Two doctoral students in fabrication processes for bio-based nanomaterials

KTH, School of Engineering Sciences in Chemistry, Biotechnology and 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: Fibre and polymer science

The PhD student projects will aim at developing methods and processes to fabricate advanced and high-performance nanostructured materials based on nanocellulose fibres and other biopolymers. The work will be experimental but will be supplemented with theoretical and numerical methods as well as analysis of experimental data to understand mechanisms for self-assembly at the nanoscale and how they relate to the properties of the final materials.

In addition to the use of traditional measurement techniques for material fabrication processes, it is a clear goal to apply advanced X-ray and neutron scattering techniques (WAXS/SAXS/SANS/XPCS) to understand and control processes and properties on the nanoscale.

Supervision: The doctoral student will be supervised by: Prof Daniel Söderberg
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. Read more
- 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.
- An opportunity to join a leading research team in multi-physics and biobased nano-structured materials.

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.
- Requirements for English equivalent to English B/6, read more here.

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.

Experience from the use of experimental methods and development of tools for analysis and modelling (including programming using e.g. Python or Matlab) is considered meritorious. 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 on KTH Royal Institute of Technology)**

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 (Central European Time/entral European Summer Time).

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)
- Copies of diplomas and grades from previous university studies and certificates of fulfilled language requirements (see above). Translations into English or Swedish if the original document is 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**

Striving towards gender equality, diversity and equal conditions is both a question of quality for KTH and a given part of our values.

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><strong>Contact</strong></td>
<td>Daniel Söderberg, <a href="mailto:dansod@kth.se">dansod@kth.se</a>, +46879071</td>
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<td><strong>Published</strong></td>
<td>12.Nov.2020</td>
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