UNIVERSITETET I OSLO

Jobbnorge-ID: 135509
Søknadsfrist: Avsluttet
Nettside:
Omfang:
Varighet:

Postdoctoral Research Fellowship in Soft Matter - “Kinetic Pathways of Self-assembled Materials"

Position as Postdoctoral Research Fellowship available at the Department of Chemistry.

The fellowship period is 3 years, with 10 % compulsory work. Within the framework of the position duties may be assigned. Starting date no later than 01.10.2017. No one can be appointed for more than one specified period at the same institution.

Job description/ Project description:

We offer a three-year Postdoctoral research position in the Soft Matter group at the Department of Chemistry, University of Oslo under the supervision of Associate Professor Reidar Lund.
Nature creates materials through self-assembly processes, i.e. by spontaneous organization of molecules into well defined, but often dynamic structures. As has been increasingly more recognized in recent years, self-assembly is not purely thermodynamically controlled, it can also be limited by kinetic processes. Kinetic pathways, and manipulation of these, are essential for fabrication of defined nano-assemblies in many of the same ways familiar from chemical reactions. In many biomolecular assemblies - such as in lipid membranes, kinetic processes often play a key role for their function, e.g. in signaling processes, intra-cellular trafficking etc. An understanding of molecular exchange and diffusion processes are also important for drug delivery systems based on self-assembled materials.
In this project, we will study kinetic processes of self-assembly at, and out of equilibrium using mainly scattering techniques based on X-ray, neutron and light. The work will include investigations of typical nucleation & growth processes involved in the formation of polymeric nanoparticles/micelles, exchange kinetics in peptide assemblies as well as the dynamics of self-healing polymeric hydrogels. A particular focus will be directed towards problems related to encapsulation and entrapment of pharmaceutically or biologically active compounds. The candidate is expected to actively use instrumentation for studying rapid kinetic processes such as the newly acquired stopped-flow apparatus coupled with light and X-ray scattering and take active part in the preparation, execution and data evaluations from synchrotron/neutron experiments at international and national sources. The tasks will also include rheological investigations, in particular studies of the relation between microscopic dynamics with macroscopic mechanical properties, and extensive theoretical modelling of experimental data.

Qualifications:

The Faculty of Mathematics and Natural Sciences has a strategic ambition of being a leading research faculty. Candidates for these fellowships will be selected in accordance with this, and expected to be in the upper segment of their class with respect to academic credentials.

The candidate must have a PhD or other corresponding education equivalent to a Norwegian doctoral degree in Physics or Chemistry, Physical Chemistry, Biophysics or relevant fields.

We are looking for candidates with previous experience in soft matter research and related experimental techniques. Preference will be given to a candidate with a strong background in small-angle X-ray/neutron scattering techniques and data modelling. We particularly look for candidates with high level of initiative and self-motivation for research that have a keen interest in understanding fundamental physico-chemical properties of soft matter systems relevant to biomedical applications.

The main purpose of post-doctoral research fellowships is to qualify researchers for work in top academic positions within their disciplines.

Please also refer to the regulations pertaining to the conditions of employment for post-doctoral fellowship positions:

https://www.uio.no/english/about/regulations/personnel/academic/guidelines-appointment-postdoc-researcher.html

A good command of English is required.

Salary:

Position code 1352, Salary: NOK 486 100 - 567 100 per year, depending on qualifications and seniority.

The application must include:

- Application letter including a statement of motivation
- CV (summarizing education, positions, pedagogical experience, administrative experience and other qualifying activity)
- Copies of educational certificates, transcript of records and letters of recommendation
- A complete list of publications and up to 5 academic works that the applicant wishes to be considered by the evaluation committee
- Names and contact details of 2-3 references (name, relation to candidate, e-mail and telephone number)

Please remember that all documents should be in English or a Scandinavian language.

In accordance with the University of Oslo’s equal opportunities policy, we invite applications from all interested individuals regardless of gender or ethnicity.

UiO has an agreement for all employees, aiming to secure rights to research results a.o.

For further information please contact: Associate Professor Reidar Lund, phone: +47 228 555 08, e-mail: reidar.lund@kjemi.uio.no

For questions regarding the recruitment system Jobbnorge, please contact HR Officer Nina Holtan, e-mail: nina.holtan@mn.uio.no, phone: +47 22 85 44 24.

Tilleggsinformasjon

Arbeidssted: