Postdoctoral scholarship in **Cellulose based iontronics** *(Reference number: Dnr ITN-2018-00344)*

at the Laboratory of Organic Electronics, Department of Science and Technology, Linköping University (Campus Norrköping)

Linköping University (LiU) conducts world-leading, cross-disciplinary research in fields that include materials science, IT, and life-science technology. LiU is one of the largest universities in Sweden and today has 27,000 students and 4,000 employees. The students are among the most desirable in the labour market and international rankings consistently place LiU as a leading global university. Read more at [http://www.liu.se](http://www.liu.se)

The Laboratory of Organic Electronics (LOE) is part of LiU’s Department of Science and Technology and is renowned for its world-leading research on electronic and optical devices based on organic materials. Its primary theme involves the coupling of ions and electrons as signal carriers for applications in organic bioelectronics, printed electronics, organic energy and electrochemical devices, and nanooptics. Currently, the research staff of LOE includes about 80 researchers (professors, senior and junior scientists, and PhD students), see [http://liu.se/loe](http://liu.se/loe) for details.

**Background and duties:**

The project is associated with the Wallenberg Wood Science Center (WWSC), which is a joint research center including groups from KTH Royal Institute of Technology, Chalmers University of Technology, and Linköping University with base funding from the Knut and Alice Wallenberg Foundation. The mission of WWSC is to create knowledge and develop technology based on biopolymers from trees. At Linköping University (LiU), the WWSC research is conducted at the Laboratory of Organic Electronics in Norrköping.

LOE’s Bioelectronics group ([liu.se/en/research/organic-bioelectronics](http://liu.se/en/research/organic-bioelectronics)) focuses on coupling ionic and biochemical signals with electronic signals using organic materials. Other groups at LOE have made significant advances in utilizing forest-based materials – in particular cellulose scaffolds – for example in power electronics and energy storage. We are now investigating using such forest-based materials as the foundation for ionic-bioelectronic systems. In particular, this postdoc scholarship centers around research into the use of cellulose-based materials in iontronic technologies ([dx.doi.org/10.1002/admt.201700360](https://dx.doi.org/10.1002/admt.201700360)) and organic electrochemical transistors (and subsequent biosensors).

The postdoc scholar will develop bioelectronic and iontronic components utilizing forest-based materials as well as (semi)conducting polymers and polyelectrolyte “ion conductors”. Activities will further include processing of components in a cleanroom environment, characterization of materials and electrical/ionic properties, fundamental studies of mechanisms for transport of charge and bio-active compounds, and investigation of routes to optimize the integration and utilization of forest-based materials.
materials. Ultimately, bioelectronic components may be utilized in biological experiments at LOE’s labs or at one of our collaborators’ labs.

Qualifications and requirements to applicants:
- Scholarship may be granted only to non-Swedish citizens with a PhD or equivalent acquired in another country than Sweden. The applicant must not have been employed by Linköping University previously.
- The applicant must have or be about to receive a doctoral degree in a subject relevant to the research project (e.g. physics, chemistry, electrical engineering, materials science, or biotechnology) and needs to be passionate about research. Problem solving ability and creativity are essential.
- Previous experience in multidisciplinary activities is valuable.
- Research at the Laboratory of Organic Electronics is carried out predominantly in English, so relative fluency is favorable.

Starting date
Early 2019, or by agreement.

Appointment and Conditions:
- Appointment is initially for one year with a possibility of an extension for a second year depending on a mutual agreement. The total time for receiving a scholarship from Linköping University can never exceed two years.
- The scholarship amounts to SEK25000:-/month (tax-free) (~€2500/month). Economy class travel to/from Sweden for a scholarship holder will be covered. Funding can be available to participate in conferences.
- Essential information about healthcare, insurances etc. can be found here. Questions are welcome to HR@itn.liu.se

Application procedure:
The following documents (in pdf-format) must be submitted when applying for a scholarship
- Cover letter (1-2 pages describing your background and interest in this project)
- CV, max 2 pages, including at least two references that we can contact
- List of publications
- Statement of Research Interests, max 2 pages
- Copy of passport
- Copy of PhD diploma
The application should be sent electronically to Daniel.simon@liu.se and a copy to registrar@itn.liu.se. Mark your application with reference number Dnr ITN-2018-00344 in the e-mail subject field.

Deadline for application is 16th of December.

Contact:
Associate Professor Daniel Simon, daniel.simon@liu.se
Annelie Westerberg, HR@itn.liu.se