



UNIVERSITETET  
I OSLO

Jobbnorge ID: 209245

Deadline: 8/3/2021

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

Scope: Fulltime

Duration: Engagement

## Postdoctoral Research Fellowship in Materials Science and Mineralogy

### About the position

A Postdoctoral Research Fellow position is available at the Department of Technology Systems.

The appointment is a fulltime position for a period of two years. Preferred starting date 01.10.2021, but no later than 01.01.2022.

### Job description/Project description

We seek a research enthusiast with a PhD, who presents appropriate work performance and interest in investigating the potential of natural minerals as new filter materials for cleaning water from heavy metal pollutions.

The position is associated with the project NATSORB ([Dypingite - A superior NATural SORBent for management of heavy metal water pollution?](#)) funded by the Research Council of Norway. The project is owned and coordinated by the Natural History Museum (NHM) at the University of Oslo (UiO), and the research will be done in collaboration with the Department of Geology and the Department of Technology Systems (both at UiO), SINTEF, NIVA and University of Munster.

NATSORB will study the fundamental processes related to heavy metal sequestration by natural & synthetic dypingite-like minerals, and explore the possibility of translating the gained knowledge into technological solutions. This will be achieved by integrating the fieldwork (carrying out primarily around Røros) with laboratory studies to provide the complete characterization of the investigated materials & processes involved. The examinations will include the chemical (e.g. SEM-EDX, EPMA, ICPMS) and structural (e.g. X-ray/neutron diffraction, TEM, AFM, spectroscopic analysis) characterization of samples.

The focus of this postdoctoral position is the structural characterization of natural and synthetic dypingite and related Mg-carbonate materials. The structural characterization will rely mainly on powder diffraction techniques. These experiments will be supplemented by spectroscopy measurements to understand long- and short-range structural features of the materials.

The main activity will be carried out at UiO, SINTEF & NIVA; however, a part of the research will also be conducted aboard. At ITS, the research will be carried out within the Section for Energy Systems. ITS is a new and growing department at UiO, located in Kjeller, with internationally recognized research groups, which provide training and education for students and research fellows. The department is a part of the Kjeller Science Park, which is one of the largest research and development environments in Norway. ITS focuses on application-driven research, where we address issues relevant to enabling sustainable solutions for current and future technological applications. The position is shared with the Natural History Museum, which is the largest institution of this type in Norway. At NHM, the position will be hosted by the Mineralogy Research group that studies the fundamental properties of minerals and their occurrences in nature.

### 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.

**The following qualifications will count in the assessment of the applicants:**

#### Must have skills:

- PhD or a degree equivalent to a Norwegian doctoral degree, preferably in materials science, inorganic chemistry, crystallography or mineralogy/geology
- Solid scientific background in materials science and documented research experience with structural characterization techniques, in particular powder X-ray/neutron diffraction methods
- Proven ability of solving material crystal structures based on powder X-ray and/or neutron diffraction data
- Acquaintance with solid-state and/or wet-chemical synthesis methods
- Documented research experience with inorganic chemical compounds (e.g., carbonates, oxides, etc.)
- Fluent oral and written communication/presentation skills in English
- Ability to travel abroad occasionally, to participate in the material characterization at collaborating groups' laboratories and to present results at conferences

Applicant must have defended his/her/their doctoral thesis by the time of the application deadline.

### Preferred skills:

- Familiarity with other spectroscopic techniques (e.g. FT-IR and Raman)
- Documented research experience with layered carbonates and their structural /functional characterization
- Familiarity with techniques such as Scanning Electron Microscopy (SEM), Transmission Electron Microscopy (TEM), and chromatography
- Scientific background in chemical characterization techniques, e.g. Electron Probe Microanalysis (EPMA) and Inductively Coupled Plasma Mass Spectrometry (ICP-MS)

### Personal skills

- High interest in the research topic
- Interdisciplinary mindset
- Collaborative and open attitude
- Proactiveness
- Quick learning
- Ability to work independently in a well-organized, attention-focused and timely manner
- Ability to express yourself, orally and written, in a clear and concise way

### We offer

- Salary NOK 534 400 - 615 800 NOK per year depending on qualifications in position as Postdoctoral Research Fellowship (position code 1352)
- Attractive [welfare benefits](#) and a generous pension agreement
- Professionally stimulating working environment
- Vibrant international academic environment
- [Postdoctoral 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, summarizing scientific work performance and research interest relevant for this position)
- CV (summarizing education, positions, any other relevant experience and qualifying activity)
- Copies of educational certificates (academic transcripts)
- 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. 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.

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 question and further information about the project please contact Matylda N. Guzik (supervisor at ITS; [m.n.guzik@its.uio.no](mailto:m.n.guzik@its.uio.no)) or Henrik Friis (supervisor at NHM; [henrik.friis@nhm.uio.no](mailto:henrik.friis@nhm.uio.no)).

For technical questions regarding the recruitment system, please contact HR Adviser Therese Ringvold, e-mail: [therese.ringvold@mn.uio.no](mailto:therese.ringvold@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.

**The Department of Technology Systems (ITS)** is a newly established department at the Faculty of Mathematics and Natural Sciences at the University of Oslo. ITS has taken over the activities at UNIK from January 2017. The Institute is located in the Kjeller Research Park, which is one of the largest research and development centers in Norway. ITS collaborates with the research institutes at Kjeller, and with industry, while it is also tightly integrated with complementary activities at UiO in Oslo. The department has two sections: section for energy systems and section for autonomous systems and sensor technologies. An important goal of ITS is to provide wider opportunities at UiO within applied technologies.

## **Additional information**

### **Place of service:**

Pb 1032 Blindern 0315 Oslo (Oslo Municipality)