



UNIVERSITETET I BERGEN

**University of
Bergen**
Department of
Informatics

Jobbnorge ID: 242850

Deadline: 5/1/2023

Website: <https://www.uib.no/om/84775/ledige-stillinger-ved-uib>

Scope: Fulltime

Duration: Fixed Term

PhD Research Fellow in Computer Science Education

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=oYaThmlq6Kg>

PhD position in Computer Science Education

There is a vacancy for a PhD Research Fellow in Computer Science Education at the [Department of Informatics](#). The position is for a fixed-term period of 4 years and offers the opportunity to design and be involved in transformative research focused on gender equity in computer science education. The project is expected to have a far-reaching impact and benefit for future students in computer science at UiB. As recent policy changes do now include programming in the upper secondary school curriculum in Norway, this is an interesting and timely opportunity to research their impact on bachelor level education. The project offers good opportunities for collaboration with local, national and European networks on gender equity in computer science education and contributes to the new and growing didactics field in computer science.

About PhD research in Norway at UiB

The University of Bergen offers good support for research (including professional development, opportunities for travel to conferences and for research projects), access to good office workspaces and libraries, and good networks and connections between institutions. We offer an environment with a sense of collegiality between permanent academic staff and doctoral researchers, who are treated as junior peers rather than students. PhD researchers in Norway are staff members, with good salaries that reflect the cost of living. As state employees, PhD researcher positions come with pension contributions and other benefits such as annual wage increases, access to childcare, etc. We have a good working culture and an environment with good work-life balance including support for young families. Bergen is a beautiful city with many opportunities for outdoor recreation and cultural activities.

About the Department

Digitization of businesses, industry, public administration, and education makes informatics play an increasingly important role in the development of society. Research and education in informatics are crucial for the digital transformation of the society to succeed. The Department of Informatics contributes to this through 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 didactics. The department offers education for the future at Bachelor, Master and PhD levels. The department is in rapid growth regarding its number of students, research directions, and employees. We have today about 1000 students, and 150 employees from over 30 countries, among which 37 are faculty and 50 PhD candidates. We have established the Center for Data Science ([CEDAS](#)) and Computational Biology Unit ([CBU](#)) as important extensions of our research and education activities.

About the project/work tasks

Potential thesis topics will relate to questions of equity and diversity in computer science higher education, with a view to identify teaching practices that contribute to inclusion in Computer Science education at UiB. This position will be placed within the didactics research group of the Department of Informatics, with a co-supervisor from the Department of Education. The group with its four permanent staff members is the latest addition to the department's portfolio. You will join one PhD candidate who started in 2022, and we're expecting to advertise two further positions in the next years. The group's teaching responsibilities include some of the largest courses at UiB, such as Introduction to Programming, which is taken by all students in the natural sciences faculty, with around 40 TAs from older semesters taking an important part in the teaching activities. The frequency of this course, and the numbers involved, provide good opportunities for empirical research focused on equity topics.

Some examples of thesis topics are listed below, other related themes in this area of interest are very welcome, please include them in your research interests letter (see below).

- Analysis of the impact of assessment design with regard to gender differences in: test performance, experiences of study, and identification with the discipline in CS education.
- How does difference (e.g. age, ethnicity, sexuality, gender identity, class or socioeconomic status, and/or family experience with higher education) affect experiences and outcomes of participating in specific teaching and learning activities or assessments.
- Gender differences in the teaching assistants' practices and interactions within instructional teams.
- Accessibility and universal design for learning in computer science.
- Investigation and/or comparative analysis of inclusive teaching practices in computer science higher education in Norway / Scandinavia.
- Investigation of other equity issues in instruction, such as material-structural access to machines / lab settings, instructional culture, or hidden curriculum in computer science education.

All employees are expected to contribute to excellence through high quality research and teaching. All PhD candidates at the Department of Informatics are members of the [ICT research school](#) research school which offers opportunities to meet other PhD candidates from across the department's research directions. The school has annual meetings, monthly lunches and offers courses on scientific writing and research applications. The holder of this PhD research fellowship will also be associated with the [Western Norway Graduate School of Educational Research](#) (WNGER II), which offers doctoral courses, summer schools and other activities, and the opportunity to connect with doctoral researchers focused on several areas of pedagogy and educational research.

Qualifications and personal qualities

- Applicants must hold a master's degree or equivalent education in
 - either informatics, computer science, a related natural science field,
 - or a field related to STEM education.

Current Master students can apply, provided they complete their final master exam before 1 August 2023. It is a condition of employment that the master's degree has been awarded.

- Experience with collection, organisation and analysis of qualitative and/or quantitative data is an advantage
- Experience with research related to student learning, pedagogy, equity in education or the scholarship of teaching and learning is an advantage
- Experience in research methods involving human participants, such as questionnaire design, survey methods, focus groups or interviews is an advantage
 - Such research experience can be demonstrated through related coursework, masters' projects, community or organizational research, curriculum development, or other relevant work experience.
- Sufficient experience with a programming language to contribute to teaching the first-year programming course is a requirement
- Experience in Python and/or Java is an advantage.
 - Programming experience can be demonstrated through: courses completed at BSc level, relevant work experience, code written for your research, or experience instructing programming courses (including at secondary school level).
- Experience working in interdisciplinary environments is 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.
- A good command of Norwegian or another Scandinavian language is an advantage.
- Interpersonal communication abilities will be emphasised. Ambitions and potential will also count when evaluating the candidates.

Such experience with collaboration, interdisciplinary work, language abilities and motivations can be demonstrated through relevant documentation (e.g. results of language tests), and through either your cover letter where you describe your interests and experiences broadly in terms of education and work, or in the research proposal (when discussing your previous experience and future interests in research specifically)

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 duration of the PhD Research Fellowship is 4 years, of which 25 per cent of the time each year is required duties associated with research, teaching and dissemination of results. 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 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 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 501 200,- (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 overview (3-5 pages) of your research interests and motivation for applying for the position. Your application cannot be considered without this research proposal. We're happy to discuss drafts in advance, please use the contact information below.

This overview should include:

- Your interests related to both the computer science and education aspects of this position.
 - A discussion of specific research topics or questions that you intend to pursue in the position (include citations where relevant). Examples for possible projects are listed above, in the section "About the project/work tasks".
 - A description of past experience with research in computer science and/or education, and a description of your experience with specific research methods.
 - Please also comment on your interest and/or experience within interdisciplinary contexts generally, and this combination of computer science, pedagogy and equity/diversity specifically.
 - the names and contact information for two referees. One of these should be the main advisor for the master's thesis or equivalent thesis. If the main advisor is not used as a reference, include a description of why an alternate referee is used.
- 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 1 August 2023.
 - relevant certificates/references
 - approved documentation of proficiency in English (cf. English language requirements for PhD admission)
 - a list of any works of a scientific nature (publication list), please also include workshops, presentations, conference talks or teaching material that you have developed. Please do not upload full-text copies of these!
 - any other publications in your name, please do not upload full-text copies.

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:

[Associate Professor David Grellscheid \(Dept. of Informatics\)](#)

[Associate Professor Marie van der Kloet \(Dept. of Education\)](#)

For HR related matters, please contact [Karoline Christiansen](#).

Employment is subject to approval with respect to the Norwegian export control legislation.

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

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=nrt6VxMeJ4&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:

Institutt for Informatikk 5008 Bergen (Bergen Municipality)