

📅 28th February 2021



PhD Research Fellow in ICT - Concurrent data transmissions in beyond 5G and massive internet of things networks

Apply for this job

<https://www.jobbnorge.no/jobseeker/#/application/apply/198155>

See advertisement



About the position

A fixed-term 100% position is available at the University of Agder (UiA), [Faculty of Engineering and Science](https://www.uia.no/en/about-uia/faculties/faculty-of-engineering-and-science/) (<https://www.uia.no/en/about-uia/faculties/faculty-of-engineering-and-science/>), as a PhD Research Fellow in ICT, affiliated to the [Department of Information and Communication Technology](https://www.uia.no/en/about-uia/faculties/faculty-of-engineering-and-science/institutter2/department-of-information-and-communication-technology/) (<https://www.uia.no/en/about-uia/faculties/faculty-of-engineering-and-science/institutter2/department-of-information-and-communication-technology/>), for a period of three years. The position is located, at the present, at Campus Grimstad. The starting date is as soon as possible or upon agreement with the Faculty.

The position is associated with the “A Massive MIMO Enabled IoT Platform with Networking Slicing for Beyond 5G IoV/V2X and Maritime Services (SOLID-B5G)” project which is funded through the European Economic Area (EEA) program for research cooperation between Romania and Norway. The main goal of this project is to develop breakthrough beyond state-of-the-art solutions in orchestration, management and control of resources, in the context of network slicing and edge computing based on massive Internet of things (mIoT) enabled radio access network and core network for beyond 5G Internet of vehicles (IoV)/vehicle-to-everything (V2X) and maritime applications. The partners in this project include the University “Politehnica” of Bucharest (UPB)/Romania, UiA/Norway, Universitat Politècnica de València (UPV)/Spain, Memorial University of Newfoundland (MUN)/Canada, and three industrial partners.

Responsibilities

The successful candidate will perform cutting-edge research on concurrent data transmissions in massive multiple-input and multiple-output (MIMO) based radio access networks focusing on algorithms and air interface design. The key tasks of this position include developing algorithms for concurrent transmissions via massive MIMO; air interface

design for ultra-low latency data transmissions; and ultra-low energy data collection for battery-powered or battery-free IoT devices.

This research work involves primarily theoretical analysis and computer simulations, and may include testbed based data collection and prototype development.

The goal of the PhD program is to train students to become autonomous researchers. This means that students need to complete a coursework component of 30 ECTS intended to provide the necessary background for conducting research. Additional self-study will also be required to fill possible background gaps or specialized knowledge requirements.

Required qualifications

- Master's degree in Electrical and Computer Engineering, or a similar/related field and documented competence in areas relevant to the position. Candidates who are in the final stage of the master's education within the relevant field may also be considered, given that a Master's degree is to be achieved before the enrollment of this position. Applications from applicants who already hold a PhD will not be considered.
- Strong academic credentials.
- The successful candidate will have education and/or expertise in one or more of the following areas:
 - Wireless and mobile communications
 - Protocol design for medium access in radio access networks
 - Performance evaluation especially Markov modelling
- English proficiency, both written and oral. International candidates that are not exempt from the English language requirements pursuant to the guidelines of the Norwegian Agency for Quality Assurance in Education (NOKUT) must document this through one of the following tests with the stated results or better:
 - TOEFL - Test of English as a Foreign Language with a minimum score of 600 for the Paper based Test (PBT), or 92 for the Internet-based Test (iBT)

- IELTS - International English Language Testing System, with the result of 6.5

Applicants will be assessed on the basis of academic background and results, attainment, and any previous research and development work.

A prerequisite for employment is that the candidate is to be admitted to UiA's PhD programme at the Faculty of Engineering and Science, Specialisation in Engineering Sciences (<https://www.uia.no/en/research/phd-programmes/phd-programmes/phd-programme-in-engineering-and-science>).

Further provisions relating to the positions as PhD Research Fellows can be found in the Regulations Concerning Terms and Conditions of Employment for the post of Post-Doctoral Research Fellow, Research Fellow, Research Assistant and Resident (https://www.uhr.no/_f/p1/i83a1e613-4f72-4e3a-9852-5289d556871b/regulations_post_doctoral_and_research_fellow.pdf).

Expected skills

- Excellent knowledge on wireless and mobile communication systems, MIMO, network slicing, and (beyond) 5G new radio networks in general.
- Strong programming skills, especially in discrete-event simulations, MATLAB, Python, and/or C/C++.
- Experience with prototype implementation especially SDR based testbed (a plus).
- Strong analytical skills and experience in Markov modelling.

