

Postdoctoral scholarship in organic electronics specializing in Production of functional paper electrodes for electrolyzers, photolyzers and fuel cells

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

At Linköping University we embrace innovative thinking. Constantly challenging ourselves has been our strongest motivator ever since we opened our doors in 1975. We are driven by seeking answers beyond the traditional and across subject boundaries. If you are too, we would like to see you at our university. Together we can find solutions to the challenges of the day.

At the Department of Science and Technology, at the university's Norrköping Campus, we provide education and conduct research in physics and electronics, communications/logistics and media- and information technology. The department is recognised for its work in fields including logistics, visualisation and organic electronics. We combine academic excellence with fruitful collaboration with the Community.

Read more at www.liu.se/itn

At the Laboratory of Organic Electronics (LOE), we focus on the study and application of electronically and ionically conducting organic materials in an array of areas spanning energy harvesting, printed electronics, photonics, bioelectronics and more.

Read more at www.liu.se/loe

In this challenging project we aim at exploring electrocatalytic and conducting papers to produce and utilize eco-friendly fuels, especially targeting hydrogen peroxide (H_2O_2). Aiming for large-volume production of future green energy technology, paper has several unique and desired properties with respect to large-volume, porosity, chemistry and recyclability. In addition to this, recent research achievements have made paper electronic and functional, making it suitable for advanced large-scale production of high-quality fuel and for the utilization of this fuel in electricity-producing fuel-cells. With conducting materials (polymer- or carbon-based) and catalytic dyes, we aim at functionalizing paper to become a catalytic electrode system for efficient production and conversion of energy in a carbon-free energy technology. In the production and conversion of H_2O_2 -based energy, oxygen, water and hydrogen peroxide are the only expected chemical reactants and products.

LINKÖPING UNIVERSITY

Hereby advertises a scholarship for

Postdoctoral research in Production of functional paper electrodes for electrolyzers, photolyzers and fuel cells

Duties

This scholarship will primarily focus on research and personal development within the field of organic electronics.

The postdoc will explore production techniques and technology concepts to achieve functional catalytic electrodes and devices to enable the actual construction of electrolyzers and photolyzers

(producing H₂O₂) and fuel cells (converting H₂O₂ to electricity). The scientific work will include formulation of inks/solutions from the functional materials within the project, design of electrode structures, selection and test of production methods, and finally to realize complete functional device cells. With those at hand, the interesting work starts to characterize, test, demonstrate and explore a novel all-green energy technology in various applications.

Research will be primarily of experimental character, including lab-scale manufacturing as well as electrical and materials characterization.

Qualifications

The position requires a doctorate or an equivalent degree from a foreign university. The doctorate shall have been obtained no longer than three years before the expiration date of the application.

A degree in a field related to materials science, printed/organic electronics, catalysis or fuel cells will be favored. Experience in multidisciplinary research projects will also be valued. Research at the Laboratory of Organic Electronics is carried out predominantly in English, so relative fluency is favorable.

Appointment time

A Postdoc scholarship is defined as two years.

Starting date

Spring 2020, exact date by mutual agreement.

Stipend and benefits

This scholarship provides a tax-free stipend of 25 000 SEK/month, plus limited funds for travel to/from Sweden at the beginning/end of the appointment.

Application procedure

Apply for the scholarship by sending the following documents electronically to the contact person(s) listed below:

- Cover letter
- CV
- University diplomas or degree verification
- One or more relevant publications, if available
- Link or full text of masters thesis, if available
- References (letters of recommendation can also be provided)

The application should be sent electronically to isak.engquist@liu.se and a copy to registrator@itn.liu.se. Mark your application with reference number Dnr ITN-2020-00022 in the e-mail subject field.

Applications and documents received after 20th of February 2020 will not be considered.

Equal opportunities

A majority of our postdocs within the Laboratory of Organic Electronics are men, which is why precedence will be given to women in cases where qualifications are deemed otherwise equivalent.

Linköping University will continue to develop as an attractive and creative place of work, characterized by equal terms, and actively works for equality and diversity.

Contact persons

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Annelie Westerberg, HR partner, HR@itn.liu.se