

Postdoc scholarship in Organic Bioelectronics

We are seeking a highly motivated and creative postdoctoral scholar to join an exploratory research project aimed at developing next-generation in situ bioelectronic systems, where electronic functionality is formed, adapted, and operated directly within living tissue. The successful candidate will pursue research in the Organic Bioelectronics group at the Department of Science and Technology, Linköping University.

The project centers on new fabrication strategies and physical understanding of in situ formed electronic materials, with a particular emphasis on high-risk, high-reward concepts that challenge conventional boundaries between materials, devices, and biological systems.

The research will explore how electronic structures can be grown, structured, insulated, and functionally integrated within complex biological environments, for example through combinations of enzymatic, electrochemical, and light-driven polymerization. A central theme is to move beyond static electrodes toward distributed, adaptive, and potentially self-organizing electronic systems in tissue. See, for example, our work Strakosas et al., *Science*, 2023, <https://doi.org/10.1126/science.adc9998>.

The scholarship will primarily be under the guidance of Dr. Jennifer Gerasimov (<https://liu.se/en/employee/jenge70>) with additional guidance by Prof. Daniel Simon (<https://liu.se/en/employee/dansi08>), Organic Bioelectronics (OBE) group leader at the Laboratory of Organic Electronics.

Possible research directions include, but are not limited to:

- Development of diffusive or extended electrode architectures formed in situ within tissue-like environments
- Exploration of combinatorial polymerization strategies (enzymatic, electrochemical, optical) to control structure and function
- Investigation of transport, diffusion, and field-driven processes governing material formation and stimulation
- Design of bio-integrated insulation strategies, such as biologically converted materials, self-organized core-shell structures, or bio-triggered functional boundaries
- Study of cellular and sub-cellular interactions with forming electronic materials
- Conceptual and experimental work toward unconventional device architectures, such as distributed interfaces or neuromorphic / reservoir-like systems

The exact direction of the project will be shaped together with the candidate, and we strongly encourage applicants with original ideas and independent research vision within or adjacent to this theme.

Skills and qualifications

The candidate we are looking for is at the beginning of the career as an independent researcher, with a creative, exploratory mindset and a willingness to engage with open-ended scientific

questions. A flexible and persistent approach to research, combined with strong analytical thinking, is essential.

The following education, experience, and expertise are required:

- A PhD in biomedical engineering, (bio-)physics, applied physics, materials science, (organic) chemistry, or equivalent
- Peer-reviewed publication as first or lead author
- Demonstrated scientific presentation skills
- Written and oral proficiency in English (all activities at the Laboratory of Organic Electronics are conducted in English)

In addition, the following areas are of particular merit:

- Experience with organic (bio)electronics, implant design, and/or conducting polymers (ideally all areas of expertise listed)
- Experience with the chemistry of aggregation, pi-stacking, and/or self-organization (ideally all areas of expertise)
- Experience with in vitro cell studies and associated microscopy
- Experience with electrophysiological methods
- Experience with electrochemical methods
- Experience with electron microscopy, in particular SEM
- Experience with thin film preparation and characterization methods

And the following areas are of additional merit:

- Experience in cleanroom facilities
- Strong written and oral communication skills, including experience in producing comprehensive, high-standard reports and data visualization, and contributing to manuscript writing

At the same time, we welcome applicants who bring complementary expertise or unconventional backgrounds, and who are motivated to contribute to an interdisciplinary research environment.

The research environment

This scholarship will be at the Laboratory of Organic Electronics (LOE, <http://liu.se/loe>) where we explore electronic and optical properties of organic semiconductors, biomaterials from the forest, and hybrid organic materials. LOE shares a common interest in exploiting the combination of electronic and ionic charge for use in energy, internet-of-things, health care and biology applications. Research topics include synthesis, material science, theory and modeling, device physics, nanotechnology, biotechnology and system design, and span the range from basic research to commercialization. LOE currently has >160 researchers and research students across 13 groups sharing an open lab environment for fruitful collaboration and information sharing.

You will formally be part of LOE's Organic Bioelectronics group (<https://liu.se/en/research/organic-bioelectronics>), led by Prof. Daniel Simon (<https://liu.se/en/employee/dansi08>). LOE is part of Linköping University's Department of Science

and Technology, located on the river Motala Ström at Campus Norrköping. You can read more about Norrköping here: https://visit-norrkoping-se.translate.google.com/bo-studera-och-etablera?x_tr_sl=sv&x_tr_tl=en&x_tr_hl=sv

For more general information on the Swedish academic landscape including some aspects of life as a postdoc, we strongly recommend skimming through the Young Academy of Sweden's "Beginner's Guide to Swedish Academia" <https://sverigesungaakademi.se/en/publications/a-beginners-guide-to-swedish-academia/>

Requirements

For being eligible you need to be a non-Swedish citizen with a PhD awarded at a university outside Sweden. Your doctoral degree should have been awarded in the last three years; exceptions can be made for fellows who have special circumstances such as parental leave, sickness, or similar.

Benefits

This development postdoctoral fellow position is initially for a 1-year timeframe with the possibility to extend for an additional year. The total time for receiving a scholarship from Linköping University can never exceed two years.

You will be given a tax-free scholarship of 29 000 SEK/month. Observe that the scholarship is paid as 2 lump sums.

Travel costs to/from Sweden for a scholarship holder will be covered up to a maximum amount. Additional funding can be available to participate in conferences.

Note, scholarships will not give any pension rights, sick or maternity pay and other work-related benefits. If you have any questions on the terms, please contact HR at the Department of Science and Technology, hr@itn.liu.se

Application

- Cover letter describing current and future research interests
- Curriculum vitae which should include a brief summary (3 pages) of previous research experience
- Names and contact information of at least two referees familiar with your previous research experience
- Copy of your PhD diploma
- Copy of your passport

Please send your application to registrator@itn.liu.se and Jennifer.gerasimov@liu.se no later than June 25th 2026. Mark your application with ITN-2026-00146

Contacts

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