

Ausschreibung Doktorarbeit

Who we are

The **Institute of Medical Microbiology, Immunology and Hygiene (MIH)** is located within the **TUM School of Medicine and Health** on the campus of the **Klinikum Rechts-der-Isar (MRI)**.

Prof. Clarissa Prazeres da Costa, MD, is a consultant medical microbiologist, immunologist, infectious disease specialist and head of the department of the parasitological diagnostics and the teaching unit at the MIH at TUM. One of her working groups' research focus is to understand the immunological basis of host-parasite interactions of zoonotic and neglected tropical diseases (NTD). She is also the co-(joint)-Director of the **Center for Global Health (CGH)** at TUM, where she spearheads interdisciplinary activities such as the development of NTD therapeutics and diagnostics, the investigation of the environmental impact on antimicrobial resistance (AMR) and of women's health in sub-Saharan Africa.

The project

Schistosomiasis, a widespread neglected tropical disease caused by the parasite *Schistosoma*, affects over 230 million people globally, particularly in countries of the sub-Saharan Africa. The disease, transmitted through contaminated water, progresses from acute to chronic stages, impacting organs and causing complications like Female Genital Schistosomiasis (FGS). Despite mass drug administration (MDA) efforts, a comprehensive understanding of disease dynamics and especially its potential further impact on the affected organs such as the colon or the reproductive system is lacking in affected areas due to limited diagnostics.

A collaborative project spearheaded by the **Institute of Medical Microbiology, Immunology and Hygiene (MIH)** at the Technical University of Munich (TUM) and the departments of Surgery and Gynaecology and Obstetrics at its' teaching hospital, the **Klinikum Rechts-der-Isar (MRI)** with the **Komfo Anokye Teaching Hospital (KATH)** and the **Kumasi Center for Collaborative Research (KCCR)** in Kumasi, Ghana is aiming to establish a shared schistosomiasis research unit, focusing on schistosoma prevalence in high-risk pregnancies, and colorectal carcinoma patients, as well as building a biobank for future research. This initiative, funded by the **Else-Kroner-Fresenius-Stiftung (EKFS)** and the **Bundeministerium für Zusammenarbeit (BMZ)** will contribute to knowledge transfer, capacity building, and addressing schistosomiasis as a critical health concern in Ghana.

We are looking for a motivated medical student (Physikum passed) to undertake a doctoral thesis (*Dr. med.*) within the umbrella of this project to complete a number of goals, as below.

Under the joint supervision of Prof. Clarissa Prazeres da Costa, PD. Daniel Hartmann and Dr. Maliha Tariq from Surgery/ Gynecology within the EKFS project team, your work will consist of:

@Location: Kumasi, Ghana (ca. 3 months)

- Set up the sample collection arm of the EKFS clinical partnership project, with tasks including (but not limited to):
- Understand the workflows at our partner hospital KATH in Kumasi, Ghana to facilitate the structuring of sample collection;
- Familiarize yourself with all KATH personnel involved in generating samples;
- Support in collecting samples (blood, urine, stool, colon biopsies);
- Organize and follow up on sample transport from KATH to KCCR
- Give regular updates to project coordination team in Munich, Germany

TUM Africa buddyship: you will have a PhD student from Kumasi (KCCR) as a buddy to help you on site. You will also be the buddy for this PhD student, when he is coming to MRI for a research stay for 3 months in 2024.

@Location: Munich, Germany (ca. 9 months)

- Develop a framework for a scoping review on the topic '*Influence of schistosomiasis infections on colorectal carcinoma*' and '*Impact of Female Genital Schistosomiasis on women's health in Sub-Saharan Africa*' under the supervision of M. Habib
- Draft a study protocol for said reviews with discrete search and screen strategies; inclusion and exclusion criteria and strategy for analysis;
- Perform the scoping review and analyze data in discussion format;
- Conduct literature searches in (internal) databases and process medical-scientific content
- Maintain internal literature databases/collections via EndNote citation software
- Take part in multiple local and at least one international presentation of results of the project

Competencies required

- Very good verbal and written communication skills in English (minimum B2);
- Ability to effectively collaborate in a dynamic environment;
- Strong time management & organizational skills;
- Strong interpersonal skills, showing a high level of social competence
- **Be ready and able to travel to Kumasi, Ghana from May 2024 onwards**

Please send your CV, certificates and a motivation letter to: Prof. C. Prazeres da Costa (clarissa.dacosta@tum.de); M. Habib (marrium.habib@tum.de), feedback will follow from the 12.02.2024 on

Education required: Medical students in their clinical studies enrolled at the TUM