

Postdoctoral scholar in biochemistry of cyanobacterial CO₂ fixation

The Blikstad research group is searching for a postdoc to study fundamental principles of CO₂ fixation in cyanobacteria. Our group uses a combination of biochemistry, enzymology, structural biology, molecular biology and bioinformatics to study carboxysomes and their encapsulated enzymes. Carboxysomes are 250+ megadalton bacterial microcompartments consisting entirely of proteins and encapsulate the key enzymes for CO₂ fixation, Rubisco and carbonic anhydrase. They serve as the center piece of the cyanobacterial CO₂ concentration mechanism and ensure efficient CO₂ fixation. The postdoc will work in a project focused on how protein-protein interactions and enzyme catalysis regulate the function of the carboxysome. The acquired knowledge will lead the way for downstream applications aiming at enhancing photosynthetic efficiencies in future microorganisms and crops. For more information visit the lab website (blikstadlab.org).

The group is located at the Dept. of Chemistry – Ångström, Uppsala University. We are part of a larger research environment centered around CO₂ fixation and photosynthesis, with the greater goal of addressing global warming and food shortage by converting atmospheric CO₂ into valuable products such as biofuel, specialized chemicals and food. This specific project is a collaboration with Karin Stensjö's group, experts in molecular and synthetic biology of cyanobacteria. The research environment is creative and interdisciplinary, and you will get many opportunities to interact and collaborate within the department as well as with outside collaborators. Supervision of degree projects will also be part of the responsibility.

Requirements:

- At the start date the applicant should have a PhD in biochemistry, structural biology, biophysics, molecular biology, biotechnology or related areas. The degree should have been acquired within a maximum of 6 years before the start date. During certain circumstances (illness, parental leave etc) an earlier PhD can be acceptable.
- Practical and theoretical skills in biochemistry or similar.
- Conducting, interpreting and publishing biochemical studies.
- Experience in protein biochemistry including but not limited to protein purification, protein-protein interactions, enzymology, kinetics or structural biology.
- Experience in molecular biology including but not limited to molecular cloning or working with photosynthetic microorganisms.
- Very good oral and written proficiency in English.

Large emphasis will be put on personal qualities. Consideration will be given to good collaborative skills, good analytical skills, drive and independence, and how the applicant's experience and skills complement and strengthen ongoing research within the group.

Application procedure: The application should include: 1) personal letter describing yourself, your research interest and why you are interested in the position, 2) a CV including publication list, 3) certificates of degrees and grades, 4) a copy of (or link to) Doctoral thesis and 5) name and contact information of at least two references.

Starting date: August 1, 2025 or as otherwise agreed (latest Dec 2025)

Type of employment: Maximum of two years. Financed by a grant from the Carl Trygger Foundation that consists of a scholarship paid directly to the postdoctoral fellow by the foundation.

For further information about the position, please contact

Cecilia Blikstad, cecilia.blikstad@kemi.uu.se

You are welcome to submit your application by email to cecilia.blikstad@kemi.uu.se no later than June 30, 2025. Applications will be reviewed on a rolling basis and the position could be filled before the deadline.



BLIKSTAD LAB



UPPSALA
UNIVERSITET