UNIVERSITETET I OSLO

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Omfang: Heltid
Varighet: Fast

Associate Professor in Planetary Sciences

Job description

A full-time permanent position as Associate Professor in Planetary Sciences is available at the Department of Geosciences under the Faculty of Mathematics and Natural Sciences.

The position is associated with the newly formed Centre for Planetary Habitability (PHAB), a Centre of Excellence funded for 10 years by the Research Council of Norway. The successful applicant is expected to take a leading role in exploring new fields of planetary and exoplanet sciences.

About the Department and what they are looking for in this position

The **Department of Geosciences** at the University of Oslo is part of the Faculty of Mathematics and Natural Sciences and is a leading research unit in Europe. The Department covers a wide breadth of topics, from mantle and lithosphere dynamics on Earth and other planets, via surface processes in the boundary layers between Earth's surface and atmosphere, to the dynamics and interactions in the Earth's crust, soils, hydrosphere, atmosphere, and biosphere.

The Department of Geosciences has defined a strategy that focuses on four main topics that are transversal to the Department: (i): Dynamics of the solid Earth and planets, (ii) Climate change and the coupled Earth system, (iii) Environmental geosciences, and (iv) Geoscience in the Arctic. We also highlight that our laboratory, field, and computational infrastructures are critical for successful research. The Department aims to contribute to the United Nations (UN) Sustainability Development Goals and hosts important contributors to IPCC (UN's Inter-governmental Panel on Climate Change).

The staff consists of ca. 40 professors and associate professors, in addition to postdoctoral fellows, PhD candidates, researchers, technical and administrative staff. In total, the Department hosts today around 200 employees, one Centre of Excellence and, at present, five grants from the European Research Council, along with numerous other grants from public and private institutions. The Department is organised in six sections: (i) Basin studies, (ii) Crustal processes (iii) Centre for Planetary Habitability (PHAB), (iv) Environmental Geoscience, (v) Physical geography and hydrology (GeoHyd), and (vi) Meteorology and oceanography (MetOs). A small group working towards geo-didactics is also organised in a section as the UiO part of the Centre for excellent education "iEarth".

The position is associated to the Centre of Excellence PHAB, where we want to extend Earth System Science to other planets, testable by future ESA Plato and Ariel mission in which we are involved.

Faculty of Mathematics and Natural Sciences

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

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

General information about the position

Applicants must document academic qualifications in their field, equivalent to a Professor or Associate professor position. The successful applicant must be able to teach at all levels and to supervise Master and PhD students.

The successful applicant may furthermore be required to take on other teaching duties and administrative tasks, by request from the Department or the Faculty of Mathematics and Natural Sciences.

The successful candidate is expected to initiate and participate in research that is aligned with the scientific focus of PHAB. PHAB is an extremely ambitious venture, which explores new fields of planetary and exoplanet sciences, with its main aim of recognizing and characterizing the properties of a habitable planet. The existing expertise is deeply rooted in Earth studies and comparative planetology. For this position we are seeking highly qualified applicants in two realms extending the concept of Earth System Science in studying the interaction between the solid and volatile parts of a planet and/or planet formation and evolution in the Solar System and exoplanet systems.

Applicants using theoretical, experimental, and observational approaches for both Solar System bodies and exoplanets are welcome focussing their research interest on the formation and evolution of earth-like planets and advance the main PHAB aim. An overall goal is to strengthen planetary sciences in Norway in collaboration with Norwegian and European Space Agencies (NoSA and ESA).

The work assignments relate to research, supervision, teaching and public outreach on the topics of planetary sciences. Most important is scientific expertise relevant to the position, capability of attracting external funds and the conduct of research on the highest level to advance

the research goals of PHAB.

