Postdoctoral scholarship
in computational studies of conducting polymers
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 The Laboratory of Organic Electronics belongs to the 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 nano-optics. Currently, the research staff of the Laboratory includes more than 100 researchers (professors, senior and junior scientists and PhD students), see http://liu.se/loe for detail.

Background and duties:
Among all organic materials conducting polymers have become the material of choice for many electronic and bioelectronic devices including OLED, photovoltaic cells, energy storage devices, ionic and electrochemical transistors, and many others. Conducting polymers are also very promising material for electrodes in electrochemical storage and conversion devices such as supercapacitors and fuel cells. An experimental progress and development of the above devices is difficult without fundamental understanding of the basic material properties. The main aim of the research project will be to theoretically explore the role and catalytic properties of conducting polymers for the oxygen reduction reaction (ORR) and hydrogen evolution reactions (HER). A special emphasis will be given to the electrochemical aspects of ORR and HER. The research project will also include studies of the chemical stability of organic conjugated systems focusing on the effect of oxygen, moisture and electrolytic solvent environment. Computational methods will primarily include first-principle molecular dynamics simulations as well as the DFT simulations. The theoretical studies will be performed in the Theory and Modelling group under supervision of Prof. Igor Zozoulenko with strong interaction with the theory and experiment in the Electrodecs group under supervision of Dr. Viktor Gueskine.

Qualifications and requirements to applicants:
– The applicant must have or be about to receive a doctoral degree in a subject relevant to the research project (e.g. physics, material science, theoretical chemistry, etc.) and needs to be passionate about research. Problem solving ability and creativity, as well as the ability to work independently are essential. Another prerequisite is experience with molecular dynamics (MD) simulations (especially first-principle MD) as well as DFT calculations. Good skills in programming/scripting is highly desirable.
– Scholarship may be granted only to non-Swedish citizens with a PhD or equivalent acquired in another country than Sweden. The applicant could not have been employed by Linköping university previously.
Starting date
As soon as possible.

Appointment and Conditions:
- Appointment is initially for one year with a possibility of an extension for the second year depending on a mutual agreement. The scholarship amounts to SEK25000:-/month (tax-free) (~€2500/month). Economy class travel to/from Sweden will be covered. Funding can be available to participate in conferences.
- The scholar and his/her family will be insured in accordance with the Swedish social insurance law and are entitled to medical benefits. In addition, the scholarship is covered by the State Group and Individual insurance (GIF).
- Please observe that this is a scholarship, not an employment, and therefore the scholarship provides neither pension rights nor the parental leave pay right to its holder. Scholarship is offered tax free; a scholar may not receive any other remuneration (including allowances and other fringe benefits) from the university than the scholarship during the scholarship period.

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 your interest in this position)
- Curriculum vitae, max 2 pages, including at least two references that we can contact
- List of publications
- Statement of Research Interests, max 2 pages
- Copy of PhD diploma

The application should be sent electronically to Prof. Igor Zozoulenko igor.zozoulenko@liu.se and Dr. Viktor Gueskine viktor.gueskine@liu.se and a copy to registrar@itn.liu.se. Mark your application with reference number Dnr ITN-2019-00056 in the e-mail subject field.

The review of applicants will start immediately and will continue until the position is filled. A formal deadline for application is 20 March 2018.

Contact:
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