

**LINKÖPING UNIVERSITY**

Hereby advertises a

**Postdoctoral Scholarship in Evolvable soft neural electrodes**

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

**Research environment**

The Soft Electronics group is an international team led by [Senior Associate Prof. Klas Tybrandt](#) and is part of the Laboratory of Organic Electronics (LOE). We develop composite materials, design concepts and devices for soft and deformable electronic systems. Areas of special interest are [bioelectronics and neural interfaces](#), [stretchable \(semi\)conductors](#), [energy harvesting/storage](#), and actuators. Many of our projects are based on national and international collaborations including a variety of competences. Read more at: <https://liu.se/en/research/soft-electronics>

At the Laboratory of Organic Electronics (LOE) we explore electronic and optical properties of organic semiconductors, biomaterials from the forest, and hybrid organic materials. We share a common interest in utilizing the combination of electronic and ionic charge for use in healthcare and biology applications, energy, and the internet-of-things. Our research topics include synthesis, material science, theory and modeling, device physics, nanotechnology, biotechnology, and system design. Our activities span the range from basic research to commercialization, the latter carried out in close collaboration with the institute RISE. LOE currently has ~130 researchers and research students divided into 9 units, each led by a principal investigator. Read more at [www.liu.se/loe](http://www.liu.se/loe)

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 38,000 students and 4,300 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 [www.liu.se](http://www.liu.se)

**Available postdoc research project**

The aim of the project is to develop a novel neural interface technology based on soft and deformable conductors and functional materials. A new concept around *in situ* evolvable neural interfaces will be explored to find novel solutions for integrating soft electronics into tissue while minimizing insertion damage. The research will include materials and devices based on soft and elastic electronic composite materials to facilitate close integration with neural tissue and thereby enabling the translation between biological and electronic signals. Functional materials and probes for *in situ* actuation, e.g. magnetic composites, will be developed together with methods for controlled actuation. Devices will be fabricated with an inhouse state-of-the-art laser micromachining system. The developed devices will first be evaluated *in vitro* and finally *in vivo* with external collaborators.

The host has an excellent track record (>65% success rate) in acquiring Marie Curie Postdoctoral Fellowships and the chosen candidate is encouraged to develop an application supported by the host.

**Qualifications and requirements**

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. material science, biomedical engineering, mechanical engineering, applied physics, electrical

engineering) and needs to be passionate about research. Experience in stretchable electronics or neural interfaces will also be valued. Problem solving ability, creativity and relative fluency in English are essential.

### **Starting date**

Spring 2024, 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). Travel costs to/from Sweden for a scholarship holder will be covered up to a maximum amount. 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 must be submitted as one combined pdf document:

1. Cover letter, max 1 page, describing your background, research interests and what makes you interested in the position.
2. CV, max 4 pages, including contact details to three reference persons.
3. Full publication list.
4. Copy of passport, PhD diploma, and MSc transcripts with grades.

The application should be sent electronically to [klas.tybrandt@liu.se](mailto:klas.tybrandt@liu.se) and a copy to [registrator@itn.liu.se](mailto:registrator@itn.liu.se). Mark your application with reference number **Dnr ITN-2023-00076** in the e-mail subject field.

Applications deadline: **15 December 2023**.

### **Contact**

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