UNIVERSITETET I BERGEN

University of Bergen
Department of Informatics

Postdoctoral Research Fellow position in Informatics: Visual Data Science for Molecular Design

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://youtu.be/vtJLmcUJ3-w

About the Department of Informatics
The rapidly evolving digitization of business, research, and education makes informatics play an increasingly important role. The Department of Informatics contributes with eight research groups that deliver research and education at a high international level in algorithms, bioinformatics, information security, machine learning, optimization, programming theory, visualization, and computer science didactics. The Department has about 900 students and about 150 employees, among which 37 are Faculty members. We operate and develop UiB's Center for Data Science (CEDAS) as an important extension of our research and education activities and an interdisciplinary cooperation of data science, machine learning, and artificial intelligence, besides additional related topics and applications.

Postdoctoral Research Fellow position in Informatics: Visual Data Science for Molecular Design
At the Department of Informatics, University of Bergen, Norway, there is a vacancy for a postdoctoral research fellow position in Visual Data Science for Molecular Design. The position is for a fixed term of 3 years and is associated with the project "Escaping the Combinatorial Explosion: Expert-Enhanced Heuristic Navigation of Chemical Space (eHACS)", which involves three UiB Departments (Chemistry, Biomedicine, and Informatics), the UiB Center for Data Science (CEDAS), and external partners such as Masaryk University (Czechia) and the pharmaceutical company AstraZeneca.

About the project/work tasks
Computational methods have become indispensable in the search for new pharmaceuticals and other chemical compounds that address critically important societal challenges. The power of these methods lies in their ability to identify potentially useful molecules among an unfathomably large majority of less interesting ones, thereby dramatically reducing the need for time-consuming, costly experimental work. The goal of the eHACS project is to research a new generation of molecular design methods, which more efficiently arrive at interesting candidates by integrating knowledge guidance with machine learning models. New computational approaches will be complemented by interactive visual approaches to capitalize on the expert's knowledge during the design process. To validate and challenge the new methods, they will be applied in the design of inhibitors for difficult-to-drug targets for treatment of infections and cancer. In another part of this project, the new candidate therapeutics will be synthesized and tested experimentally. To pursue these ambitious objectives, the eHACS team covers expertise in chemistry, biomedicine, and data science (visual data science and machine learning), and is a collaboration between several UiB Departments and Centers as well as international partners. The research of this Postdoctoral Fellow will focus on the new, interactive knowledge-guided visual data science methods, and will be advised by Prof. Helwig Hauser (visual data science) and co-advised by Assoc. Prof. Jan Byška (molecular visualization), both from the Visualization Research Group and CEDAS at UiB.

Qualifications and personal qualities
- Applicants must hold a Norwegian PhD or an equivalent degree within Computer Science, or must have submitted his/her doctoral thesis for assessment prior to the application deadline. It is a condition of employment that the PhD has been awarded.
- Applicants must document their education in visual data science or a closely related field and know state of the art in visual data science / visual analytics / visualization.
- A solid mathematical education (linear algebra, calculus, etc.) is a requirement and needs to be documented in the application.
- Substantial experience with programming is a requirement and needs to be documented in the application.
- Experience with data science is an advantage and should be described in the application.
- Education in machine learning (and possibly experience with it) is an advantage and should be described in the application.

- Knowledge of / experience with computational chemistry/biology, cheminformatics, bioinformatics, and/or computational molecular design is/are an advantage and should be described in the application
- Applicants need to explain their motivation for applying in the application letter, relating explicitly to the project context of this position (see above).
- Applicants must be able to work independently as well as in a research team; they need to be able to work in a structured manner and demonstrate good collaborative skills.
- Applicants must have very good oral and written communication skills in English. Knowledge of Norwegian (or any other Scandinavian language) is considered beneficial.
- Strong personal and relational qualities are welcome. Ambition and potential will also count when evaluating applications.

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 position of postdoctoral research fellow

The postdoctoral position is a fixed term position with the primary objective of qualifying the appointee for work in top academic positions. If the appointee lacks teaching experience, or other relevant qualifications, the employment period may be increased to up to 4 years. Teaching and other duties will in such cases be added to the position. The position may be extended by up to one year (maximum 4 years in total) if the appointee is granted externally financed research stays abroad. Individuals may not be hired for more than one fixed-term period as a postdoctoral research fellow at the same institution. In accordance with the Research Council's rules, neither can anyone be hired more than once as an NFR financed postdoctoral research fellow

For postdoctoral research fellow positions associated with externally financed projects, the completion of the project proposal for the qualifying work, as well as a progress plan, will be developed in cooperation with the supervisor and head of department. It is a requirement that the project is completed in the course of the period of employment.

We can offer
- Exciting development opportunities as part of your role in a strong professional environment
- Position as postdoctoral fellow (code 1352 in the basic collective agreement) and a gross annual salary of NOK 615 700 (equivalent to pay grade 63) upon appointment. Further increases in salary are made according to length of service in the position. A higher salary may be considered for a particularly well-qualified applicant.
- Enrolment in the Norwegian Public Service Pension Fund
- Good welfare benefits

Your application must include
- An account of the applicant's research interests and the motivation for applying for this position, relating explicitly to the project context of this position, including an explanation of their level of mathematical / technical knowledge and skills and knowledge and/or experiences with respect to visual data science (see above)
- The names and contact information for two or three reference persons. One of these should be the the main advisor from the PhD programme.
- CV
- Transcripts and diplomas and official confirmation that the doctoral thesis has been submitted
- Relevant certificates/references
- List of any works of a scientific nature (publication list)
- Publications (as applicable)

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

General information

Detailed information about the position can be obtained by contacting: Professor Helwig Hauser, or Head of Department Inge Jonassen.

For HR related questions contact Karoline Christiansen.

The state labour force shall reflect the diversity of Norwegian society to the greatest extent possible. People with immigrant backgrounds and people with disabilities are encouraged to apply for the position.

We encourage women/men to apply. If multiple applicants have approximately equivalent qualifications, the rules pertaining to moderate gender quotas shall apply.

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.

Further information about our employment process can be found here.

About The University of Bergen (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:

Institutt for informatikk 5020 Bergen (Bergen Municipality)