Research: Proving life on other planets is difficult. Observing biosignatures is still challenging but with a good understanding of how planets form and evolve, how their atmospheres came to be, it will be possible to recognize habitable planets. Therefore, we seek to extend our competence towards expertise that allows studying planet formation and evolution in (exo-)planetary systems and predict their atmospheres as the prime observable. The successful candidate shall advance research in one of the following research topics:

a) Exploring the diversity of planetary atmosphere evolution using physical-chemical models, particularly predicting planetary atmospheric structures and/or evolution of the volatile cycles through time for rocky planets (Earth to exo-Earths), the computation of relevant spectroscopic observables for planets other than Earth, or/and the comparison of models with observations for example from the geological rock record on Earth other earth-like planets.

b) Exploring the challenges of planet formation and evolution in the Solar System and exoplanet systems, including fields like the study of properties of planet interiors, planetary building stones in the Solar System, planetary evolution, habitability, planetary system dynamics, comparative (exo)planetology, and physico-chemical models of planet formation.

Education: The appointed candidate is expected to supervise PhD candidates and Master students relevant to the applicant's competence and research fields. The position comes with teaching obligations, and the successful candidate will in due time take over course responsibility for a maximum of two courses, preferably one at bachelor's level and one at master's level. The design of relevant courses will be influenced by the competence of the selected candidate. At present a combined bachelor/master course in in "Planetary Sciences" is offered together with the Department of Theoretical Astrophysics. The position will also involve administrative duties according to current regulations by the Department or the Faculty.

Qualification requirements

Assessment of candidates will be based on scientific excellence, as reflected in the number and quality of peer-reviewed publications, scientific relevance, ability to attract external funding, and other evidence of impact. Scientific qualifications will play a major role, and the main emphasis will be on the candidate's scientific performance during the last five years. We expect a scientific track record at a high international level that demonstrates the ability to write/attract external funds and lead research projects.

Required qualifications

- In terms of **scientific qualification**, the candidate must hold a PhD in a relevant topic of the natural sciences, e.g., planetary sciences, geophysics, space science, astronomy, astrophysics or similar.
- Postdoctoral experience.
- Documented high quality research in a relevant field, demonstrating ability for independent and significant scientific production after the PhD. The main emphasis will be on the candidate's scientific production over the last five years.
- Experience with attracting external research funding and leading scientific research projects.
- Documented **pedagogical qualifications** and ability to take active part in teaching and supervision at all levels. The applicants should describe their qualifications in view of the Scholarship of Teaching and Learning (SoTL) framework, which includes:
    - Focus on student learning
    - A clear development over time
    - A researching approach
    - A collegial attitude and practice
- The successful candidate who at the time of appointment cannot document sufficient teaching qualifications (minimum formal requirement is a 200 hours pedagogical programme) will be required to obtain such qualifications within a two-year period.
- The successful candidate must demonstrate mastery of both English and one of the Scandinavian languages as working languages, in order to be able to teach and otherwise be able to participate in all functions the position may involve. If the successful candidate does not have sufficient mastery of a Scandinavian language, the candidate will be required to learn sufficient Norwegian within a two-year period.

Desired qualifications:

The following additional qualifications are desirable and will be prioritized in the assessment:

- Documented scientific background in assessing and modelling planetary atmosphere evolution or planet formation and evolution in the Solar System and exoplanet systems.
- Documented understanding of processes that impact atmospheres of planets in different planetary systems, of different sizes, ages, at different stellar radiation and with various tectonic regimes, or conditions that influence the composition of (exo-)planets during their formation and interaction in protoplanetary discs.
- Demonstrated competence in relevant numerical modelling tools and/or observational or experimental applications.
- Demonstrated experience in computational, observational, or experimental methods and their relevant application in planetary studies.
- Proven track record of attracting external funding from the most competitive funding schemes (ERC or similar).
- Experience in the development and redesign of courses and teaching methods, and motivation to take part in developing and improving study programs.
- Experience with communicating university level research and education to a wider (non-scientific) audience.

Personal qualities

Be creative and innovative in your research and able to initiate new activity in line with the aim and strategy of PHAB. Building the new Centre, we wish for your strong ability to create and contribute to a well-functioning, inclusive and productive research environment. We also appreciate organizational and networking skills, ability to collaborate and conduct scientific leadership, and an international profile with respect to the above criteria. The candidate for this position will be selected based on excellence and fit with the Centre's research profile.

We offer:

- Salary NOK 692 400 - 777 900 per year depending on qualifications in a position as Associate Professor (position code 1011).
- A professionally stimulating work environment.

