UNIVERSITETET I OSLO

Jobbnorge ID: 256851
Deadline: 2/13/2024
Website: http://www.uio.no/
Scope: Fulltime
Duration: Engagement

PhD Research Fellow in Materials Chemistry and Physics Related to Water Electrolysis Systems

About the position

A position as PhD Research Fellow in Materials Chemistry and Physics is available at the Centre for Materials Science and Nanotechnology (SMN), Department of Chemistry, University of Oslo.

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

Starting date no later than June 1st, 2024.

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.

Knowledge development in a changing world - Science and technology towards 2030.

Centre for Materials Science and Nanotechnology, Department of Chemistry

Video: https://www.youtube.com/watch?v=t4wvWQEhDEs

Job description

We seek a PhD research fellow with qualifications and interest in materials science and electrochemistry related to catalyst materials for water electrolysis systems.

The work is part of REFINE, a Horizon Europe-funded project with the main aim to produce electrofuels. REFINE is coordinated by University of Oslo (UiO) and is comprised of a total of nine partners.

The PhD Research Fellow will be mainly involved in the synthesis and development of novel catalysts for use as anodes in water electrolyzers. The catalysts will be characterized by a variety of ex situ and in situ/operando physicochemical techniques, and also modelled by computational methods, such as density functional theory (DFT), depending on the qualifications and interest of the PhD candidate.

It is imperative that the applicant in the cover letter clearly addresses, point-by-point, all the required qualifications.

SMN is an interdisciplinary centre, promoting research in materials science and nanotechnology. The Centre is an international leader in basic science within functional materials and nanoscience, with applications within energy, life science, environment and ICT.

The successful candidates are expected to work as part of an international team within the REFINE project.

The position will be affiliated with the Section for Electrochemistry at UiO, located in Oslo Science Park. The successful candidate will have the opportunity to conduct research at a high international level that aims to utilize renewable energy for the synthesis of solar- and e-fuels.

The candidate will have the opportunity for exchange visits (between a week and up to a month) to our collaborators in Spain in order to bring the research under realistic outdoor conditions. In addition, visits to synchrotron facilities for specialized in-situ/operando experiments (usually lasting one week) will occur, aiming for revealing new fundamental insights for the studied processes.

The research group is multinational and multicultural, thriving due to the will for excellent science under a strongly social and respectful environment.

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.

- Master's degree or equivalent in solid state physics, inorganic chemistry, materials chemistry or materials science
- Foreign completed degree (M.Sc.-level) corresponding to a minimum of four years in the Norwegian educational system

- Fluent oral and written communication skills in English
- Knowledge and experience in synthesis, and/or characterization of inorganic materials
- Must be able to travel within Europe for project meetings and for short research visits to some of the project partners as well as internationally (e.g. USA, Japan) for conferences and specialized beamline experiments

Desired qualifications:

- Experience with electrochemical characterization and theory, especially for water electrolysis systems
- Experience with computational methods such as DFT
- Experience with (synchrotron) X-ray spectroscopy, e.g. XAS, XPS etc.
- Publication(s) related to the above-mentioned qualification requirements
- Experience and skills related to collaboration with other fields

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 educa-tional system
- 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

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/

http://www.mn.uio.no/english/research/phd/

Personal skills

- Ability to conduct high-quality independent research
- Interpersonal communication skills and strong teamwork ability
- Willingness to collaborate with PhD and/or Master/Bachelor students in a specialty field
- Self-motivation, quality minded, flexible, eager to learn, genuine curiosity concerning the field of study, work discipline, professional ethics, and ambition

We offer

- Salary NOK 532 200 - 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

How to apply

The application must include:

- Cover letter - statement of motivation and research interests, , as well as **point-by-point** responses to all the required and desired qualifications
- CV (summarizing education, positions and academic work - scientific publications)
- Copies of the original Bachelor and Master's degree diploma and transcripts of records
- Letters of recommendation
- Documentation of English proficiency if applicable
- 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.

Interviews with the best qualified candidates will be arranged.

Formal regulations

Please see the guidelines and regulations for appointments to Research Fellowships 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.

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

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 about the position please contact:

Researcher Athanasios Chatzitakis, e-mail: athanasios.chatzitakis@smn.uio.no

For technical questions regarding recruitment system Jobbnorge, please contact:

HR Adviser 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 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.

Additional information

Place of service:

Problemveien 7 0313 Oslo (Oslo Municipality)