Doctoral student in wood-based biocatalysis with a polymer focus

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KTH, School of Engineering Sciences in Chemistry, Biotechnology & Health

KTH Royal Institute of Technology in Stockholm has grown to become one of Europe's leading technical and engineering universities, as well as a key centre of intellectual talent and innovation. We are Sweden's largest technical research and learning institution and home to students, researchers and faculty from around the world. Our research and education covers a wide area including natural sciences and all branches of engineering, as well as architecture, industrial management, urban planning, history and philosophy.

Project description

Third-cycle subject: Chemistry

The Syrén lab is recruiting a PhD-student in wood-based biocatalysis with a polymer focus for the project SafeChem funded by MISTRA. The project involves industrial partners and lays in the forefront of chemistry and biotechnology. The candidate must be highly motivated to learn leading techniques from both disciplines and have an interest towards material science.

The main purpose of this project is to develop methods for biocatalytic generation of complex molecular building blocks from renewable sources for the
incorporation into biopolymers. The research area involves the design and development of in vitro enzyme cascades, to expand nature's current capabilities with respect to natural product biosynthesis. The candidate will capitalize on enzyme discovery based on retrobiocatalysis and predictions from molecular modeling, to discover and further develop novel promiscuous enzyme functions. Collaboration with Science for Life Laboratory will be an integral part of the position.

**Supervision:** The doctoral student will be supervised by: Ass. Prof. Per-Olof Syrén.

**What we offer**

- The possibility to study in a dynamic and international research environment in collaboration with industries and prominent universities from all over the world.
- A workplace with many employee benefits and monthly salary according to KTH’s Doctoral student salary agreement.
- A postgraduate education at an institution that is active and supportive in matters pertaining to working conditions, gender equality and diversity as well as study environment.
- Work and study in Stockholm, close to nature and the water.
- Help to relocate and be settled in Sweden and at KTH.

**Eligibility**

To be admitted to postgraduate education (Chapter 7, 39 § Swedish Higher Education Ordinance), the applicant must have basic eligibility in accordance with either of the following:

- passed a degree at advanced level,
- completed course requirements of at least 240 higher education credits, of which at least 60 higher education credits at advanced level, or
- in any other way acquired within or outside the country acquired essentially equivalent knowledge.
- Comprehend English, both writing and reading, according to the requirements for acceptance. Read more here
- MSc degree with focus on biocatalysis, biotechnology, biochemistry or polymer chemistry/technology.

**Selection**

In order to succeed as a doctoral student at KTH you need to be goal oriented and persevering in your work. During the selection process, candidates will be assessed upon their ability to:
• independently pursue his or her work
• collaborate with others,
• have a professional approach and
• analyse and work with complex issues.
• Deep knowledge in molecular biology, analytical chemistry, biocatalysis and/or polymeric materials are of merit for this position.

After the qualification requirements, great emphasis will be placed on personal qualities and personal suitability.

**Target degree:** Doctoral degree

**Information regarding admission and employment**

Only those admitted to postgraduate education may be employed as a doctoral student. The total length of employment may not be longer than what corresponds to full-time doctoral education in four years’ time. An employed doctoral student can, to a limited extent (maximum 20%), perform certain tasks within their role, e.g. training and administration. A new position as a doctoral student is for a maximum of one year, and then the employment may be renewed for a maximum of two years at a time.

**Union representatives**

You will find contact information for union representatives on KTH’s website.

**Doctoral section (Students’ union, KTH)**

You will find contact information for doctoral section on the section’s website.

**Application**

Apply for the position and admission through KTH's recruitment system. It is the applicant's responsibility to ensure that the application is complete in accordance with the instructions in the advertisement.

Applications must be received at the last closing date at midnight, CET/CEST.

Applications must include the following elements:

• CV including your relevant professional experience and knowledge.
• Application letter with a brief description of why you want to pursue research studies, about what your academic interests are and how they relate to your previous studies and future goals. (Maximum 2 pages long)
- Copy of the degree certificate(s) and transcripts of records from your previously attended university-level institutions and certificates of fulfilled language requirements. These need to be translated into English or Swedish if the original documents are not issued in one of these languages.
- Representative publications or technical reports. For longer documents, please provide a summary (abstract) and a web link to the full text.

**Other information**

Gender equality, diversity and zero tolerance against discrimination and harassment are important aspects of KTH's work with quality as well as core values in our organization.

For information about processing of personal data in the recruitment process please read here.

We firmly decline all contact with staffing and recruitment agencies and job ad salespersons.

Disclaimer: *In case of discrepancy between the Swedish original and the English translation of the job announcement, the Swedish version takes precedence.*

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<tr>
<td>Contact</td>
<td>• Per-Olof Syrén, Ass. Prof., <a href="mailto:perrasyr@kth.se">perrasyr@kth.se</a></td>
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