Jobbnorge ID: 277792
Deadline: 4/11/2025
Website: http://www.ntnu.no
Scope: Fulltime
Duration: Temporary

The Department of Civil and Environmental Engineering has a vacancy for a

PhD Candidate in Climate change and the flood dampening effect of reservoirs

This is NTNU

NTNU is a broad-based university with a technical-scientific profile and a focus in professional education. The university is located in three cities with headquarters in Trondheim.

At NTNU, 9,000 employees and 43,000 students work to create knowledge for a better world.

You will find more information about working at NTNU and the application process here.

Video: https://youtu.be/Xt-yHCN5QS0

About the position

Department of Civil and Environmental Engineering (IBM) has a vacancy for a PhD Candidate in the Norwegian Research Centre for Renewal of Hydropower Technology, RenewHydro. RenewHydro is a new research center for environmentally friendly energy that will develop hydropower to be more flexible and contribute to more sustainable renewable energy. With increased cooperation and new knowledge in technology, markets, environment and society, RenewHydro will work to reach national energy, climate and nature targets. The PhD position is in the Hydraulic Research group at the Department of Civil and Environmental Engineering.

Are you motivated to take a step towards a doctorate and open up exciting career opportunities? As a PhD Candidate with us, you will work to achieve your doctorate, and at the same time gain valuable experience that qualifies you for a further career in higher education and research, in and outside academia.

Your immediate leader will be a professor.

About the project

The PhD position is a part of a project focused on adaptation and opportunities for hydropower and their reservoir operations in dampening floods. The basis for the work is climate changes and changes in the magnitude and periodicity of inflow to the hydropower system, combined with new types of operational regimes of the hydropower system due to a larger share of unregulated (intermittent) power production phased into the energy system.

The work will very much involve use of state-of-art hydrological models, potentially also tools developed in PhD studies running in parallel to this, and hydropower scheduling models (energy system models). The work can also involve development of new programming code.

The PhD candidate will work together with other PhD students and researchers in RenewHydro.

Duties of the position

- Complete the doctoral education until obtaining a doctorate
- Carry out research of good quality within the framework described above
- Academic publications and popular science dissemination
- Participate in the Hydraulic Engineering research group
- Cooperate with researchers at the Norwegian Institute for Nature Research and other partners in RenewHydro
- Participate in international activities such as conferences and/or research stays at foreign educational institutions

Be prepared for changes to your work duties after employment.

Required selection criteria

- You must have an academically relevant background relevant for hydropower inflow forecasting and/or optimization of water resources management
- You must have a Master's degree in one of the fields Hydraulic engineering, Hydrology, Hydropower, Water resources engineering or equivalent
- Your course of study must correspond to a five-year Norwegian course, where 120 credits have been obtained at master's level
- You must have a strong academic background from your previous studies and have an average grade from your Master's degree study, or equivalent education, which is equal to B or better compared to NTNU's grading scale. If you do not have letter grades from previous studies, you must have an equally good academic foundation. If you have a weaker grade background, you may be considered if you can document that you are particularly suitable for a PhD education
- You must meet the requirements for admission to the faculty of engineering's Doctoral Programme
- Competency in Hydrology, Hydraulics, hydrological/water resources and hydraulic modelling
- Programming skills in relevant languages
- Good oral and written communication skills in English

PLEASE NOTE: For detailed information about what the application must contain, see paragraph "About the application".

The appointment is to be made in accordance with Regulations for the Universities and Colleges Act (university and colleges regulations) and Regulations for the degrees philosophiae doctor (ph.d.) and philosophiae doctor (ph.d.) in artistic development work at the Norwegian University of Science and Technology (NTNU) for general criteria for the position.

