



UNIVERSITETET
I OSLO

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Nettside: <http://www.uio.no/>
Omfang: Heltid
Varighet: Vikariat/Midlertidig

PhD Research Fellow in Experimental Chemistry in Chemical Kinetics and Heterogeneous Catalysis

About the position

Position as PhD Research Fellow in Materials Science available at [Centre for Materials Science and Nanotechnology \(SMN\)](#), Department of Chemistry, University of Oslo.

The fellowship period is 3 years.

A fourth year may be considered with a workload of 25 % that may consist of teaching, supervision duties, and/or research assistance. This is dependent upon the qualification of the applicant and the current needs of the department.

Preferred starting date is September 1, 2025.

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

Jobb description

The transition from a fossil-based to a circular production of consumer goods requires the development of new chemical processes, especially for the energy-efficient and sustainable conversion of carbon-containing biomass, biogas, and CO₂ into higher value products.

For this fellowship, the candidate will contribute to a research project "ZeoCAT: Zeotype-based Catalysts to produce consumables and fuels from recycled CO₂ feedstock", funded by the Research Council of Norway. The project aims to advance fundamental insight into the structure-composition-function correlations that govern the performance of heterogeneous catalysts in reactions relevant to the Cyclic Carbon Economy: CO₂ hydrogenation with green hydrogen into commodity chemicals and long-term energy storage molecules. The project is focused on tandem catalysts containing active sites for both, the conversion of CO₂ into C1-C2 intermediates like methanol and their subsequent coupling into larger hydrocarbon molecules. The candidate will conduct catalytic experiments using advanced transient methods based on mass-spectrometry and develop mathematical models to interpret these data in terms of molecular mechanisms. International collaborations and experiments at synchrotron facilities will be integral part of the project.

The candidate will be working within a vibrant and diverse team at [the Section of Catalysis and Organic Chemistry](#), which prioritizes professional development and well-being of its ca. 35 members. The candidate will be supported by the scientific, engineering, and administrative as well as with doctoral and bachelor students comprising the team, who enjoy many social activities together outside daily work.

The Section is a part of the interdisciplinary [Centre for Materials Science and Nanotechnology \(SMN\)](#) which coordinates collaborations between five research groups in physics and chemistry, and spearheads the MN Faculty's efforts for sustainable energy solutions. The Centre comprises UiO's focus on renewable energy, materials science, and nanotechnology.

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, Applied Physics, Chemical Engineering or related field
- Foreign completed degree (M.Sc.-level) corresponding to a minimum of four years in the Norwegian educational system

Candidates without a master's degree have **until 30 June 2025** to complete the final exam.

- Basic understanding of transport phenomena (i.e. mass transport) and reaction kinetics, especially in the area of catalysis by porous materials
- Fluent oral and written communication skills in English
- All candidates and projects will have to undergo a check versus national export, sanctions and security regulations. Candidates may be excluded based on these checks. Primary checkpoints are the Export Control regulation, the Sanctions regulation, and the National security regulation

Desired qualifications

- Prior hands-on experience with vacuum equipment, mass-spectrometry, catalytic reactors and/or gas-flow systems is highly beneficial
- Experience with and knowledge of mathematical modeling techniques (numerical solution of Partial Differential Equations)

Grade requirements

- 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

Language requirements

- Fluent oral and written communication skills in English

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

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

The purpose of the fellowship is research training leading to the successful completion of a PhD degree. For more information see:

[Doctoral degree: PhD at the Faculty of Mathematics and Natural Sciences - The Faculty of Mathematics and Natural Sciences](#)

Personal skills

- The ability to integrate within a diverse, multi-cultural group of researchers
- The ability to balance self-reliance with the ability to follow-up on the tasks delegated by the supervisor
- Motivation to become an independent researcher
- Readiness to travel internationally for scientific missions and research stays abroad
- We seek a candidate who is flexible, good at taking initiative and has excellent communication and interpersonal skills

We offer

- Salary NOK 536 200 - 575 400 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

Inclusive worklife and diversity at UiO

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.

We hope that you will apply for the position.

More information about gender equality initiatives at UiO can be found [here](#).

How to apply

Your application should include:

- Cover letter - statement of motivation and research interests
- CV (summarizing education, previous positions and academic work - scientific publications)
- Copies of the original Bachelor and Master's degree diploma, transcripts of records
- 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 and telephone number)

Application with attachments must be submitted via our recruitment system Jobbnorge, click "Apply for the position".

When applying for the position, we ask you to retrieve your education results from [Vitnemålsportalen.no](#). If your education results are not available through Vitnemålsportalen, we ask you to upload copies of your transcripts or grades. **Please note that all documentation must be in English or a Scandinavian language.**

General information

The best qualified candidates will be invited for interviews.

Applicant lists can be published in accordance with [Norwegian Freedom of Information Act](#) § 25. When you apply for a position with us, your name will appear on the public applicant list. It is possible to request to be excluded from this list. You must justify why you want an exemption from publication and we will then decide whether we can grant your request. If we can't, you will hear from us.

Please refer to [Regulations for the Act on universities and colleges chapter 3](#) (Norwegian), [Guidelines concerning appointment to post doctoral and research posts at UiO](#) (Norwegian) and [Regulations for the degree of Philosophiae Doctor \(PhD\) at the University of Oslo](#).

The University of Oslo has a [transfer agreement](#) with all employees that is intended to secure the rights to all research results etc.

Contact Information

For further information, please contact:

Professor Evgeniy Redekop, e-mail: evgeniy.redekop@smn.uio.no, phone: +47 40560473

For questions regarding recruitment system Jobbnorge, please contact:

HR advisor Olga Holmlund, e-mail: olga.holmlund@mn.uio.no

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.

Centre for Materials Science and Nanotechnology (SMN) is an interdisciplinary focus field for material and energy research at the University of Oslo.

SMN has focused on basic research in renewable energy and environmentally friendly use of fossil energy sources.

The center consists of research groups from the Department of Physics and the Department of Chemistry, has about 100 employees from around the world and manages more than 80 projects funded by EU, RCN and others.

Tilleggsinformasjon

Arbeidssted:

Problemveien 7 0313 Oslo (Oslo Kommune)