

Postdoctoral Fellowship in Structural Biology at Uppsala University

Job description

A two-year postdoctoral fellowship, funded by the Carl Tryggers Foundation, is available in the group of Julia Griese in the Department of Cell and Molecular Biology at Uppsala University, Sweden.

The Griese lab investigates the molecular mechanisms of bacterial metal homeostasis. The overall goal of our research is to establish the regulatory networks controlling metal homeostasis in *Saccharopolyspora erythraea*, an actinomycete best known for being the producer of the macrolide antibiotic erythromycin. To obtain a complete, atom-to-organism understanding, we aim to map out the regulatory networks as well as dissect the underlying molecular mechanisms. Please see www.icm.uu.se/structural-biology/griese-lab/ for more information about our research.

We are looking for a person with excellent track record and motivation to identify and solve scientific problems. The postdoctoral fellow will investigate the DNA recognition mechanism of a metal-sensing transcriptional regulator using a combination of experimental structural biology methods, working in close collaboration with another postdoctoral researcher focusing on the *in vivo* characterization of this transcription factor and its target genes. The project will involve protein production, functional characterization with biophysical and biochemical techniques, as well as structural studies using macromolecular X-ray crystallography, single-particle cryo-electron microscopy and/or nuclear magnetic resonance spectroscopy, and potentially small-angle X-ray scattering, depending on the fellow's prior expertise and desire to learn new methods. The postdoctoral fellow is expected to be available for remote data collection shifts and occasional travel for data collection. The group is hosted in an international, multidisciplinary and dynamic environment with extensive opportunities to learn new techniques. Uppsala University recently installed a 200 kV Glacios cryo-electron microscope with a Falcon III direct electron detector, and another facility housing a 300 kV Titan Krios equipped with a K3 detector with an energy filter is located nearby, at the SciLifeLab campus in Solna, less than 60 min from Uppsala: www.scilifelab.se/units/cryo-em/

Required qualifications

- A PhD in structural biology, biochemistry, biophysics or a related area. To qualify for the fellowship, you must have obtained your PhD no earlier than 6 years ago. (Periods of long-term sick leave or parental leave count as deductible time.)
- Documented experience of molecular biology, protein production and purification.

- Documented experience in at least one experimental structural biology method, i.e. macromolecular X-ray crystallography, single-particle cryo-electron microscopy and/or nuclear magnetic resonance spectroscopy of proteins and/or nucleic acids.
- Demonstrated scientific excellence; evidenced by publication track record as well as track record of presenting at national and international meetings.
- Excellent oral and written communication skills in English.
- Good interpersonal skills.

Desired additional qualifications

- Experience of complementary techniques in structural biology such as small-angle X-ray scattering.
- Experience of biochemical or biophysical techniques such as DNA-binding assays, isothermal titration calorimetry or fluorescence spectroscopy.
- Experience with metal- and/or DNA-binding proteins.

The application should be written in English and include:

1. Letter of motivation with a short description of your research interests, and why you feel you are a good match for the project (1 page).
2. CV, including a description of relevant skills and experiences, as well as a full publication list.
3. Copy of PhD diploma. Please state clearly if you have not received your diploma yet.
4. Names, e-mail addresses and telephone numbers to 2-3 reference persons. State their professional relation to you (e.g. PhD supervisor). Please do not include references in your application.

Starting date: January 2023 or as soon as possible, at the latest March 2023.

Stipend: 25,000 SEK per month, tax-free. The fellow will be covered by public health insurance.

Informal inquiries and applications should be sent to Julia Griese, julia.griese@icm.uu.se, with subject header “Postdoc in Structural Biology”, no later than November 30, 2022.

About the host institution

Uppsala University is a comprehensive research-intensive university with a strong international standing. Our ultimate goal is to conduct education and research of the highest quality and relevance to make a long-term difference in society. Our most important assets are all the individuals whose curiosity and dedication make Uppsala University one of Sweden’s most exciting workplaces. Uppsala University has over 54,000 students, more than 7,500 employees and a turnover of around SEK 8 billion.

The Department of Cell and Molecular Biology is organized into seven research programmes which all focus on different areas of cell and molecular biology: Computational Biology and Bioinformatics, Microbiology and Immunology, Molecular Biology, Molecular Biophysics, Molecular Evolution, Molecular Systems Biology and Structural Biology. The scientific basis of what we do lies in biology, but our research overlaps with other areas such as medicine, computer science, mathematics, chemistry, engineering sciences and physics. In total, we are over 200 staff and around 60 Ph.D. students. Please read more about the department's work at www.icm.uu.se. The advertised position is available in the group of Julia Griesse in the Structural Biology program.

Are you considering moving to Sweden to work at Uppsala University? If so, you will find a lot of information about working and living in Sweden at www.uu.se/joinus.