

PhD Position in Structural Biology of Host-Pathogen Interactions at the Institute of Organic Chemistry and Biochemistry (IOCB), Prague

Job description

A position for a talented and motivated PhD student is open in Dr Sebastian Zoll's recently established group at the Institute of Organic Chemistry and Biochemistry of the Czech Academy of Sciences (IOCB CAS) in Prague. Pathogens employ elaborate immune evasion mechanisms to overcome the host's immune response. The group focuses on understanding the structural basis of interactions between surface proteins of parasites and viruses with human host factors to foster the development of novel therapeutic strategies against neglected diseases.

The successful candidate will be using an integrated structural biology approach including single particle cryo-EM, X-ray crystallography as well as small angle X-ray scattering together with a wide range of biophysical techniques for characterisation of protein-protein interactions (SPR, ITC, MALS, MST etc.). The position will include practical training in a protein biochemistry lab as well training in processing of structural data using Linux work stations.

The lab is well-funded and supported by a multidisciplinary network of international collaborators thus providing excellent opportunities to receive additional training in foreign host institutions.



The institute and the city

IOCB CAS in Prague is the leading scientific research institution in the Czech Republic providing a dynamic, international environment that brings together researchers from various fields such as structural biology, molecular biology, medicinal and computational chemistry.

The institute is situated near the city centre in a vibrant, historical quarter of Prague boasting beautiful architecture and a rich array of public amenities such as cafés, pubs, parks and grocery stores. Transport links by metro and

tram are excellent with short distances to both airport as well as old town and Letna park with its stunning views over the Vltava river.

Due to its long-standing history in applied science and strong ties with the pharmaceutical industry, IOCB enjoys an excellent funding situation and offers access to facilities for all modern structural and biophysical methods. Bacterial and eukaryotic protein expression platforms are available as well as Mass Spectrometry and NMR facilities and a computing stations for data processing, structure determination and protein modelling. The crystallisation facility contains robotics for 96-well-plate crystallisation and liquid handling, a Rigaku imaging hotel and an X-ray generator equipped with 2 single photon counting detectors. Furthermore, IOCB has recently established its cryo-EM facility, incl. a dedicated sample preparation room, that will soon be upgraded with a Titan Krios G4.

Requirements

We are looking for candidates with an M.Sc. in biology, biochemistry or a related discipline and a strong interest in structural biology. The successful candidate must be willing to work as part of a team and have the motivation and commitment to design experiments and interpret results independently. Experience in structural biology techniques is not required but familiarity with recombinant protein expression and protein purification will be a plus. Good oral and written communication skills in English are a prerequisite.

How to apply?

Please send a short motivation statement (max. 500 words), a copy of your research thesis and M.Sc. certificate (if already available), a copy of your CV and contact information for two references to sebastian.zoll@uochb.cas.cz

Feel free to contact Sebastian for informal enquiries.

Dr Sebastian Zoll – Junior Group Leader
Institute of Organic Chemistry and Biochemistry, Czech Academy of Sciences
Flemingovo namesti 542/2, 166 10 Prague 6, Czech Republic

Phone: +420 220 183 591

Email: sebastian.zoll@uochb.cas.cz

Facebook: <https://www.facebook.com/IOCBPrague>

Recent relevant publications:

Zoll S, Lane-Serff H, Mehmood S, Schneider J, Robinson CV, Carrington M, Higgins MK (2018) The structure of serum resistance-associated protein and its implications for human African trypanosomiasis. *Nature Microbiology* 3: 295-301

Magez S, Li Z, Nguyen HTT, Pinto Torres JE, Van Wielendaele P, Radwanska M, Began J, **Zoll S***, Sterckx YG* (2021) The History of Anti-Trypanosome Vaccine Development Shows That Highly Immunogenic and Exposed Pathogen-Derived Antigens Are Not Necessarily Good Target Candidates: Enolase and ISG75 as Examples. *Pathogens* 10 (8): 1050 (2021)