UNIVERSITETET I OSLO

Jobbnorge ID: 266252
Deadline: 8/31/2024
Website: http://www.uio.no/
Scope: Fulltime
Duration: Fixed Term

Researcher in Experimental Porous Media

About the position

A position as Researcher is available at PoreLab at the Njord Centre.

The position is for a period of 2.5 years. Starting date no later than 01.11.2024.

Applicants are invited for a 2.5-year full-time position as a Researcher in Experimental Porous Media Physics at PoreLab (https://www.porelab.no) at the Njord Centre (https://www.mn.uio.no/njord/). The position is funded by the Research Council of Norwegian through the project M4: Mixing in Multiphase Flow through Microporous Media (https://www.mn.uio.no/njord/english/research/projects/m4/index.html) and the PoreLab Centre of Excellence.

PoreLab is a Norwegian Center of Excellence created in 2017 shared between NTNU and UiO. The Centre works to advance the understanding of flow in porous media. With a sound basis in physics, we aim for a better description of flows that range from geological to biological and technological.

Njord is a cross-disciplinary geoscience-physics centre at the Faculty of Mathematics and Natural Sciences at UiO. The UiO node of PoreLab is part of the Njord Centre. We aim to become a main cross-disciplinary driver for the future development of Physical Sciences in general, with a focus on a fundamental understanding of the dynamics of fluid-solid systems with Earth-like complexity.

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

The Faculty of Mathematics and Natural Sciences

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

Job description/project description:

The appointment is focused on the development and application of experimental techniques and image analysis methods to study the problem of solute mixing in multiphase flows through porous media. The main goal of the position is to enable direct imaging of interface motion, flow dynamics and solute mixing in multiphase 3D porous media flows. The selected candidate will develop table-top experimental setups to image and quantify scalar mixing dynamics driven by intermittent immiscible two-phase flows in quasi-2D and 3D porous media. The development will leverage the expertise and experimental facilities at the partner groups at PoreLab, UiO, and at the University of Rennes.

The candidate is expected to develop and use robust image analysis routines to process the experimental data. Further, the candidate is expected to actively contribute to developing stochastic models to describe and rationalize the experimental findings. The candidate will also engage in outreach activities connected to the research activity at PoreLab and Njord.

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:

- A degree equivalent to a Norwegian doctoral degree in physics, environmental science, or fluid mechanics, with documented experience in experimental porous media science. PhD degrees in Petroleum or Reservoir Engineering will not be considered. Doctoral dissertation must be submitted for evaluation by the closing date. Only applicants with an approved doctoral thesis and public defense are eligible for appointment.
- Documented knowledge of programming languages for data analysis such as Python and Matlab
- Experience in experimental methods and fluid mechanics
- Fluent oral and written communication skills in English
- Experience with image analysis techniques
- Knowledge of nonlinear dynamics and stochastic methods (documented via courses and/or publications in the field)

Desired:

- Experience with theoretical descriptions of mixing dynamics and multiphase porous media flow

Personal skills:

- PoreLab and Njord actively work for the creation of a friendly and welcoming work environment and the applicant is expected to actively contribute to this.
- Scientific independence, sense of detail, and ability to combine concepts from different disciplines
- Ability to efficiently communicate scientific ideas, both to scientific and non-scientific audiences

We offer:

- Salary NOK minimum 575 400 - 692 400 per annum depending on qualifications in position as Researcher (position code 1109)
- Attractive welfare benefits and a generous pension agreement
- Professionally stimulating working environment
- Career development programmes
- Vibrant international academic environment
- Oslo's family-friendly surroundings with their rich opportunities for culture and outdoor activities

The application must include:

- Cover letter (statement of motivation, summarizing scientific work and research interest)
- CV (summarizing education, positions, and other qualifying activity)
- Copies of educational certificates and transcript of records
- 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). **Applications with documents missing will not be considered further**.

In assessing the applications, special emphasis will be placed on the documented, academic qualifications, as well as the candidate's motivation and personal suitability. An expert committee will evaluate the applications. Interviews will be used as part of the hiring process.

Formal regulations:

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 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 persons:

For further information about the position please contact: Gaute Linga, phone: +47 41 22 77 10, e-mail: gaute.linga@mn.uio.no

For technical questions regarding the recruitment system please contact: HR-adviser Elin Thoresen phone: e-mail: elin.thoresen@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.

Njord is a cross-disciplinary Geology-Physics center hosted by the Faculty of Mathematics and Natural Sciences at the University of Oslo. We focus on the fundamental physics of geological processes related to: transport and reactions in deformable porous media, fracturing and fragmentation processes, interface dynamics during geophysical flows, and intermittency and pattern formation in geological systems far from equilibrium.We conduct research on earth systems that range in scale from atoms to continents and apply methods where fieldwork, numerical modelling, experiments and theory act in concert.

The center includes the Oslo-branch of PoreLab, which is a Center of Excellence (CoE), the former CoE, Physics of Geological Processes (PGP) and several externally financed projects. There are 10 professors and associate professors at the center, in addition to doctoral research fellows, postdoctoral fellows, researchers and technical and administrative staff - in total about 55 persons.

Additional information

Place of service:

Problemveien 7 0313 Oslo (Oslo Municipality)