Personal qualities

- Strong motivation for obtaining a PhD degree
- Enthusiasm for pursuing top-quality research work
- Proactive problem-solving skills
- Capability of performing both independent- and team-work

- Critical and scientific thinking



We offer

- Training to publish in the top journals and conferences in the covered areas
- Professional development in a large, exciting and socially influential organisation
- A positive, inclusive and diverse working environment
- Modern facilities and a comprehensive set of welfare offers
- Membership of the Norwegian Public Service Pension Fund (<https://www.spk.no/en/the-value-of-the-membership/>)

More about working at UiA (<https://www.uia.no/en/about-uia/working-at-uia>).

The position is remunerated according to the State Salary Scale, salary plan 17.515, code 1017 PhD Research Fellow, NOK 482 200 gross salary per year. A compulsory pension contribution to the Norwegian Public Service Pension Fund is deducted from the pay according to current statutory provisions.

General information

UiA is an open and inclusive university. We believe that diversity enriches the workplace and makes us better. We, therefore, encourage qualified candidates to apply for the position independent of gender, age, cultural background, disability or an incomplete CV.

Women are strongly encouraged to apply for the position.

The successful applicant will have rights and obligations in accordance with the current regulations for the position, and organisational changes and changes in the duties and responsibilities of the position must be expected. The engagement is to be made in accordance with the regulations in force concerning the acts relating to Control of the Export of Strategic Goods, Services and Technology (<https://www.uia.no/en/about-uia/export-control>). Appointment is made by the University of Agder's Appointments Committee for Teaching and Research Positions.

Short-listed applicants will be invited for interview. With the applicant's permission, UiA will also conduct a reference check before appointment. Read more about the employment process (<https://www.uia.no/en/about-uia/working-at-uia/hiring-process>).

In accordance with the Freedom of Information Act § 25 (2), applicants may request that they are not identified in the open list of applicants. The University, however, reserves the right to publish the names of applicants. Applicants will be advised of the University's intention to exercise this right.

Application

The application and any necessary information about education and experience (including diplomas and certificates) are to be sent electronically. Use the link "**Apply for this job**".

The following documentation must be uploaded electronically:

- A motivation letter and a description of the candidate's research interests and relevance to this position.
- Master's degree/higher degree certificate, with a summary of the courses/subjects included in the degree; For those who are in the final stage of the Master's education but without a Master's degree yet, the transcripts without the results of thesis can be provided; The evaluation result of the thesis can be provided later.
- Certificates and grades for the Bachelor's degree as well as the thesis summary.
- Updated CV with a list of publications (if applicable).
- Master thesis (for applicants who have obtained their Master' degree).
- Applicants who are required to document their English proficiency must submit their English language certificates (see above). These can be emailed after the application deadline.

The applicant is fully responsible for submitting complete digital documentation before the closing date. All documentation must be available in English or in a Scandinavian language.

Application deadline: 28.02.21

Contact

For questions about the position:

- Professor Frank Li, tel. +47 37 23 32 13, e-mail frank.li@uia.no (<mailto:frank.li@uia.no>)
- Head of Department Folke Haugland, tel. +47 37 23 31 12, e-mail folke.haugland@uia.no (<mailto:folke.haugland@uia.no>)

For questions about the application process:

- Higher Executive Officer Lise Askbo Fylkesnes, tel. +47 37 23 31 25, e-mail: lise.a.fylkesnes@uia.no (<mailto:lise.a.fylkesnes@uia.no>)
- HR Advisor Nina Rønningen, tel. +47 38 14 20 16, e-mail nina.ronningen@uia.no (<mailto:nina.ronningen@uia.no>)



University of Agder

The University of Agder has more than 1400 employees and 13 000 students. This makes us one of the largest workplaces in Southern Norway. Our staff research, teach and disseminate knowledge from a variety of academic fields. Co-creation of knowledge is our common vision. We offer a broad range of study programmes in many fields. We are situated at two modern campuses in Kristiansand and Grimstad respectively.

We are an open and inclusive university marked by a culture of cooperation. The aim of the university is to further develop education and research at a high international level.

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Deadline

28th February 2021

Employer

University of Agder (<http://www.uia.no>)

Municipality

Grimstad

Scope

Fulltime

Duration

Temporary

Place of service

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