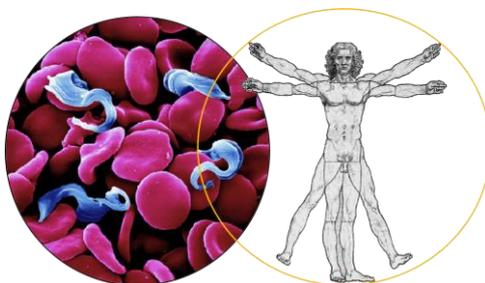


## PhD position available: Protein structural and functional dynamics using a combination of structural biology techniques

The work group of Ute Hellmich (Inst. Biochemistry, Gutenberg University Mainz) is looking for a motivated, enthusiastic **PhD student** starting as soon as a suitable candidate is found. The position will be filled until March 2023 as a qualification for a PhD.

Using a combination of solution NMR spectroscopy and other biophysical techniques (e.g. CD, and fluorescence spectroscopy, ITC, SAXS, MS, X-ray crystallography and cryoEM) the successful candidate will investigate the structural and functional dynamics of essential human and pathogenic (bacterial and parasitic) proteins. For recent examples for our applications of an interdisciplinary research approach, please see e.g. Goretzki et al., 2018 Structure, or Wagner et al., 2019, Angewandte Chemie.



The work involves the cloning, overexpression and purification of proteins from bacterial and eukaryotic sources (*E. coli*, *P. pastoris*, *T. brucei*, Hek293 cells) and their functional and structural characterization, in particular protein-protein interaction as well as interactions between proteins and ligands such as inhibitors or lipids.

Our laboratory features a parasite (*Trypanosoma brucei*) and human cell culture, facilities for large scale preparative protein purification from bacterial and yeast sources and their functional and biophysical analysis. The lab is affiliated with the Centre for Biomolecular Magnetic Resonance (BMRZ), Goethe University Frankfurt where the NMR experiments will be carried out. For SAXS, EM and X-ray studies, the candidate may be expected to travel to synchrotron facilities and/or to spend some time (weeks to months) in a collaborator's lab.

Candidates are required to have obtained a very good **MSc in Biochemistry, Biophysics, Molecular Biology, Chemistry or closely related field**. Fluency in English is required. Previous experience in molecular biology, (lipid) biophysics, cell culture, and/or spectroscopy are a strong plus. Candidates with a background in (protein) NMR spectroscopy and/or a strong interest in protein structure and dynamics (e.g. from a MSc thesis) are especially encouraged to apply.

The successful applicant will carry out his/her work at Mainz University, Institute for Biochemistry but is expected to collaborate closely with the BMRZ in Frankfurt, which includes frequent travels to this site and participation in BMRZ workshops and seminars.

We offer a lively and friendly work environment and encourage interdisciplinary and collaborative work approaches. For more details, please visit our homepage:

<https://www.blogs.uni-mainz.de/fb09hellmich/membrane-biochemistry/>

Please send your applications with a CV, letter of motivation highlighting previous experience in protein biochemistry and structural biology, and the names of two individuals who will provide a letter of recommendation directly to Ute Hellmich [u.hellmich@uni-mainz.de](mailto:u.hellmich@uni-mainz.de).