



Postdoctoral Research Fellowship within the iCSI

Job description

Postdoctoral Research Fellowship within the iCSI center for research based innovation is available at the Center for Materials Science and Nanotechnology at the Department of Chemistry, University of Oslo.

The postdoctoral fellowship is for a period of 2 years with the possibility of an extension.

The position is funded as part of the Industrial Catalysis Science and Innovation for competitive and sustainable process industry (iCSI) center for research based innovation (<https://www.ntnu.edu/icsi/>). Employment is pending the completion of the required contracts between the center participants.

The desired starting date is as soon as possible, latest by January 2st, 2020.

More about the position

The main purpose of post-doctoral research fellowships is to qualify researchers for work in top academic positions within their disciplines. The fellowship is based at the Catalysis Group (<http://www.mn.uio.no/kjemi/english/research/groups/catalysis/index.html>) and associated with the Center for Materials Science and Nanotechnology (SMN, <http://www.mn.uio.no/smn/>) and the iCSI center for research based innovation (Industrial Catalysis Science and Innovation, <https://www.ntnu.edu/icsi/>), established by the Research Council of Norway. The research tasks will be carried out in close collaboration with industrial partner Haldor Topsøe A/S, located in Lyngby near Copenhagen, Denmark, and secondments with industry are likely.

The vision of SMN is to contribute to an increase of Norway's production through research on materials science and nanotechnology on functional materials, and ensure a level of quality that further builds the recognition of SMN as a leading center amongst the Nordic countries, as well as internationally. The main objective of iCSI is to boost industrial innovation and competitiveness as well as to provide efficient, low-emission process technology. This will be done through:

- Improved understanding of the kinetics and chemistry of the catalytic processes of the industrial partners as a basis for performance enhancement and process optimization.
- Synergy between applied and basic research, competence-building and education through interaction between industry, research institutes and universities.
- Development of new materials and methods (experimental and theoretical) that strengthen the industrial value creation and impact the research frontier.

Employment at the Catalysis Group will allow the successful candidate the opportunity to work in a highly cross-disciplinary field in an internationally competitive research group with a high degree of international collaboration. Research in the Catalysis Group comprises extensive international collaboration, and research visits to partners in Europe is an integrated part of the postdoctoral research.

Introduction to the position: Postdoctoral fellow - Materials synthesis and advanced characterization

The position is an element in an on-going, larger effort related to the energy challenges of the late and post fossil fuels society. More specifically, the project is related to the synthesis and characterization of nanostructured microporous solid catalysts such as zeolites and spectroscopic and mechanistic investigations of heterogeneous catalytic processes facilitated by such materials.

Acidic zeolite catalysts find widespread industrial application in refinery and petrochemical processes such as catalytic cracking and conversion of methanol to hydrocarbons. Metal containing zeolites are currently investigated as catalysts for reactions such as reduction of nitrogen oxides (de-NOx), natural gas aromatization, and in particular, the direct oxidation of alkanes. The candidate will perform preparation and synthesis of solid, porous materials such as zeolite catalysts and other nanostructured oxide materials aimed towards direct alkane oxidation. The candidate will also carry out extensive basic characterization and be involved in advanced materials characterization and reaction studies using synchrotron methods.

The intention is that the candidate will work in close collaboration with the project PhD candidate and other group members in order to reach the overall objective of developing structure-performance relationships for these processes.

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.

- Applicants must hold a degree equivalent to a Norwegian doctoral degree in material science or chemistry. The doctoral dissertation must be submitted for evaluation by the closing date. Appointment is dependent on the public defense of the doctoral thesis being approved.
- Fluent oral and written communication skills in English
- Experience with solvothermal synthesis of porous materials is required and a broad experience in materials synthesis is highly desirable.
- Catalyst characterization will be carried out with several relevant techniques, in SEM and TEM, X-ray diffraction, X-ray absorption spectroscopy, and spectroscopy (Raman, FT-IR, and UV-Vis spectroscopy), and expertise within one of these fields is required.
- A good insight into basic characterization methods such as diffraction, surface area measurements, acidity characterization is required.
- Experience with synchrotron techniques are highly desirable.

PLEASE NOTE:

In the cover letter to your application, please specify how your background and competence is suited to meet the challenges of the project. Try to answer the question: How will you contribute?

We offer

- salary NOK 523 200 - 605 500 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, summarizing scientific work and research interest)
- CV (summarizing education, positions, pedagogical experience, administrative experience and other qualifying activity)
- Copies of educational certificates, academic 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)

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).

In assessing the applications, special emphasis will be placed on the documented, academic qualifications, the project description (whenever this is required in the call for applicants), and the quality of the project as well as the candidates motivation and personal suitability. Interviews with the best qualified candidates will be arranged.

It is expected that the successful candidate will be able to complete the project in the course of the period of employment.

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 and 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.

The University of Oslo aims to achieve a balanced gender composition in the workforce and to recruit people with ethnic minority backgrounds.

Contact information

For further information about the position, please contact: Prof. Stian Svelle, phone: +47 228 55454, e-mail: stian.svelle@uio.no

For technical question regarding the recruitment system, please contact HR Officer; Ørjan Pretorius, 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.

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 (Fi) and Chemistry (Ki), has about 100 employees from around the world and manages more than 80 projects funded by the EU, the RCN and others.

Jobbnorge-ID: 173668, Søknadsfrist: Søknadsfristen er gått ut