



*BERGEN UNIVERSITY COLLEGE (HØGSKOLEN I BERGEN - HiB) is one of the largest university colleges in Norway, with about 7700 students and 830 academic and administrative staff. HiB offers high quality study programmes directed towards specific professions within health and social sciences, engineering, teacher and preschool teacher education. R&D activities of particular strength are organized in programmes in order to promote research-based education.*

# PhD research fellow positions in ICT engineering

**Bergen University College, Faculty of Engineering, has one to two open positions for a PhD research fellow in computer science/informatics on Continuous Observation of Embedded Multicore Systems.**

The PhD research fellow will be affiliated with the faculty's ICT-oriented strategic research programme on ICT engineering (<http://ict.hib.no>) which currently includes 20 professors and associate professors, 15 PhD students, and a number of master's students. The ICT engineering research environment at Bergen University College has a strong focus on use-inspired and applied research, and on ICT as an enabling technology. The research environment has cooperation with many national and international research groups, and with national and regional industry partners.

HiB is a partner in the EU Horizon 2020 project COEMS - Continuous Observation of Embedded Multicore Systems, which has recently been funded with 3.9M EUR across five academic and industrial partners. The ability to observe the internals of an execution of a computer-based system is a fundamental requirement for ultimately ensuring correctness and safe behaviour. Within COEMS, a novel, FPGA-based, observer platform with supporting verification methods for software systems is created. COEMS tackles the issues of detection and identification of non-deterministic software failures caused by race conditions and access to inconsistent data. It gives insight to the system's actual behaviour without affecting it, allowing new verification methods.

The PhD project will span one or more of the following areas, depending on the qualifications and interests of the successful applicant.

- Static analysis methods for identifying hot spots in programs and monitors;
- Specification and monitor synthesis methods for runtime verification;
- Lightweight instrumentation methods.

Bergen University College has an internationally active research group working on model-based software engineering and software verification, and is conducting research ranging from theoretical foundations to computer tools. Research will be conducted in close cooperation with the project partners at the Institute for Software Engineering and Programming Languages at the University of Lübeck, Germany.

The ICT engineering research programme is a joint research undertaking of the Department of Computing, Mathematics and Physics, and the Department of Electrical Engineering with research links to other departments and faculties at Bergen University College. The two departments are responsible for bachelor programmes in software engineering, information technology, communications technology, electrical engineering, and automation, as well as a master's programmes in software engineering and in communication systems. The Faculty of Engineering and Business Administration has approximately 2000 students and 180 staff members. Six departments and one research centre on innovation are located at the faculty.

## Qualifications

The successful applicant must have earned a master's degree or equivalent in informatics/computer science or in a closely related field, or have submitted the master's thesis before the application deadline. In the latter case, it is required that the master's degree be awarded within 4 weeks after the application deadline. A solid background in software engineering, formal foundations for software modelling and verification, combined with practical software development skills and experience will be considered an advantage when candidates are ranked. Candidates are strongly encouraged to submit a possible outline (max. 2 pages) of a research plan within their interests for a potential PhD project.

In addition to the required educational background, the following criteria will be evaluated: competence, quality of the master's thesis, publications (if any), research and teaching experience, practical software development skills and experience. The candidate must be diligent and display the ability to work independently, supplemented with regular guidance, and is expected to carry out high-quality research and to publish the results in international journals.

The PhD research fellow must enroll in the PhD programme in Computer Science: Software Engineering, Sensor Networks and Engineering Computing at Bergen University College, and must meet the formal admission requirements for admission into the PhD programme. 25% of the 4-year period will be designated to duties such as teaching, development and administrative tasks. The employment period may be reduced if the successful applicant has held previous employment as a research fellow. The PhD candidate will be assigned two academic supervisor(s) at Bergen University College. An application for enrolment should first be submitted after an appointment is made and the supervisor(s) will help with this procedure. The candidate must be enrolled as a PhD student within 3 months from the start of the employment.

## Application procedure

Applications will be evaluated by an expert panel of three members.

Applicants are asked to submit their application and CV online. Please use the link "Apply for this job" ("Søk stillingen"). The following documentation should be uploaded as an attachment to the online application:

- copies of selected academic publications (no more than 15)
- a CV with a complete list of academic publications
- diplomas and certificates

Applicants should indicate which publications or parts of publications should be given special consideration in the evaluation. If the documents submitted are not in a Scandinavian language or in English, the applicants must submit certified translations of these. The transcripts must specify the topics, the course works, and the grades at the bachelor's and master's degree levels.

Applicants should note that the evaluation will be based on the documentation submitted electronically via Jobbnorge within the submission deadline. The applicants are responsible for ensuring that all the documentation is submitted before the closing date. It is of utmost importance that all publications to be considered in the evaluation are uploaded as an attachment with the application, since these are sent electronically to the expert panel. Applications cannot be sent by e-mail or to individuals at the college.

### **Salary**

Initial salaries will be offered at grade 50 (code 1017) in the Civil Service pay grade table scale. There is a compulsory 2 % deduction to the pension fund. The successful applicant must comply with the guidelines that apply to the position at any time.

### **General information**

The appointment will be made in accordance with the regulations for State Employees and Civil Servants in Norway. Organizational changes and changes in the duties and responsibilities associated with the position must be expected.

The Norwegian public service is committed to reflecting the social diversity in its workforce, and the personnel policy of the Bergen University College aims to achieve a balanced workforce. All qualified candidates are therefore encouraged to apply for the position, irrespective of cultural background, gender, age or disability.

In accordance with §25 (2) of the Freedom of Information Act, applicants may request that they are not identified in the open list of applicants. The University, however, reserves the right to publish the name of the applicants. Applicants will be informed if the college intends to exercise this right.

[Homepage](#)

### **Contact:**

Associate Professor Volker Stolz, [Volker.stolz@hib.no](mailto:Volker.stolz@hib.no)  
Instituttleder Kristin F. Hetland tlf: +47 988 31 111

Jobbnorge-ID: 129123, Søknadsfrist: Søknadsfristen er gått ut