UiT The Arctic University of Norway
Faculty of Science and Technology - Department of Geosciences

Postdoctoral Fellow in geophysics - Modeling of near-surface deformation across Arctic passive margins

The Department of Geosciences has a vacant Post-Doctoral fellowship in the area of marine Geophysics to work with modelling tasks in the project SEAMSTRESS - Tectonic Stress Effects on Arctic Methane Seepage. The position is for a period of two years with possibility of extension. In addition to the announced post-doctoral position, two PhD candidates will be appointed to work with different tasks in the project.

The position's field of research
The position is affiliated with the research project SEAMSTRESS - Tectonic Stress Effects on Arctic Methane Seepage funded by the Tromsø Research Foundation (https://tfstiftelse.no/?lang=en) and is closely associated with the Center for Arctic Gas Hydrates, Environment and Climate (CAGE, https://cage.uit.no/). The project SEAMSTRESS will investigate the stress field exerted at Arctic passive margins and how these stresses influence near-surface fluid dynamics and seafloor gas release. The project shall significantly advance the current understanding of the mechanisms controlling gas seepage at passive continental margins. In addition, the project's outcome will be relevant for studies of submarine landslides in the Arctic, neotectonic phenomena at passive margins, methane-dependent seabed ecosystems and gas hydrate dynamics.

The post-doc position is related to task 3 in the project: *Field constrained modelling of regional stresses and fault instability off Svalbard*. The aim of the task is to develop integrated numerical models of the stress field exerted on near-surface strata at formerly glaciated margins. In particular, the focus will be on the margins off Svalbard in the Norwegian Arctic. Main objectives of the post -doctoral project include: 1) Development of a numerical model for quantifying the background tectonic stress field offshore Svalbard. This model shall include equations for different regional stress-generating mechanisms (e.g., ridge push, sediment loading, and other mechanisms causing lithospheric flexure); 2) Correlation between tectonic stress models and glacial stress models based on the algorithms and approached by the group of Björn Lund, Uppsala University; and 3) Assessment of the vulnerability of pre-existing faults across the west-Svalbard margin to the quantified stress field.

Petrophysical, geomechanical, seismic and seismological data will be available to constrain and validate the models. It is expected that the appointed candidate participates in different activities related to the project, including: supervision of PhD students, geoscientific expeditions (on board *R/V Helmer Hanssen* and/or *R/V Kronprins Haakon*) to collect cross-disciplinary data; workshops with team members and external collaborators; seminar series at the department and the University; and presentation of results in national and international conferences.

Further information about the position is available by contacting Researcher Andreia Plaza-Faverola,

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- phone: 77645702

Affiliation and collaboration
The SEAMSTRESS project and related position are closely associated with the Center for Arctic Gas Hydrate Environment and Climate (CAGE) hosted by the Department of Geosciences. The appointed candidate will benefit from cooperation with cross-disciplinary groups within CAGE, as well as with other groups at the department working with relevant problems in Geosciences. In addition, SEAMSTRESS has established collaboration with the Norwegian Geotechnical Institute (NGI), the Geological Survey of Norway (NGU), Uppsala University, Sweden, the Center for Earth Evolution and Dynamics (CEED) at the University of Oslo, Norway, the French Institute for Exploration of the Sea (Ifremer), and the Alfred Wegener Institute (AWI), Germany.

Qualifications
The successful candidate will have a doctoral degree (Norwegian or equivalent) within seismology, tectonophysics, geodynamics, geophysics, or related fields. The suitable candidate must have documented experience with numerical modeling and should have a strong background in geological/geophysical processes related to continental margins. Programing skills (e.g., in Python, Matlab) is an advantage. The work will require manipulation of large files and modification of codes.

Additional required qualifications include:

- Independence, creativity and engagement
- Strong problem solving skills
- Excellent communication skills
- Excellent work ethics

The results shall be presented at national and international conferences/workshops, as well as published in peer-reviewed scientific journals. Therefore, a good communication level in English, both written and oral, is required. Applicants not being able to communicate in Norwegian will be encouraged to learn the language within a reasonable time.

The assessment will emphasize motivation and personal suitability for the position. The candidate must be willing to engage in the ongoing development of his/her discipline and the university as a whole.

Application
Your application must include:

- Motivation letter including academic highlights that provided experience relevant for conducting the work within the vacant position (max 2 page)
- CV including the track record and a selection of up to five publications relevant to the vacant position (max 3 pages)
- Academic works (papers, PhD thesis, etc) relevant for the position
- Diplomas and transcripts
- Three references, preferably including PhD advisors.

All documentation must be in English or a Scandinavian language. Submit applications electronically via Jobbnorge.

We offer

- A cross-disciplinary, interactive and challenging working environment.
- National and international mobility to work closely with the project partners and to present the work in conferences.
- Possibility of joining research cruises to collect experimental data
- Opportunity to develop academic components of the career, i.e., working closely with PhD and master students.
- Guidance and support to identify and apply to relevant grants.
- A fantastic hosting hometown - Tromsø, always generous with extreme experiences and nature adventures both in summer and winter.

More information about moving to Norway: http://uit.no/mobility

UiT also has good welfare arrangements for employees including beneficial arrangements for pension and insurances.

Remuneration of Postdoctoral Fellow positions are in salary code 1352. There is a 2 % deduction for contribution to the Norwegian Public Service Pension Fund. In addition, UiT pays 12 % directly to the pension fund on top of the salary.

The objective of the appointment as a Postdoctoral Fellow is to qualify for work in senior academic positions, and no one may be appointed to more than one fixed term period at the same institution.

General
We make the appointment in accordance with the regulations in force concerning State Employees and Civil Servants, and guidelines at UiT. At our website, you will find more information for applicants.

UiT The Arctic University of Norway has HR policy objectives that emphasize diversity, and encourages all qualified applicants to apply regardless of their age, gender, functional ability and national or ethnic background.

The university is an IW (Inclusive Workplace) enterprise, and we will emphasize making the necessary adaptations to the working conditions for employees with reduced functional ability.

We process personal data given in an application or CV in accordance with the Personal Data Act. You may request to not be registered on the public list of applicants, but the University may decide that your name will be made public. You will receive advance notification in the event of such publication.

Jobbnorge ID: 163626, Deadline: The application deadline has passed