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The Norwegian University of Science and Technology (NTNU) creates knowledge for a better world and solutions that can change everyday life.

Post Doctor position in CINELDI on Modelling of Interactions and Interdependencies in Complex Systems of Power Grid and ICT Systems

[Norwegian University of Science and Technology \(NTNU\)](#) has a vacant post doctor position belonging to [CINELDI](#). The position is at [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 digitalization of the power grid implies a new reality where the traditional power system and distributed ICT system converge into a complex system of systems. For example, a system consisting of a power grid system, communication system, computing and storage facilities, advanced control, management and service providing functions. Interactions and interdependencies between these systems become stronger. At the same time the consistent design and management are weakened as they may be owned and operated by different parties (e.g., power grid operator and telecom operator).

The challenge is to avoid introducing new risks and vulnerabilities with respect to providing uninterrupted power electricity supply, while utilising these new possibilities to achieve a flexible and sustainable distribution system. The objective is to capture the abovementioned interactions and interdependencies in quantifiable models, which can be applied to assess alternative robust and stable communication system solutions that enable protection and automation in distribution system and ensure a reliable power electricity supply.

The position requires a PhD degree in communication technology and services or related areas. Knowledge of power system protection and automation will be required, so the candidate needs to have strong willingness to strengthen his/her background within this field if not already familiar with it. Knowledge of power systems and security of electricity supply is an advantage.

The position will be affiliated with [CINELDI](#) and the [NTNU QUAM lab](#) in Trondheim. The appointment is for a term of 2 years.

Qualifications

We seek highly motivated and excellent candidates with a PhD and experience in the research field as defined for the position (see list above). We will prioritize candidates with strong publication record, with publications in top level conferences and journals.

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

Salary conditions

The Post doc position is in code 1352 Research fellow, salary grade 57 - 72 in the Norwegian State salary scale, gross NOK 488.900 - 647.700 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
- A description (maximum one page) of the research proposal for the applied position.
- A statement of purpose including an explanation of how your research interests and background would fit the position.

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-073-2017**

Jobbnorge-ID: 138473, Søknadsfrist: Avsluttet