



Umeå University announces...

Umeå University is dedicated to providing creative environments for learning and work. We offer a wide variety of courses and programmes, world leading research, and excellent innovation and collaboration opportunities. More than 4 400 employees and 34 000 students have already chosen Umeå University. We welcome your application!

Two Postdoctoral Positions (2 years) in Environmental Chemistry and Biogeochemistry

– *The importance of dissolved organic matter in aquatic ecosystems*

The *Umeå Environmental and Biogeochemistry Initiative* is one of Umeå University's strong research environments and we now announce two postdoctoral positions to expand our research on 1) the transport and fate of environmental pollutants in aquatic systems and 2) the relationship between bioavailability and carbon quality in relation to variations in natural organic matter. The overall objective of the Initiative is to strengthen and further explore integrated research efforts and techniques for advanced research in environmental chemistry and biogeochemistry. We strive to promote advances in the quantitative and mechanistic understanding of biogeochemical cycles, which combine chemo-physico-biological processes over a range of temporal and spatial scales. The two post doc projects will be conducted in close collaboration between the Department of Chemistry (www.chemistry.umu.se) and the Department of Ecology and Environmental Science (www.emg.umu.se). Sampling of natural waters will take place in northern Sweden, including tundra environments around Abisko and boreal forests at the Krycklan catchment, about 55 km northwest of Umeå.

Post-doctoral position for Studies of linkages between bioavailability and dissolved organic carbon (DOC) quality in high-latitude streams, dnr 315-979-13

DOC in high-latitude streams can exhibit large variations in their C:N ratios and spectroscopic characteristics related to differences in landscape properties. How this relates to bioavailability, especially in high-latitude landscapes, is much less known. Such information is vital in order to be able to predict how landscape changes due to climate change may change DOC quality and bioavailability in the future. This project will focus on linkages between stream DOC quality and bioavailability in tundra and forested streams in northern Sweden. A significant part of the field work will be undertaken at the *Climate Impacts Research Centre (CIRC)* in Abisko, northern Sweden, but also at the extensively studied boreal forest Krycklan catchment. We are specifically interested in how temporal and spatial variations in DOC quality and bioavailability relates to catchment properties across the boreal-arctic landscape. A specific part of the research project will be to coordinate sampling and integrate research results with the related project on the fate of environmental pollutants (see below).

To be eligible for this position, you must hold a Ph.D. and have a background in terrestrial or aquatic biogeochemistry. The ideal candidate will have experience in work on carbon quality in terrestrial or aquatic environments. Experience in performing bioassays on microbial C availability would also be valuable.

For more information, please contact Professor Reiner Giesler, e-mail: reiner.giesler@umu.se, or Professor Hjalmar Laudon, e-mail: hjalmar.laudon@slu.se,

Post-doctoral position for Studies on the fate of environmental pollutants in high-latitude streams, dnr 315-984-13

The characteristics and quantity of DOC varies in aquatic environments, which have implications on, *e.g.*, the environmental transport and fate of small organic molecules but also on the availability of nutrients for microbiota. DOC features depend on global and local environmental factors including the characteristics of biota, water chemistry, redox potential, microbial degradation processes, and climate. This project will study variations in reactivity of organic compounds related to DOC of various origins. Reactions of interest include, *e.g.*, hydrolysis, oxidation, photolysis, and photo-mediated coupling. Reactivity of pollutants is a key factor in understanding *e.g.* persistence and toxicity in the environment. The project will take on both empirical and quantum chemistry based experiments and will be closely associated with the parallel project focusing on the characterization of DOC in high-latitude waters (see above).

To be eligible for this position, you must hold a Ph.D. and have a background in environmental chemistry or analytical chemistry. The ideal candidate will have experience from work on speciation of organic micro-pollutants in aquatic environments with mass spectrometry-based techniques. Experience of additional instrumental platforms such as nuclear magnetic resonance techniques and/or computational chemistry would also be valuable.

For more information, please contact Associate Professor Patrik Andersson, e-mail: patrik.andersson@umu.se or Professor Peter Haglund, email: peter.haglund@umu.se.

Competence requirements

To be eligible for a position as post-doctor you should hold a PhD, or equivalent, which in the first case is less than three years old. For both positions we also demand a documented capability of autonomous scientific research work and skills in writing scientific publications and reports in English. In addition, the postdoctoral researcher is expected to participate in other current research projects within the collaborating research groups, and a willingness to develop research-funding possibilities within the research groups is encouraged. Very good command of the English language, both written and spoken, is required. The expected starting date is early 2014 but this can be negotiated.

The application

The application should include (1) a Curriculum Vitae, (2) copies of relevant degree certificates and publications, (3) names and contact information to at least three reference persons and (4) a cover letter with a motivation. The application can be submitted either electronically (MS Word or PDF format) or in hard-copy (two copies) form.

Union information is available from SACO, +46-(0)90-786 53 65, SEKO, +46-(0)90-786 52 96 and ST, +46-(0)90-786 54 31.

Should you wish to apply for both positions, two separate applications need to be submitted.

Your complete application, marked with **the relevant reference number**, should be sent to jobb@umu.se (state the reference number as subject) or to the Registrar, Umeå University, SE-901 87 Umeå, Sweden to arrive **November 18, 2013 at the latest**.

We look forward to receiving your application!