

Jobbnorge-ID: 138469

Søknadsfrist: Avsluttet

Nettside:

Omfang:

Varighet:

PhD Research Fellowship position in CINELDI on 5G for Low-Latency, Secure, and Dependable Communication Services for Fault Handling in Micro Grids

[Norwegian University of Science and Technology \(NTNU\)](#) has a vacant PhD research fellowship position belonging to [CINELDI](#). The position affiliated with the [Department of Information Security and Communication Technology \(IIK\)](#) at [Faculty of Information Technology and Electrical Engineering \(IE\)](#).

Information about CINELDI

Centre for intelligent electricity distribution ([CINELDI](#)) is a cross-disciplinary research Centre for Environment-friendly Energy Research (FME) hosted by [SINTEF](#) with [NTNU](#) as a research partner. CINELDI will contribute to designing the future's flexible and robust electrical distribution grid at an acceptable cost.

Information about the Department of Information Security and Communication Technology

The department has 22 tenured professors, 20 adjunct professors, 2 assistant professors, and about 30 PhD students and Postdocs. Research activities are organized in seven cross-disciplinary labs covering the academic areas of Internet of Things (IoT), Applied Cryptology, Intelligent Transport Systems, Quantifiable Performance and Dependability of Communication Systems, Biometry, Digital Forensics, and Information Security. The department provides teaching in BSc in IT Operations and Information Security, MSc programs in Communication technology, Telematics, and Information Security, and PhD programs in Telematics and Information Security.

Work description

The protection schemes of micro grids, considering bi-directional power flow, conditional islanding, and complex fault situations, require a low-latency, secure and robust communication system. The protection schemes and the corresponding communication services must jointly adapt to the available infrastructure. This will necessitate added functionality to preserve quality and integrity of configuration, management, control and measurements.

The objective of this PhD (*5G for low-latency, secure, and dependable communication services for fault handling in micro grids*) is to develop an architecture and a set of communication services that can support protection schemes for micro grids, and to investigate the potential in 5G mobile communication (such as usage of the "network slicing" concept) to provide low-latency, secure, and dependable communication services.

The position will be affiliated with [CINELDI](#) and the [NTNU QUAM lab](#) in Trondheim.

The appointment is for a term of 3 years without teaching assistance and up to 4 years including 25% of teaching assistance.

Qualifications

We seek highly motivated and excellent candidates with a Master of Science degree (or have submitted their master thesis) in Communication Technology and Services or similar. The PhD will also require knowledge of power engineering and specifically protection, so the candidate needs to have strong willingness to strengthen his/her background in protection related topics.

We will prioritize candidates with excellent communication skills - written and oral, and with ability to work independently, as well as in a team.

Language requirements

Applicants who do not master a Scandinavian language must provide evidence of good English language skills, written and spoken. The following tests can be used as such documentation: TOEFL, IELTS or Cambridge Certificate in Advanced English (CAE) or Cambridge Certificate of Proficiency in English (CPE). Minimum scores are:

- TOEFL: 600 (paper-based test), 92 (Internet-based test)
- IELTS: 6.5, with no section lower than 5.5 (only Academic IELTS test accepted)
- CAE/CPE: grade B or A.

Formal regulations

Appointments are made in accordance with the regulations in force regarding terms of employment for PhD candidates issued by the Ministry of Education and Research, with relevant parts of the additional guidelines for appointment as a PhD candidate at NTNU. Applicants must undertake to participate in an organized PhD programme of study during their period of employment. The person who is appointed must comply with the conditions that apply at any time to employees in the public sector. In addition, a contract will be signed regarding the period of employment.

Applicants must be qualified for admission as PhD students at NTNU. See <https://www.ntnu.edu/ime/research/phd> for information about PhD studies at NTNU.

Salary conditions

The PhD position is in code 1017 Research fellow, salary grade 50-62 in the Norwegian State salary scale, gross NOK 435.100 - 535.500 per year, depending on qualifications. A deduction of 2% is made as a statutory contribution to the Norwegian Public Service Pension Fund.

General

We can offer

- an informal and friendly workplace with dedicated colleagues
- academic challenges
- attractive schemes for home loans, insurance and pensions in the Norwegian Public Service Pension Fund

The Faculty of Information Technology and Electrical Engineering wants to attract outstanding and creative candidates who can contribute to our ongoing research activities. We believe that diversity is important to achieve a good, inclusive working environment. We encourage all qualified candidates to apply, regardless of the gender, disability or cultural background.

The appointment is subject to the conditions in effect at any time for employees in the public sector.

Under Section 25 of the Freedom of Information Act, information about the applicant may be made public even if the applicant has requested not to have his or her name entered on the list of applicants.

The application

The application must be sent electronically through this page (www.jobbnorge.no) with information about education and relevant experience (all in one combined PDF file). Mark your application with the IE code given below.

The application should contain:

- Information about education, exams and previous relevant work/research experience (a CV).
- Certified copies of academic diplomas and certificates.
- Applicants from universities outside Norway are kindly requested to send a [diploma supplement](#) or a similar document, which describes in detail the study and grading system and the rights for further studies associated with the obtained degree.
- Publications relevant to the research scope and any other work which the applicant wishes to be taken into account should clearly state the applicant's contribution. A short summary should be attached outlining the applicant's input to joint work.
- Names and contact information of at least two references

Incomplete applications will not be taken into consideration.

For further information about the application process, please contact:

Signe J. Talukder (signe.talukder@ime.ntnu.no)

Detailed descriptions of the position can be found at: <http://www.sintef.no/projectweb/cineldi/positions/>

The application deadline is **July 2, 2017**. Mark the application **IE-072-2017**

Tilleggsinformasjon

Arbeidssted: