UNIVERSITETET I BERGEN

University of Bergen
Geophysical Institute

Jobbnorge ID: 261256
Deadline: 5/7/2024
Website: https://www.uib.no/om/84775/ledige-stillinger-ved-uib
Scope: Fulltime
Duration: Fixed Term

PhD Research Fellow in Data-Driven Computational Mechanics for Offshore Wind Energy

UiB - Knowledge that shapes society

Through robust and close interaction with the world around us - globally, nationally and locally - we shall be instrumental in building a society based on knowledge, skills and attitudes.

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Video: https://www.youtube.com/watch?v=oyaThmIq6Kg

PhD position

There is a vacancy for a PhD Research Fellow at the Geophysical Institute (GFI). The position is for a fixed-term period of 3 years with the possibility of a 4th year with compulsory other work (e.g. teaching duties at the Department) and will cover an important part of the activities at the Bergen Offshore Wind Centre (BOW) targeting at bridging fundamental and applied research within offshore wind energy. This position is associated to the ERC Consolidator Grant project **Data-Driven Approaches in Computational Mechanics for the Aerohydroelastic Analysis of Offshore Wind Turbines - DATA-DRIVEN OFFSHORE**. (Link: https://www.uib.no/en/matnat/159993/will-develop-groundbreaking-offshore- wind/technology-erc-grant).

About the project/work tasks

Offshore wind energy is fundamental to achieve the goals of the European Green Deal. Although offshore wind energy has an important degree of maturity, this technology requires to experiment a change of paradigm to guarantee a sustainable development for the years to come. One pathway to achieve this paradigm shift relies on the development of data-driven approaches in computational mechanics. The research activities related to this position pursue the development of data-driven computational mechanics that will be subsequently applied to the aerohydroelastic analysis of offshore wind turbines. This novel computing paradigm enables the transition from standard data-starved approaches to modern data-rich approaches, in which the underlying initial-boundary value problem is reformulated in such a way that loads, boundary conditions and constitutive models are completely or partially replaced by some form of experimental data. The research activities associated to the position target also at a close collaboration with ongoing research at the BOW and GFI. It is expected that the results emerging from these research activities will be published in highly-ranked international journals.

Qualifications and personal qualities

- Applicants must hold a master's degree or equivalent education in informatics, mathematics, physics or engineering. Master students can apply provided they complete their final master exam before 31.08.2024. It is a condition of employment that the master's degree has been awarded.
- Programming skills (e.g., Fortran, C++ or Python) is a requirement.
- Experience with finite-element method (FEM) and boundary-element method (BEM) is an advantage.
- Experience with either scientific computing or numerical optimization is an advantage.
- Experience with unsupervised machine learning is also an advantage.
- Applicants must be able to work independently and in a structured manner and demonstrate good collaborative skills.
- Applicants must be proficient in both written and oral English.

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

Special requirements for the position

The University of Bergen is subjected to the regulation for export control system. The regulation will be applied in the processing of the applications.

About the PhD position

The fellowship will be for a period of 3 years with the possibility for a 4th year, consisting of 25 % compulsory work (e.g. teaching responsibilities at the department) distributed over the employment period. The 4th year is contingent on the qualifications of the candidate and the teaching

needs of the department and will be decided by the head of department upon appointment. The employment period may be reduced if you have previously been employed in a qualifying post (e.g., research fellow, researchassistant).

About the research training

As a PhD Research Fellow, you must participate in an approved educational programme for a PhD degree within a period of 3 years. The deadline for applying for admission to the PhD programme at The Faculty of Mathematics and Natural Sciences is 2 months after you start you start your position or after the start of the research project that will lead to the PhD degree. 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 stimulating working environment.
- salary as PhD research fellow (code 1017) in the state salary scale. This constitutes a gross annual salary of NOK 532 200, - (equivalent to pay grade 54). Further increases in salary 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 and motivation for applying 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. If you have not yet completed your master's degree, please submit a statement from your institution confirming the expected date of award of your master's degree. Your master's degree must be documented with transcripts and/or diploma, alternatively a confirmation from your institution on completed degree and your grade, by 31.08.2024.
- relevant certificates/references.
- approved documentation of proficiency in English.
- a list of any works of a scientific nature (publication list).
- any publications in your name.

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: Professor Cristian G. Gebhardt, Geophysical Institute and Bergen Offshore Wind Centre, e-mail: Cristian.Gebhardt@uib.no, tel.: +47 55 58 26 23.

For HR related questions contact Maria Svåsand: Maria.Svasand@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=PLf8ZIYfAO0qjhROTj6SthDbSScg0lSO6G

About UiB

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.

Additional information

Place of service:
Allégaten 70 5007 Bergen (Bergen Municipality)