



UPPSALA
UNIVERSITET

PhD student in Chemistry, specializing in Microbial Chemistry

Published: 2022-10-26

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 Chemistry - Ångström conducts research and education in the chemistry field. The department has more than 250 employees and has a turnover of 250 million SEK. At the department's six programs, we conduct very successful research of a high international standard. We have a large number of externally funded research projects, often with international cooperation and we see continued good growth in our subject area. The department has education assignments in engineering programs and master's programs. More information is available on our [website](#).

[Read more about our benefits and what it is like to work at Uppsala University.](#)

Duties

As a PhD student in the Microbial Chemistry group, you will work on engineering cyanobacteria, photosynthetic microorganisms with the ability to convert solar energy, CO₂ and water into useful compounds. Our research is focused on metabolic engineering of cyanobacteria for renewable generation of chemicals and fuels, with the greater goal to contribute to a sustainable future through biotechnology. Genetic

engineering is used to alter the metabolism of cyanobacteria, so that we can harvest the converted solar energy and CO₂ in the form of desired products, generated directly within the host cell.

Your project will aim to generate strains of cyanobacteria with new capabilities in formation of renewable chemicals, specifically products from the terpenoid biosynthesis pathway. Terpenoids are a large family of compounds, with many different applications ranging from fuels to pharmaceuticals. In your research, you will identify and develop target pathways and enzymes to be incorporated in the cells, make genetic constructs and test them in model organisms at different scales, and evaluate the results. Molecular and biochemical techniques are used, at Uppsala University and in collaborations with other labs, to analyse the response of the cells to genetic and environmental changes, in terms of productivity, growth, photosynthesis, and other characteristics. The results are used to further develop the design of new, engineered cells, and to increase our fundamental understanding of cyanobacterial metabolism and limitations to productivity. You will also take part in an ongoing effort to improve the potential of cyanobacteria as biotechnological host organisms, developing synthetic biology tools for use in our model strains.

The Microbial Chemistry group provides a highly creative research environment, and the projects we are working on provide many opportunities for interaction and collaboration. The group currently consists of four senior scientists, several post-doctoral researchers, and graduate students in different stages of their education.

Requirements

To be eligible for the position, it is required that the candidate

- has been awarded a second-cycle qualification, with specialization within biology, biochemistry, molecular biology or biotechnology, *or*
- has satisfied the requirements for courses comprising at least 240 credits of which at least 60 credits were awarded in the second cycle, or has acquired essentially equivalent knowledge in some other way in Sweden or abroad.
- possesses very good oral and written proficiency in English.
- can show documented practical skills in molecular biology or biochemistry.

Consideration will also be given to personal motivation and ability to work efficiently and independently, and to good collaborative and communication skills, as well as to how well the candidate, based on their experience and competences can be expected to complete the PhD education

Additional qualifications

- Previous experience in molecular biology, biotechnology, biochemistry or similar is desirable.
- Prior experience in working with genetically engineering prokaryotic microorganisms will be beneficial.

Rules governing PhD students are set out in the Higher Education Ordinance chapter 5, §§ 1-7 and in Uppsala University's rules and guidelines.

About the employment

The Swedish PhD education corresponds to four years of full time studies, including courses. The position may be combined with teaching or other department service up to 20% of full time, which extends the position by the corresponding amount of time.

The employment is a temporary position according to the Higher Education Ordinance chapter 5 § 7. Scope of employment 100 %. Starting date January 1 2023, or as agreed. Placement: Microbial Chemistry, Department of Chemistry – Ångström, Uppsala University, Uppsala, Sweden.

The application should include letter with a statement of research interest, CV, certificates of exams, degrees and grades, contact information for reference persons, and any other relevant material that the candidate wishes to provide in support of their application.

For further information about the position, please contact: Associate Professor Pia Lindberg, +46184716587, pia.lindberg@kemi.uu.se

Please submit your application by 30 Nov 2022, UFV-PA 2022/3910.

Are you considering moving to Sweden to work at Uppsala University? [Find out more about what it's like to work and live in Sweden.](#)

Please do not send offers of recruitment or advertising services.

Submit your application through Uppsala University's recruitment system.

Placement: Department of Chemistry - Ångström Laboratory

Type of employment: Full time , Temporary position longer than 6 months

Pay: Fixed salary

Number of positions: 1

Working hours: 100 %

Town: Uppsala

County: Uppsala län

Country: Sweden

Union representative: Seko Universitetsklubben seko@uadm.uu.se

ST/TCO tco@fackorg.uu.se

Saco-rådet saco@uadm.uu.se

Number of reference: UFV-PA 2022/3910

Last application date: 2022-11-30

[Apply for position](#)