



UNIVERSITETET  
I OSLO

**Jobbnorge ID:** 149498  
**Deadline:** 4/15/2018  
**Website:** <http://www.uio.no/>  
**Scope:** Fulltime  
**Duration:** Engagement

## PhD Research Fellowship in Energy Informatics

### About the position

Position as PhD Research Fellowship in Energy Informatics available at the Section for Network and Distributed Systems at the Department of Informatics.

Starting date no later than 01.10.2018.

Depending on the candidate and the teaching needs of the department, the fellowship periods will be for either 3 years (fully devoted to research and research training) or 4 years (with a compulsory work load of 25% consisting of e.g. teaching and supervision duties and research assistance).

### Project description

Energy Informatics is a new university initiative promoted by [UiO:Energy](#) and associated with Department of Informatics. UiO:Energy is one of three strategic priority areas at the university focused on advancing new ways of managing energy to reduce global climate change and environmental challenges. The main goal of Energy Informatics is to explore state-of-the-art ICT (Information & Communications Technology) theories and tools for the future sustainable energy systems.

The scope of energy informatics includes computing and networking technologies and their applications for sustainable energy sectors (e.g., smart grid, solar power, wind energy, electric vehicles, energy storage, smart cities, green data center, green computing). Our research interests include: IoT/Fog/Cloud Computing for smart grid; smart grid control and optimization; and big data analytics for smart energy management. We are coordinating or involved in numerous research projects funded by Research Council of Norway or EU H2020, e.g., SmartNEM, IoTSec, TIDENET, and GreenCharge. You can find more information about research, teaching, and projects from [our website](#).

We have particular interest in an emerging technology for very efficient and secure energy systems, namely machine learning for energy intelligence. In the energy domain, we are foreseeing many challenges that can be tackled by machine learning technologies and big data analytics. One typical challenge is related to renewable energy sources where the renewable energy generation is highly dependent on the weather and its precise forecasting is crucial for the stability of the future energy systems. Machine learning is capable of making precise forecasting of wind energy generation. This direction also matches with the strategical development of the Oil business in Norway. The research results in this project will greatly help reducing the operation and maintenance cost; and significantly increase energy system intelligence, in particular renewable energy generation, integration and forecasting.

The research fellow is expected to study

- New machine/deep learning models and algorithms for stable and intelligent energy management (e.g., energy price and power demand forecasting).
- Stability analysis within the demand response framework when renewable energy resources are integrated into the energy system.
- Integration of data analytics, machine learning techniques and edge computing for efficient and fast computation.

### Qualification requirements

The Faculty of Mathematics and Natural Sciences has a strategic ambition of being a leading research faculty. Candidates for these fellowships will be selected in accordance with this, and expected to be in the upper segment of their class with respect to academic credentials

- Applicants must hold a Master's degree or equivalent in Computer Science and Engineering.
  - the average grade point for courses included in the Master's degree must be B or better in the Norwegian educational system
  - the Master's thesis must have the grade B or better in the Norwegian educational system
  - the average grade point for courses included in the Bachelor's degree must be C or better in the Norwegian educational system
- Good knowledge about machine learning is required.
- Documented programming experience is desirable.

All Ph.D. candidates must demonstrate high English language skills. International applicants must document these skills prior to admission to the PhD programme by passing one of the following tests with these or better grades:

- TOEFL - Test of English as Foreign Language, internet based test (IBT). Minimum total score: 80
- IELTS - International English Language Testing Service. Minimum overall band score: 6.5
- Certificate in Advanced English (CAE) and Certificate of Proficiency in English (CPE) from the University of Cambridge
- PTE Academic - Pearson Test of English Academic. Minimum overall score: 62

Please see here for exemptions to the English requirements:

<http://www.mn.uio.no/english/research/phd/application/application.html>

Candidates without a Master's degree have until 30 June, 2018 to complete the final exam.

The purpose of the fellowship is research training leading to the successful completion of a PhD degree.

The fellowship requires admission to the PhD programme at the Faculty of Mathematics and Natural Sciences. The application to the PhD programme must be submitted to the department no later than two months after taking up the position. For more information see:

[Application and admission to the PhD programme in natural sciences](#)

## We offer

- Salary NOK 436 900 - 490 900 per year depending on qualifications and seniority as PhD Research Fellow, (position code 1017)
- Attractive [welfare benefits](#) and a generous pension agreement, in addition to Oslo's family-friendly environment with its rich opportunities for culture and outdoor activities

## How to apply

The application must include:

- Cover letter. Statement of motivation and research interests
- CV (summarizing education, positions and academic work - scientific publications)
- Copies of educational certificates, transcript of records and letters of recommendation
- Documentation of English proficiency
- List of publications and academic work that the applicant wishes to be considered by the evaluation committee
- Names and contact details of 2-3 references (name, relation to candidate, e-mail and telephone number)

Foreign applicants are advised to attach an explanation of their University's grading system. Please note that all documents should be in English (or a Scandinavian language).

Applicants may be called in for an interview.

## Formal regulations

No one can be appointed for more than one PhD Research Fellowship period at the University of Oslo.

Please see the [guidelines and regulations](#) for appointments to Research Fellowships at the University of Oslo.

According to the Norwegian Freedom and Information Act (Offentleglova) information about the applicant may be included in the public applicant list, also in cases where the applicant has requested non-disclosure.

The University of Oslo aims to achieve a balanced gender composition in the workforce and to recruit people with ethnic minority backgrounds.

The University of Oslo has an [agreement](#) for all employees, aiming to secure rights to research results etc.

## Contact information

Professor Yan Zhang, Department of Informatics, UiO ([yanzhang@ifi.uio.no](mailto:yanzhang@ifi.uio.no))

Professor Frank Eliassen, Department of Informatics, UiO ([frank@ifi.uio.no](mailto:frank@ifi.uio.no))

For technical questions about the recruitment system, please contact HR Adviser, +47 22854272, [t.s.guttormsen@mn.uio.no](mailto:t.s.guttormsen@mn.uio.no)

## About the University of Oslo

**The University of Oslo** is Norway's oldest and highest rated institution of research and education with 28 000 students and 7000 employees. Its broad range of academic disciplines and internationally esteemed research communities make UiO an important contributor to society.

**The Department of Informatics (IFI)** is one of nine departments belonging to the Faculty of Mathematics and Natural

Sciences.. IFI is Norway's largest university department for general education and research in Computer Science and related topics. The Department has near 950 students on bachelor level, near 450 master students, and over 180 PhD students. The overall staff of the Department is close to 250 employees, about 200 of these are full time positions. The full time scientific staff is 60, mostly Full/Associate Professors.

## Additional information

### Place of service:

Gaustadalléen 23 B 0373 Oslo (Oslo Municipality)