

Helmholtz Call for Chinese Applicants Interested in Running for CSC 2021 Fellowship

- Helmholtz Centre:** Forschungszentrum Jülich GmbH – www.fz-juelich.de
- Department/Institute:** Institute of Biological Information Processing, Structural Biochemistry IBI-7), <http://www.ipb.hhu.de/en/teams/teams/team-batra-safferling-granzin.html>
- Supervising scientist:** Prof. Dr. Renu Batra-Safferling
- University for registration or for a future degree:** Heinrich-Heine-University Düsseldorf
- Research Field:** Biochemistry/ Protein structure / X-ray Crystallography
- Position open for:** **PhD Student** **or** **Sandwich PhD Student**
- Title of the research:** Structural studies on blue light photoreceptor proteins

More description of research topic:

Our team is active in investigation of structures of blue-light photoreceptors containing light-oxygen-voltage (LOV) domains, which regulate a myriad of different physiological responses. Due to their intrinsic photochemical and photophysical properties, LOV proteins have proven as novel fluorescent reporters and blue-light sensitive photo-switches. Biotechnological applications include their use as real-time oxygen independent flavin-based fluorescent reporter proteins (FbFPs), as well as in development of LOV-based optogenetic tools.

Main objective of this project is to investigate high-resolution structures of novel LOV proteins that we have recently purified in our lab. Structures of selected two component LOV proteins in both, light and dark states will be determined using X-ray crystallography, solution NMR and computational techniques. Photochemical and photophysical properties will be characterized using UV-Vis and fluorescence spectroscopy techniques. Long term goal is to use the results in development of new, and in improvement of existing optogenetic tools.

A successful PhD candidate will defend thesis at Heinrich-Heine-University Düsseldorf.

Specific requirements:

- Master degree in Biochemistry or equivalent;
- Laboratory experience in protein expression and purification.

Working Place: Forschungszentrum Jülich, Germany (near Cologne)

Earliest Start: September 2021

Language Requirement: Very good knowledge of English language, written and spoken. German language courses are organised in the context of our in-house training program and are free of charge.

Name and Address of the Supervisor: Prof. Dr. Renu Batra-Safferling, Forschungszentrum Juelich, Institute of Biological Information Processing (IBI-7), 52425 Juelich, Germany; **Email:** r.batra-safferling@fz-juelich.de