



UNIVERSITETET
I OSLO

Jobbnorge ID: 219728

Deadline: 2/28/2022

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

Scope: Fulltime

Duration: Engagement

PhD Research Fellow in Theoretical Chemistry

Job description

Position as PhD Research Fellow in Theoretical Chemistry available at the Department of Chemistry/Hylleraas Centre for Quantum Molecular Sciences.

No one can be appointed for more than one PhD Research Fellowship period at the University of Oslo.

Starting date no later than October 1, 2022.

The fellowship can be for a period of 4 years, with 25 % compulsory work (teaching and supervision duties and research assistance at the Department). Otherwise, the fellowship will be for a period of 3 years, with no compulsory work.

The fellowship is part of the project QOMBINE - Mathematics for quantum computation and manybody theory, and the goal is to combine the mathematical framework of C^* -algebra with manybody methods like coupled-cluster theory, not being limited to molecular systems, but also systems of other particle species. Working on a true interdisciplinary project, the fellow will spend part of the time at the Department of Mathematics together with other fellows and senior researchers on the QOMBINE project, who work on related topics in a stimulating environment. At the Hylleraas centre, the fellow will also be part of an excellent theoretical chemistry community. The Hylleraas centre also offers a career development plan, preparing the fellow for their future professional life.

QOMBINE is part of the Fellesløft IV program of the Research Council of Norway, and is therefore among the largest funded researcher projects in Norway.

For more information on the QOMBINE project, see the project web page: <https://www.mn.uio.no/math/forskning/prosjekter/qombine/index.html>

For other positions in the project QOMBINE, see announced position as [PhD Research Fellow in Physics - Error mitigation of quantum information](#) and [PhD Research Fellow in Mathematics](#)

For more information on the Hylleraas centre, see the following web page: <https://www.mn.uio.no/hylleraas/english>

Qualification requirements

The Faculty of Mathematics and Natural Sciences has a strategic ambition to be among Europe's leading communities for research, education and innovation. 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.

Required qualifications:

- Master's degree or equivalent in Chemistry, Mathematics, or Physics, or other relevant areas
- A foreign completed degree (M.Sc.-level) must correspond to a minimum of four years in the Norwegian educational system
- Fluent oral and written communication skills in English
- Fluent oral and written communication skills in a Scandinavian language is required for a 4-year fellowship including teaching duties

English requirements for applicants from outside of EU/ EEA countries and exemptions from the requirements:

<https://www.mn.uio.no/english/research/phd/regulations/regulations.html#toc8>

Candidates without a Master's degree have to complete the final exam until 30 June, 2022.

Grade requirements:

The norm is as follows:

- The average grade point for courses included in the Bachelor's degree must be C or better in the Norwegian educational system
- The average grade point for courses included in the Master's degree must be B or better in the Norwegian educational system
- The Master's thesis must have the grade B or better in the Norwegian educational system

Desired qualifications:

- Documented and good knowledge of in one or more of the following topics: manybody quantum theory, quantum field theory, coupled-cluster theory, functional analysis, C^* -algebras
- For applicants with a MSc in Chemistry or Physics, a solid mathematical component of the education is desired
- For applicants with a MSc in Mathematics, a solid theoretical chemistry or physics component is desired

- Experience with computer algebra systems like Mathematica or Maple
- Experience with computer programming in languages such as C++ or Python

The purpose of the fellowship is research training leading to the successful completion of a PhD degree.

The fellowship requires admission to the PhD programme at the Faculty of Mathematics and Natural Sciences. The application to the PhD programme must be submitted to the department no later than two months after taking up the position. For more information see:

<http://www.uio.no/english/research/phd/> and <http://www.mn.uio.no/english/research/phd/>

Personal skills

- Exceptional analytical skills
- Being able to draw connections and see the broad picture
- Independent and creative thinking
- Being able to work in a group
- Positive and enthusiastic
- Willing to contribute to a positive working environment

Personal suitability of the applicant will be emphasized in the selection process.

We offer

- Salary NOK 491 200 - 534 400 per annum depending on qualifications and seniority as PhD Research Fellow (position code 1017)
- Attractive [welfare benefits](#) and a generous pension agreement
- Vibrant international academic environment
- [Career development programmes](#)
- Oslo's family-friendly surroundings with their 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 the original Bachelor and Master's degree diploma, transcripts of records
- Letters of recommendation: these are not to be submitted with the application, but may be requested later during the evaluation process
- Documentation of English proficiency
- 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)

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 Research Fellowships at the University of Oslo.

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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.

The University of Oslo has an [agreement](#) for all employees, aiming to secure rights to research results etc.

Inclusion and diversity are a strength. The University of Oslo has a personnel policy objective of achieving a balanced gender composition. Furthermore, we want employees with diverse professional expertise, life experience and perspectives.

If there are qualified applicants with disabilities, employment gaps or immigrant background, we will invite at least one applicant from each of these categories to an interview.

Contact information

For further information please contact: Researcher, Simen Kvaal, email: simen.kvaal@kjemi.uio.no

For technical questions regarding the recruitment system please contact: HR Advisor, Olga Holmlund, e-mail: olga.holmlund@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 7500 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:

Blindern 0313 Oslo (Oslo Municipality)