- Attractive welfare benefits and a generous pension agreement, in addition to Oslo's family-friendly environment with its rich opportunities for culture and outdoor activities.
- The opportunity to apply for promotion to full professorship at a later stage.

How to apply

The application must include:

- Application letter.
- A research plan (max 4 pages) describing the applicant's vision and scientific ambitions including synergies with the research aims of the Centre.
- A detailed CV, including a complete list of education, positions, pedagogical experience, administrative experience, project acquisition and coordination experience, and other qualifying activities.
- Copies of educational certificates, PhD diploma, transcript of records and letters of recommendation.
- A complete list of publications and academic merits and awards (if not included in the CV).
- A list of 3 to 10 selected scientific publications (only the references) the applicant wishes to include in the evaluation, along with a documentation of the importance, interrelation, and relevance of the selected papers for this position. A copy of these publications (or an open access link to these) must be provided.
- Educational portfolio of 3-6 pages documenting educational competence and experience, including a reflection note in which your own teaching practice and view of learning is anchored in the SoTL framework (focus on student learning, development over time, a researching approach and a collegial attitude and practice).
- List of reference persons who may be contacted by the Department of Geosciences: 2-3 references (name, relation to candidate, e-mail and phone number).

The application with attachments must be submitted in our electronic recruiting system; please follow the link "apply for this job". Please note that **all** documents should be in English (or a Scandinavian language).

Formal regulations

As a general rule an interview will be used in the appointment process, usually supplemented with a trial teaching session. The basis for assessment will be the scientific production of the applicant, the teaching portfolio, pedagogical and educational qualifications, the applicant's qualifications within leadership and administration, other qualifications as well as general personal suitability for the position. In ranking the competent applicants, the full range of qualifications will be considered and explicitly assessed.

Rules for appointments to associate professorships.
https://www.uio.no/english/about/regulations/personnel/academic/rules-appointment-professor.html

Rules for the assessment and weighting of pedagogical competence for appointments to permanent academic posts which include teaching duties:
https://www.uio.no/english/about/regulations/personnel/academic/rules-basic-pedagogical-competence.html

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 aims to achieve a balanced gender composition in the workforce and to recruit people with ethnic minority backgrounds. Women are encouraged to apply.

The University of Oslo has an agreement for all employees, aiming to secure rights to research results, see: http://www.uio.no/english/for-employees/employment/work-results/

In addition, the University of Oslo aims for its employees to reflect the diversity of the population to the greatest degree possible. We therefore encourage qualified applicants with disabilities or gaps in their CV to apply for the position. The University of Oslo will adapt the workplace to suit employees with disabilities. Applicants who indicate that they have disabilities or gaps in their CV are made aware that this information may be used for statistical purposes.

Contact information

For further information please contact:

Professor Trond Helge Torsvik, e-mail: t.h.torsvik@geo.uio.no

Professor Stephanie C. Werner, e-mail: stephanie.werner@geo.uio.no

For questions regarding Jobbnorge, please contact HR Adviser Ole Rustad, e-mail: ole.rustad@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 geosciences are the studies of the planet Earth and its comparative planetology; the atmosphere, the hydrosphere and cryosphere, the Earth's surface and its interior. The Department of Geosciences conducts research and teaching in most of the domains of geoscience; geology, geophysics, physical geography, geomatics, hydrology, meteorology and oceanography. The Department is the broadest geoscience research and education environment in Norway. We perform research at a high international standard and have five ERC (European Research Council) research projects ongoing.

The Department encompasses six scientific sections; Meteorology and Oceanography, Geography and Hydrology, Study of sedimentary basins, Environmental geosciences. and Crustal Processes. We host now a third in the line of three Centre of Excellences: PHAB - Centre for Planetary Habitability, and have a Norwegian Research School for PhD students (Research School for Dynamics and Evolution of Earth and Planets, DEEP).

The Department aims to contribute to the new and important UN Sustainability Development Goals, and are important contributors to IPCC (UN's Inter-governmental Panel on Climate Change). The staff consists of 40 professors and associate professors, in addition to postdoctoral fellows, PhD students, researchers, technical- and administrative staff. The Department has around 200 employees.

Tilleggsinformasjon

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