

# Norway:PhD research fellowship position in Risk and vulnerability in the future intelligent electricity distribution system

CINELDI announces the following PhD position at NTNU, Faculty of Information Technology and Electrical Engineering (IE) (<https://www.ntnu.edu/ie/>), Department of Electric Power Engineering (IEL) (<https://www.ntnu.edu/elkraft>):

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## PhD research fellowship position in Risk and vulnerability in the future intelligent electricity distribution system

Centre for intelligent electricity distribution (CINELDI) is a cross-disciplinary research Centre for Environment-friendly Energy Research (FME) awarded by the Research Council of Norway.

CINELDI [1] is hosted by SINTEF Energy Research [2] with NTNU [3] as a major research partner.

CINELDI will facilitate renewable energy, electrification of transport and more efficient use of energy.

CINELDI will contribute to designing the future's flexible and robust electrical distribution grid at an acceptable cost.

### Information about the Department

Currently there are 12 Professors, 7 Associate Professors and 4 Lecturers at the Department of Electric Power Engineering. In addition, there are 4 Adjunct Professors, 2 Adjunct Associate Professors, 9 Postdoctoral researchers, 2 Researchers, about 35 PhD students, and 15 technical/administrative staff. Research activities are organized under two research groups: Power Systems Group and Power Technology Group. The

department has a good laboratory infrastructure for research and education, as well as a mechanical workshop, supported by a technical staff of 10 persons.

### Work description

Risk and vulnerability in the future intelligent electricity distribution system In the future distribution grid, intelligent devices and technologies will provide new information for better informed decisions in grid management, and new possibilities will be provided by automation, self-healing and islanding of microgrids in interplay with the distribution system. The increasing uncertainties in the future electricity distribution system due to new types of threats and vulnerabilities (e.g. cyber threats, extreme weather, interdependencies) call for a high level, top down approach to be applied by the grid companies for assessing the risks. To control the effect on the power supply of interdependencies and new threats and vulnerabilities, methods to monitor and manage the risks are needed. This candidate will work with development of indicators for monitoring risk and

vulnerabilities in future intelligent distribution grids.

The PhD will be working in a cross-disciplinary team, covering a broad set of challenges in modernising the distribution grid.

The PhD position is for 3 years.

### Qualifications

We seek a highly motivated and excellent candidate with a MSc or equivalent compliant with the research field of the position.

We will prioritize candidates based on the following criteria:

Excellent communication skills - written and oral.

Ability to work independently, as well as in team.

Personal suitability will be emphasised

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## 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 for PhD

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/ie/research/phd> for information about PhD studies at NTNU.

## General

We can offer

an informal and friendly workplace with dedicated colleagues

academic challenges

attractive schemes for housing loan, insurance and pension in the Norwegian Public Service Pension Fund

Diversity is important to achieve a good, inclusive working environment. We encourage all qualified applicants to apply, regardless of gender, disability, and cultural background. NTNU wishes to increase the number of women in its workforce, and women are specifically encouraged to apply.

The appointment is to be made in accordance with the regulations for State Employees and Civil Servants in Norway. The candidate must adhere to regulations that concern changes and developments within the discipline and/or the organizational changes concerning activities at NTNU.

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 her/his name entered on the list of applicants.

#### **Salary conditions**

The PhD position is in code 1017 Research fellow, and is remunerated at a gross NOK 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.

#### **Requirements for the application**

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

The application should contain:

The reference code ( **IE-007-2018** ) for the position

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.

**Tentative Submission Deadline : 20 March 2018**

[Further Information](#)