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# Two PhD students in Main Group Chemistry and Organic Photochemistry

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**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**

We are looking for a Ph.D. student at Andreas Orthaber's research group and one at Stefano Crespi's research group, two of the six research labs in the unit for Synthetic Molecular Chemistry (SMC) at the Department of Chemistry – Ångström. At the SMC, highly interdisciplinary research is conducted at the border between molecular inorganic chemistry and organic chemistry, with a wide range of physical chemistry.

The main duties of doctoral students are to devote themselves to their research studies which include participating in research projects and third cycle courses. Teaching on undergraduate and Master levels may be agreed upon, up to 20% of full time.

For the position in Main Group Chemistry, the Ph.D project will focus on the investigation of heavier main group analogs of organic quinoidal structures, with a particular focus on group 15 derivatives. The studies include opto-electronic, coupled redox reactivity, and reactivity studies in small molecule and E-H bond activations. The multidisciplinary project covers aspects from organic synthesis, physico-chemical studies and theoretical investigations of these quinoidal/aromatic biradicaloid systems, with a strong focus of the Ph.D project on the synthesis and handling of highly reactive main group compounds.

For the position in Organic Photochemistry, the Ph.D. project will focus on the study of substituent effects on the photochemistry of aromatic molecules to develop novel photoreactions and photoactuators (e.g. molecular switches and motors) based on aromatic structures. The project will involve a multidisciplinary approach that will be focused on organic synthesis and corroborated with the exploration of the reaction mechanisms by means of computational chemistry and spectroscopy. The research will be conducted in collaboration with other research groups within and outside the department.

## **Requirements**

A person meets the general admission requirements if they:

- have been awarded a second-cycle qualification, or
- have 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
- have very good oral and written proficiency in English
- have proven experience in experimental (in)organic chemistry
- have developed problem-solving analytical skills

Consideration will also be given to good collaborative skills, drive and independence, and how the applicant's experience and skills complement and strengthen ongoing

research within the department, and how they stand to contribute to its future development.

### **Additional qualifications**

For the position in Main Group Chemistry, the candidate's previous experience in main group chemistry will be considered an advantage. The candidate will be able to develop the project within the team, thus working both independently and as part of a team are important qualities. An interest in fundamental research will be highly valued.

For the position in Organic Photochemistry, the candidate's previous experience with physical organic chemistry, photochemistry, and computational tools to describe both ground and excited-state processes will be considered an advantage. The focus will be on the personal attitude and engagement of the candidate: strong motivation and the ability to work both independently and as part of a team are important qualities that will be evaluated.

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 employment is a temporary position according to the Higher Education Ordinance chapter 5 § 7. Scope of employment 100 %. Starting date as agreed. Placement: Uppsala.

The application should be written in English. The applicant with the appropriate qualifications submits:

- a letter with a description of the research interests and the reasons why they are suitable for the position;
- CV containing a brief description of experience, expertise and publication list;
- a copy of the certificates attesting their qualification and grades;
- names and contact details of two to three reference persons with a description of how they relate to the applicant.

**For further information about the position in Main Group Chemistry, please contact:** Andreas Orthaber [andreas.orthaber@kemi.uu.se](mailto:andreas.orthaber@kemi.uu.se).

**For further information about the position in Organic Photochemistry, please contact:** Stefano Crespi stefano.crespi@kemi.uu.se.

**Please submit your application by 10 June 2022, UFV-PA 2022/1763.**

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 sacco@uadm.uu.se

**Number of reference:** UFV-PA 2022/1763

**Last application date:** 2022-06-10

**[Apply for position](#)**