LiU hereby advertises a Postdoctoral Scholarship in Laboratory of Sensory Perception

Research environment

You will take part in research activities at the Laboratory of Sensory Perception headed by Dr. Marcin Szczot.

Research project

Not all pain is the same. A skin injury, renal colic, and neuropathic pain arise from distinct biological processes and require different treatments. Chronic pain affects approximately 20% of the adult population, highlighting the urgent need for novel, effective, and safe treatments.

At the Laboratory of Sensory Perception, we investigate the molecular and cellular organization of the peripheral somatosensory nervous system. Our research addresses two fundamental questions: How does the coordinated activity of molecularly distinct sensory neuron populations encode different forms of potentially harmful stimulation and generate appropriate behavioral responses? Which molecular receptors and transduction mechanisms are essential for these processes?

Our laboratory combines established physiological approaches with the development of new methods for high-throughput functional characterization of sensory neurons (de-Faria, Carballo, Maidana et al., *Hierarchical organization of mechano-nociceptive pathways revealed by activity labeling*, bioRxiv, 2025; in press; Bouchatta, Brodzki et al., *PIEZO2-dependent rapid pain system in humans and mice*, bioRxiv, 2023; in press).

The successful candidate will investigate the cellular and molecular mechanisms underlying somatosensory processing using a combination of neuronal physiology, molecular genetics, and behavioral approaches. The project will provide opportunities to develop expertise in advanced functional imaging, genetic manipulation, and quantitative analysis of sensory neuron function.

Qualifications and requirements

You must have been awarded a doctoral degree or have a foreign degree that is deemed to be equivalent to a doctoral degree. Your doctoral degree must be awarded by a higher education institution other than Linköping University.
If you have not finished your degree, the degree must have been awarded at the latest by the point at which a decision to award you the fellowship is taken.

Your doctoral degree must have been awarded no more than three years before the application deadline for this fellowship. If there are special grounds, applicants who were awarded their doctoral degree earlier may also be considered, for example due to medical internship or specialist medical training, or various types of statutory leave.

The research funded by this scholarship must begin in 2027.

The applicant must have:

- A PhD in neuroscience, biophysics, pharmacology, molecular biology, physiology, or a related discipline.
- Experience in experimental assessment of neuronal activity (at least one of the following - electrophysiology, calcium imaging, photometry, voltage imaging, or related approaches).
- Experience in handling laboratory animals and performing experimental procedures.
- Strong documented quantitative and analytical skills, demonstrated through for example experience with quantitative experimental methods, programming, data analysis, or related.
- Experience with optical microscopy techniques (at least one such as confocal, two-photon, or light-sheet microscopy).
- A background in neuroscience. Previous specialization in sensory neuroscience is not required.

Additional skills:

- Experience with small-animal surgery.
- Experience with genetic manipulation approaches, including Cre/CreER mouse models, viral vectors (e.g., AAV), or related technologies.
- Background in molecular neuroscience and neuronal excitability
- Experience with genetic screening or functional genetic perturbation approaches.

Appointment and Conditions

This fellowship position is funded by The Catharina Högbom & Michael Cocozza Research Foundation and will provide you a tax-free scholarship of SEK 550,000 per year (appx $ 56,000) which will be paid directly to the postdoctoral fellow.

In addition, your research is supported by an operating grant of SEK 450,000 per year paid to the research environment at the department.

Before the third year, the postdoctoral researcher may apply to the foundation for an individual operating grant of approximately SEK 500,000, intended for those who have the ambition and, in the foundation's assessment, the ability to establish their own research environment. Any operating grant awarded is paid to the

department and made available to the research environment for use in the postdoctoral researcher's research project.

Essential information about healthcare, insurances etc. can be found here. Questions are welcome to lisa.dobrosch@liu.se

Application procedure

The following documents (in pdf-format) must be submitted when applying for a scholarship

- Cover letter, max 2 pages, describing your background, research interests in general and in relation to the project, and what makes you interested in the fellowship.
- Qualification plan, max 2 pages, describing clearly what qualifications you want to obtain during the scholarship period.
- Publication list, max 5 pages. List the publications in reverse chronological order under 1) The most important publications 2) Relevant publications from the last years.
- CV, max 4 pages, including contact details to three reference persons.
- The protocol from the defense of the thesis or the PhD degree diploma. Where the defense has not yet taken place, the defense application must be submitted and a copy attached to the application.
- Copy of passport and MSc transcripts with grades.

The format for the cover letter, qualification plan and publication list is A4 pages in Arial, font size 11, single line spacing. All documents not issued in Swedish or English must be officially translated into English.

The application should be sent electronically to lisa.dobrosch@liu.se. Mark the email with "Högbom-Cocozza Foundation Postdoc - Dnr. BKV-2026-00939 - Szczot" on subject line.

Applications deadline

January 8, 2027