis, currently difficult in deep-seated mucormycosis. In this project, we will build on the Mucorales specific antibody TG11 (PMID: 38145040) recently developed by our collaborators in Exeter to achieve Mucormycosis specific imaging by means of immunoPET, similarly to what we previously achieved with Aspergillosis (PMID: 33731708, PMID: 35863897). The research steps will encompass protein radiolabeling, *in vitro* biochemical characterization of the novel radiotracer, *in vivo* imaging of mucormycosis in PET, CT and MRI follow by *ex vivo* validation at the meso- and microscopic scale. We fully expect that this work will lead to clinically translatable methods for mucormycosis diagnosis.

Intended Degree: Dr. sc. hum. or PhD. Involvement in the Interfaculty Graduate School of Infection Biology and Microbiology (IGIM) is expected.

Type of the PhD Study: Full time (36-48 months)

Required Degrees and Qualifications: Master in biochemistry, (fungal) microbiology or medical technologies is required with a strong interest in preclinical imaging. Willingness to work with small mammals is a must.

Language Requirements: Very good command of English (a documented minimum of TOEFL iBT 95, IELTS 6.5., C1) Knowledge of German is a bonus.

Notes: The Institute for Preclinical Imaging and Radiopharmacy is a leading institution in the field of preclinical imaging and operates in a highly multidisciplinary environment and international team. As such, we are looking for enthusiastic and highly motivated candidates, eager to answer highly relevant biomedical questions and evolve in a multidisciplinary environment notably using state of the art imaging techniques.