CSC-Tübingen PhD Scholarship Program

2023 application round: prospective PhD positions at the University of Tübingen

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Faculty: University Hospital Tübingen (UKT).

Institute/Section/Subject: Department of Preclinical Imaging and Radiopharmacy. University of Tuebingen.

Supervising Professor: Kristina Herfert, Ph.D.

About the Supervisor: Prof. Herfert is Associate Professor for Functional and Metabolic Brain Imaging. Our research group investigates brain function using hybrid fPET/fMRI systems.

For more information, please visit:

http://www.isct.uni-tuebingen.de/wsic/research/research-groups/neurology/functional-and-metabolic-brain-imaging

Specifications: Functional and metabolic signatures of psychedelics' effects in the rat brain.

Topic Description: Psychedelics are likely to become mainstream in our society, under the pressure of both, their therapeutic potential in psychiatric disorders (e.g., treatment-resistant depression and PTSD) and the force of capital. Despite the surge in scientific interest to understand the therapeutic potential of these substances, very few studies have focused on potential harms associated with abuse of these substances. In this project we will employ simultaneous fPET-fMRI measurements in rats to study concurrent changes in blood oxygenation and glucose metabolism during administration of psychedelic drugs, such as MDMA, LSD and Ketamine. We aim to advance the identification of functional and neurochemical brain signatures that are related to the effects of psychedelics. Introducing the use of psychedelics in a scientifically informed and ethically rigorous way could minimize risks and support their potential usefulness in tackling the mental health crisis.

Degree: Dr. rer. nat.

Required Degrees: Master's degree in neuroscience, cognitive science, computer science, physics or a related natural science or engineering field.

Language Requirements: Strong command of English (C1-level IELTS, TOEFL)

Notes: We are looking for students who are interested and have a good background knowledge in brain science. Students should have good programming skills (e.g., in MATLAB, Python), they should be motivated, responsible and have good teamwork skills. Projects can be adapted according to interests, skills and needs of the student.