

NTNU - knowledge for a better world

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

Phd in Cyber-Physical Security in Energy Infrastructure of Smart Cities CPSEC (IE-146-18)

The Norwegian University of Science and Technology (NTNU) is now launching a joint research project with India under the Indo-Norwegian IKTPLUSS program. Cyber-Physical Security in Energy Infrastructure of Smart Cities (CPSEC) is one of the five projects jointly funded by the Research Council of Norway and Department of Science and Technology, India. There are three other partners in the CPSEC project namely Institute for Energy Technology (IFE), Norway, Indian Institute of Information Technology, Allahabad (IIITA), India, and Indian Institute of Technology, Kanpur (IITK), India. The announced position is a three year PhD research fellowship in Cyber-Physical Security in Energy Infrastructure of Smart Cities (CPSEC) here is on the topic of Communications and cyber security, and is affiliated with the Department of Information Security and Communication Technology (IIK) at the Faculty of Information Technology and Electrical Engineering (IE)

Information about the Department

The Department of Information Security and Communication Technology has 33 permanent scientific staff members, and in total approximately 80 employees. 50 persons work at the NTNU campus in Gjøvik and 30 at the NTNU campus in Trondheim. IIK carries out internationally competitive research covering the academic areas of Critical Infrastructure Security and Resilience, Biometrics, Digital Forensics, Information Security Management and Privacy, Applied Cryptology, Cyber Defense, e-Health and welfare security, Internet of Things (IoT), Intelligent Transport Systems, Quantifiable Performance and Dependability of Communication Systems. The department offers BSc in IT Operations and Information Security, MSc programmes in Communication technology and Information Security, and PhD programmes in Information Security and in Telematics. The department hosts the Center for Cyber and Information Security (CCIS), a public-private partnership with 26 partner organizations of the public and the private sector.

Work description

This is a researcher training position for 3 years aimed at providing promising researcher recruits the opportunity of academic development in the form of a doctoral degree. The place of work is NTNU campus Gjøvik.

The topic of smart cities is currently receiving significantly increased attention in the academia and industry in India and abroad, following the ambitious smart cities program of Government of India, such as the transformation of Allahabad city into a smart city. The CPSEC project addresses the "Smart Environments" theme of Indo-Norwegian collaboration and covers several topics of the theme including smart neighborhoods, sensor networks/IoT, smart grid, monitoring for safe living, and others.

The introduction of modern Information and Communication Technology (ICT) based energy systems in the smart cities comes with several benefits as well as risks. To this end, the CPSEC project aims to develop a comprehensive and systemic approach combining cyber and physical security solutions to protect energy installations in smart cities. The main technical output of the project will be the Integrated Security, Safety and Site Management (IS3M) platform which will cover a wide variety of concepts, including, systemic risk management, prevention by design, monitoring and detection, response and mitigation, and information sharing.

The research will be carried out in an interdisciplinary and collaborative environment of several research groups at NTNU and partner institutions, and under the guidance of supervisors from the Department of Information Security and Communication Technology (IIK), NTNU.

Qualifications

We seek a highly-motivated individual with a strong background in information/cyber security, and preferably also understanding of energy systems, communication and information technology or electrical/power engineering, and a research oriented master thesis within one of the aforementioned fields.

Motivation for fundamental scientific research of practical relevance is essential.

Academic results, publications, relevant specialization, work or research experience, personal qualifications, and motivation will be considered when evaluating the applicants.

Language requirements

Excellent English skills, written and spoken, are required. 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.

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

It is a prerequisite that the successful applicant applies for and is granted admission to the relevant PhD study program as soon as possible after employment. NTNU's PhD regulations require a master's degree or equivalent with at least 5 years of studies, and an average ECTS grade of A or B within a scale of A-E for passing grades (A best). Applicants must be qualified for admission as PhD students at NTNU. See <https://www.ntnu.edu/ie/research/phd> for more information.

See here for regulations concerning appointment and promotion to teaching and research posts.

Salary conditions

The position follows code 1017 Research fellow, salary grade 50-62 in the Norwegian State salary scale, gross 436.900 - 537.700 per year, depending on qualifications. A deduction of 2% is made as a statutory contribution to the Norwegian Public Service Pension Fund.

General

NTNU can offer an informal and friendly workplace with dedicated colleagues, academic challenges and 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 gender, disability or cultural background.

The appointment is subject to the conditions in effect at any time for employees in the public sector, and assessments regarding the legislations regulating export control.

For further information about the position, please contact Professor Sokratis Katsikas (sokratis.katsikas@ntnu.no) or Dr. Pankaj Pandey (pankaj.pandey@ntnu.no).

Application requirements

Applications are to be submitted electronically through this page (www.jobbnorge.no). Preferably, all attachments should be combined into a single file.

The application must contain information of educational background and prior training, exams, and work experience. In addition, the applicant must submit a research statement (max. 3 pages), detailing research interests and initial plans with regard to the above project description. The statement should also describe why the applicant is suited for the position, and how the research project relates to previous education, research and competence. Publications and other work that the applicant wishes to be taken into account must be enclosed (including a brief description of the contribution if not obvious).

The application must contain:

- CV including information relevant for the qualifications and contact information for at least 2 reference persons
- Certified copies of academic diplomas and transcripts

Applicants from universities outside of Norway are 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

A short research statement (max. 3 pages) including:

- A short presentation of the motivation for a PhD study
- Why the applicant is suited for the position
- The applicant's view of research challenges for the PhD position

Publications and any other work that the applicant wishes to be considered must also be enclosed. Joint works will be considered if a short summary outlining the applicant's contributions is attached.

Incomplete applications will not be considered.

Mark the application with the reference number: IE-146-2018

Application deadline: 03.08.2018

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

Jobbnorge-ID: 155343, Søknadsfrist: Avsluttet