



UNIVERSITETET
I OSLO

Jobbnorge ID: 211152

Deadline: 9/22/2021

Website: <http://www.uio.no/>

Scope: Fulltime

Duration: Temporary

Postdoctoral Research Fellowship in Theoretical Chemistry

Job description

Position as Postdoctoral Research fellow available at the Department of Chemistry / Hylleraas Centre for Quantum Molecular Sciences

The fellowship is for a period of up to 3 years. Starting date as soon as possible

More about the position

The Hylleraas Centre for Quantum Molecular Sciences is a National Centre of Excellence established in 2017 by the Norwegian Research Council, shared by the Theoretical Chemistry groups at the University of Oslo (UiO) and UiT-the Arctic University of Norway.

The research at the Hylleraas Centre is dedicated to modelling chemical systems in complex and extreme environments, with a strong focus on the interaction between matter and electromagnetic radiation. Based on solid new methodological research, the goal is to develop an integrated approach

to the investigation of complex molecular systems, allowing us to predict and explain the most diverse phenomena, ranging from the attosecond response of small molecules in strong laser pulses to

microsecond reorganization of soft-matter aggregates. The Hylleraas Centre activities are structured in six Research Themes, covering the different research lines present in the centre, and organised as illustrated in the figure. For more information about the Hylleraas Centre and its Research Themes,

please visit <http://www.hylleraas.no>

The present call opens one postdoctoral position at UiO, in the Research Theme RT2: Multiscale Modelling

The positions, under the supervision of Prof. Michele Cascella (RT2) is meant to strengthen the theoretical foundations of the research at the Hylleraas Centre and to provide a direct link between methodological advances and computational applications.

The objective of RT2 is to develop methodologies related to the simulation of systems in the condensed phase across large dimensional and temporal scales. Particular emphasis is on multiresolution models, combining all-atom, coarse grained, and mesoscale resolutions. The future collaborator in RT2 will contribute to the development of the hybrid particle/field-molecular dynamics (Milano and Kawakatsu JCP 2009), especially toward the simulation of complex soft-bio/material interfaces (see Cascella and coworkers, JCTC 2018, 2019). Specifically, the future collaborator is expected to push forward the development of the new implementation of the hPF-MD approach based on the hPF Hamiltonian formalism recently introduced by Bore and Cascella (JCP 2020), and to contribute to the development of multi-resolution techniques integrating different multi-scale software into the MiMiC platform, involving models from all-atom to continuum. The ambition is to develop software and methodologies able to tear down time and size bottlenecks in molecular simulations of large, (bio)soft systems, in particular by porting the code to exa-scale architectures being built in Europe in these years.

Qualification requirements

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.

Requirements/qualifications:

- For each position, we seek a talented young researcher with the following skills/experience:
- The applicant must hold a PhD in computational sciences, physics, chemistry or a related discipline, with a thesis having a clear focus on computational topics.
- Documented knowledge of programming languages (Fortran, c/c++, Python), is required
- Solid experience with HPC, in particular with MPI and GPU coding, is highly desired
- Knowledge of molecular modelling algorithms (especially molecular dynamics) is highly desired
- Knowledge of statistical mechanics is desired
- Fluent English (written and spoken) is strictly required.

We offer

- salary NOK 534 400 - 615 800 per annum depending on qualifications in position as Postdoctoral Research Fellow (position code 1352)
- a professionally stimulating working environment
- attractive welfare benefits and a generous pension agreement, in addition to Oslo's family-friendly environment with its rich opportunities for culture and outdoor activities

How to apply

The application must include:

- Cover letter. Statement of motivation and research interests
- CV (summarizing education, positions and academic work - scientific publications)
- Copies of educational certificates, transcript of records
- list of publications and academic work 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)

The application with attachments must be delivered in our electronic recruiting system please follow the link "Apply for this job". Foreign applicants are advised to attach an explanation of their University's grading system. Please note that all documents should be in English (or a Scandinavian language).

Applicants may be called in for an interview.

Formal regulations

Please see the [guidelines and regulations](#) for appointments to Postdoctoral fellowships at the University of Oslo.

No one can be appointed for more than one Postdoctoral Fellow period at the University of Oslo.

According to the Norwegian Freedom of Information Act (Offentleglova) information about the applicant may be included in the public applicant list, also in cases where the applicant has requested non-disclosure.

Inclusion and diversity are a strength. The University of Oslo has a personnel policy objective of achieving a balanced gender composition. We also want to have employees with diverse expertise, combinations of subjects, life experience and perspectives. We will make adjustments for employees who require this.

If there are qualified applicants with special needs, gaps in their CVs or immigrant backgrounds, we will invite at least one applicant in each of these groups to an interview.

Contact information

For further information please contact: Michele Cascella.e-mail: michele.cascella@kjemi.uio.no

For question regarding the recruitment system, please contact HR Adviser: Ørjan Pretorius, e-mail orjan.pretorius@mn.uio.no

About the University of Oslo

The University of Oslo is Norway's oldest and highest rated institution of research and education with 28 000 students and 7000 employees. Its broad range of academic disciplines and internationally esteemed research communities make UiO an important contributor to society.

Hylleraas Centre for Quantum Molecular Sciences operates under the aegis of the Department of Chemistry at the Faculty of Mathematics and Natural Sciences. The Department of Chemistry is Norway's largest institution within research and education in chemistry. Our research excels internationally and we educate students to a wide variety of jobs in industry, academia, research institutions, schools and public administration. Our research ranges from the core topics of chemistry to applied science within in environmental, health, energy and materials. The Department has extensive contacts with industry, research and educational institutions at home and abroad. As partner in the Centre for Materials Science and Nanotechnology our researchers contributes to a significant interdisciplinary efforts in cooperation with the Department of Physics. The Department of Chemistry has its own school laboratory as a great resource for teachers, public outreach and the didactics of chemistry.

Additional information

Place of service:

Problemveien 7 0313 Oslo (Oslo Municipality)