



*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 geosciences are the studies of planet Earth; the atmosphere, the hydrosphere and cryosphere, the earth's surface and it's interior. The Department of Geosciences is Norway's widest ranging academic geoscience research environment, encompassing four sections (Meteorology and Oceanography, Geography and Hydrology, Geology and Geophysics, Physics of Geological Processes), one Centre of Excellence (Centre of Earth Evolution and Dynamics), and several centre nodes and ERC grants. The staff consists of 40 professors and associate professors, in addition to postdoctoral fellows, PhD students, researchers, technical staff and administrative personnel, to a total number of 210.*



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## Department of Geosciences

# PhD Research Fellowship in Experimental Rock Physics

Position as PhD Research Fellow is available at [Department of Geosciences](#), University of Oslo, Norway

The fellowship is for a period of 3 years. Starting date no later than 30 September, 2016.

### Job/ project description:

We invite applications for a challenging doctoral position (PhD) in experimental modeling of geological processes. The objectives of this project are to model the complex mechanics of rupture and friction in rocks, including the effect of fluids. This position is part of the project "Unravelling the spatio-temporal nature of rock deformation using 4D X-ray tomography" where rock deformation processes at mid-crustal conditions will be modeled. The present position involves state-of-the-art experiments and numerical models to study the couplings between fluids, rock transformation, and deformation at the core sample scale. Such topic has societal applications in the domains of georesources (geothermy, oil&gas, CO<sub>2</sub> sequestration), and geohazards (earthquakes, landslides). The specific goal of the position is to develop a unique experimental technique, where rock samples will be deformed at mid-crustal conditions and imaged time-lapse in 3D using X-ray tomography, through a collaboration with the European Synchrotron Radiation Facility in Grenoble (France). The candidate will be part of a lively research environment in deformation of rocks in the presence of fluids, involving six other young scientists, with expertise spanning from field work, X-ray tomography, laboratory modeling, numerical modeling and theoretical modeling. The position includes collaboration between the University of Oslo (laboratory experiments and field work, Pr. François Renard and Pr. Dag Dysthe) and the University of Grenoble Alpes (numerical modeling, Dr. Jérôme Weiss). The successful candidate will have the opportunity to participate in international research networks. The position is funded by the Norwegian Research Council.

The position is affiliated with the section for [Physics of Geological Processes](#) (PGP), which has long-term experience in modelling fracture, friction, and flow processes in rocks. The section is located in the Physics building of the University of Oslo, and the successful applicant will evolve in the multidisciplinary environment of PGP between geosciences and physics.

### Requirements/qualifications:

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 Master degree or equivalent in Earth Sciences or Physics with experience on geological processes, such as:

- Structural geology
- Rock physics
- Mechanics of fracture and friction, solid mechanics
- Fluid dynamics

The position requires a strong background and interest in both:

- Laboratory experiments
- Friction and faulting
- Flow in porous media

Priority will be given to candidates with multidisciplinary experience, including fieldwork, laboratory, and numerics.

In assessing the applications, special emphasis will be given to:

- The applicant's academic and personal qualifications in order to execute the project
- The applicant's ability to complete research training

- The applicant's mobility
- Good communication and collaboration skills and an ability to join interdisciplinary academic communities

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 [here](#) and [here](#).

A [good command of English](#) is required.

**Salary:**

Position code 1017 (Doctoral student), 50 - 57 (NOK 430 500 – 483 700 per year)

Health benefits are included.

**The application must include:**

- Application letter
- CV (summarizing education, positions and academic work - scientific publications)
- Copies of educational certificates, transcript of records and letters of recommendation
- Copy of master thesis
- 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)

Please remember that **all** documents should be in English or a Scandinavian language.

In accordance with the University of Oslo's equal opportunities policy, we invite applications from all interested individuals regardless of gender or ethnicity. The University of Oslo seeks in particular to increase its number of female scientists. Women are therefore particularly encouraged to apply.

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

**Region:**

Oslo

**Job type:**

Contract

**Working hours:**

Full-time

**Working days:**

Day

**Application deadline:**

31 May, 2016

**Reference number:**

2016/3641

**Home page:**

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

**Contacts:**

[Professor Dag Dysthe](#)

[Professor Francois Renard](#)

[Questions regarding](#)

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