UNIVERSITETET I BERGEN

University of Bergen
Geophysical Institute

PhD Position in Climate Modelling of Atmosphere-Cryosphere Processes and Ice Core Isotope Research

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Video: https://www.youtube.com/watch?v=JRdMR-PhbBQ&t=4s

PhD position

There is a vacancy for a PhD position in modelling of Atmosphere-Cryosphere Exchange Processes and Ice Core Isotope Research at the Geophysical Institute at University of Bergen. The position is for a fixed-term period of 3 years. The position is part of the European Research Council funded Starting Grant SNOWISO.

About the project/work tasks:

About the project:

The open PhD position is part of the international European Research Council project SNOWISO - “Signals from the Surface Snow: Post-Depositional Processes Controlling the Ice Core isotopic Fingerprint “.

The SNOWISO project combines field observations, laboratory experiments, and coupled climate models in order to understand and quantify how the climate signal is recorded in the ice core water isotope records from Greenland and Antarctica.

The fundamental hypothesis, which the SNOWISO is working on, is that the climate signal in the ice core water isotope record is not only governed by the precipitation isotopes, but a combination of the precipitation isotope climate signal and the exchange between the snow surface and atmosphere. By being able to accurately understand and model how the variability of the climate is recorded in the ice core records from the Polar ice sheets the SNOWISO project will allow for integration of isotope-enabled General Circulation Models with ice cores. This will lead to the opportunity of retrieving more information from ice core records than just the local site temperature.

The work of the PhD candidate will specifically focus on modelling the influence of post-depositional processes on the ice core isotope record under different climate conditions in order to correctly interpret climate variability from ice cores.

Work tasks:

The successful PhD candidate will reevaluate the physical foundations of air-snow exchange processes of water isotopes with respect to theory, measurements, and model implementation. Existing field observations and laboratory experiments will be used together with existing theory as foundation for creating and implementing a new physical understanding of the relevant processes in isotope-enabled regional and general circulation models.

The impact of improved descriptions and reduced uncertainty of molecular-level stable isotope processes during air-snow interaction will be evaluated using advanced, isotope-enabled coupled atmospheric models. Results will be assessed with regard to signals in ice core climate proxy archives from the Greenland and Antarctic Ice Sheets for different climate periods.

As a PhD, you will be part of a dynamic group at the Geophysical Institute, and you will also be affiliated with the Bjerknes Centre for Climate Research (BCCR). BCCR is the largest climate research centre in the Nordic countries and among the leading centres in Europe. The working environment is highly international with around 200 scientists from 37 countries. You will also be part of the national research school on Changing Climates in the Coupled Earth System (CHESS).

Qualifications and personal qualities:

Qualifications and personal qualities:

- Applicants must hold a master's degree or the equivalent in atmospheric sciences, physics, engineering, math, geophysics or environmental sciences, or must have submitted his/her master's thesis for assessment prior to the application deadline. It is a condition of employment that the master's degree has been awarded
- Background in physics, isogeochemistry, atmospheric sciences, climatology, or related disciplines is a requirement
- Expertise in scientific scripting and programming and data analysis (e.g., Python, Matlab, R, C++, FORTRAN) is a must.
- Expertise with running climate models, working with HPC systems, as well as analysing and visualizing model outputs (e.g. netCDF files) is an advantage.
- Applicants must be proficient in both written and oral English
- Applicants must be able to work independently and in a structured manner

- Ability to actively communicate and co-operate within a larger research team

Personal and relational qualities will be emphasized. Ambitions and potential will also count when evaluating the candidates.

Special requirements for the position:

The applicants must be prepared to work in an international group and spend extended periods at collaborating institutions.

About the PhD position

The employment period may be reduced if you have previously been employed in a qualifying post (e.g. research fellow, research assistant).

About the research training

As a PhD candidate, you must participate in an approved educational programme for a PhD degree within a period of 3 years. A final plan for the implementation of the research training must be approved by the faculty within two months after you have commenced in the position. It is a condition that you satisfy the enrolment requirements for the PhD programme at the University of Bergen.

We can offer:

- a good and professionally challenging working environment
- salary at pay grade 54 (Code 1017/Pay range 20, alternative 10) in the state salary scale. This constitutes a gross annual salary of NOK 479 600,-. Further promotions are made according to length of service in the position.
- enrolment in the Norwegian Public Service Pension Fund
- good welfare benefits

Your application must include:

- a brief account of the applicant's research interests, motivation for applying for the position, and description of how the applicant's background is suited for the position.
- the names and contact information for two referees. One of these should be the main advisor for the master's thesis or equivalent thesis
- CV
- transcripts and diplomas showing completion of the bachelor's and master's degrees, or official confirmation that the master's thesis has been submitted
- relevant certificates/references
- approved documentation of proficiency in English (if required, cf. English language requirements for PhD admission)
- a list of any works of a scientific nature (publication list)
- any publications in your name including a copy of your master thesis

The application and appendices with certified translations into English or a Scandinavian language must be uploaded at Jobbnorge.

General information:

For further details about the position, please contact Dr. Hans Christian Steen-Larsen, University of Bergen, Hans.Christian.Steen-Larsen@uib.no

The state labour force shall reflect the diversity of Norwegian society to the greatest extent possible. Age and gender balance among employees is therefore a goal. It is also a goal to recruit people with immigrant backgrounds. People with immigrant backgrounds and people with disabilities are encouraged to apply for the position.

The University of Bergen applies the principle of public access to information when recruiting staff for academic positions.

Information about applicants may be made public even if the applicant has asked not to be named on the list of persons who have applied. The applicant must be notified if the request to be omitted is not met.

The successful applicant must comply with the guidelines that apply to the position at all times.

For further information about the recruitment process, click here.

Life as a PhD candidate at UiB

Marion Claireaux tells about life and work as a PhD candidate at UiB.

Video: https://www.youtube.com/watch?v=nrtp6VxMeJ4&index=2&list=PLf8ZIYfAO0qjhROTj6SthDbSScg0ISO6G

The University of Bergen is a renowned educational and research institution, organised into seven faculties and approximately 54 institutes and academic centres. Campus is located in the centre of Bergen with university areas at Nygårdshøyden, Haukeland, Marineholmen, Møllendalsveien and Årstad.

There are seven departments and several centres at Faculty of Mathematics and Natural Sciences. Read more about the faculty and departments.

Jobbnorge ID: 175078, Deadline: 06.10.2019, Customer reference: 2019/23094