Preferred selection criteria

- Experiences in hydrology and hydrological/water resources modelling
- Knowledge in statistical analyses
- Knowledge about the Norwegian energy/power system and tools applied in hydropower scheduling
- Knowledge and interests in programming
- Excellent communication skills - written and oral
- High cooperative skills and ability to work in a team, as well as independently
- Proficiency in Scandinavian languages will be considered positive in the evaluation of the application

Personal characteristics

To complete a doctoral degree (PhD), it is important that you are able to:

- Have high cooperative skills and ability to work in a team, as well as independently
- Work in a structured way, set goals and make plans to achieve them
- Be open to cooperate with researchers/PhDs in other, related fields of sciences
- Present and discuss your research with other professionals
- Get involved and contribute constructively with feedback
- Work constructively under pressure.
- Show curiosity and a strong motivation for the subject
- Analyze data, assess different perspectives and draw well-founded conclusions
- Be flexible and open to adjusting the plan for the project as needed

Emphasis will be placed on personal qualities.

We offer

- An exciting job with an important mission in society
- Developing tasks in a strong and international professional environment
- Career guidance and follow-up during the PhD period
- Open and inclusive working environment with committed colleagues
- Mentor programme as a new employee at NTNU
- As a public employee, you have favourable benefits as a member of the Norwegian Public Service Pension Fund (SPK)

You will be employed as a PhD Candidate at NTNU and will have access to employee benefits and discounts.

Diversity

Diversity is a strength, and at NTNU we aim to be an employer that reflects the diversity in society and that makes use of the potential of the population's collective skills. Our vision is Knowledge for a better world and our values are creative, critical, constructive and respectful. We believe that an organization that is equal, diverse and gender-balanced is essential for us to achieve our goals.

We strive to attract employees with different skills, life experiences and perspectives to contribute to even better problem solving of our societal mission in research and education.

If you think this position is relevant and interesting, we encourage you to apply, regardless of gender, functional ability and cultural background, or whether you have been out of work for a period of time.

At NTNU we want to increase the proportion of women in scientific positions. We have a number of measures to promote equality.

Salary and conditions

In the position of PhD Candidate, code 1017, your gross salary will normally be NOK 536 200,- per annum depending on qualifications and seniority. A 2 % statutory contribution to the State Pension Fund is deducted from the salary.

The employment period is 3 years.

For employment as a PhD Candidate, it is a prerequisite that you gain admission to the PhD programme at the faculty of engineering's Doctoral Programme within three months of your employment contract start date, and that you participate in an organized doctoral programme throughout the period of employment.

As an employee at NTNU, it is important that you keep yourself up to date with academic and organizational changes and adapt to them.

For the necessary academic and social interaction, it is a prerequisite that you are physically present and available to the institution on a daily basis.

The appointment is carried out in accordance with the principles of the State Employees Act, and Export control(legislation that regulates the export of knowledge, technology and services). Candidates who, after assessment of the application and attachments, are considered to bein conflict with the criteria in the latter act, will not be able to be employed.

Please note that the person hired will work with critical infrastructure and areas affected by controls on the export of strategic goods, services and technology. Candidates who do not meet the requirements for the necessary security clearance, access clearance and authorization as described in the National Security Act, the Export Control Act and the Act on the Implementation of International Sanctions (Sanctions Act) cannot be considered (e.g., candidates from, among others, Russia, Iran, North Korea, China). Relevant countries are listed as examples and as such the list is not exhaustive (as a result of any changes in the world situation, other countries may be added at short notice).

About the application

The attachments (including a description of your scientific work) must accompany the application as these documents form the basis of the application assessment. The documents must be in Norwegian/a Scandinavian language or English.

Please note: the application will only be assessed on the basis of the information we have received by the application deadline. Therefore, make sure that your application clearly shows how your skills and experience meet the criteria described above. The application and all attachments must be sent electronically via Jobbnorge.no. If you are invited to an interview, you must bring certified copies of certificates The application must include:

- Transcripts and diplomas for Bachelor's and Master's degrees
- CV
- Copy of Master's thesis. Documentation of a completed Master's degree must be presented before taking up the position
- Project outline containing proposals for an overall description of research questions, theoretical perspectives, methodological design for the project and progress plan (maximum 1500 words/4 pages)
- Short letter of motivation (400 words/1 page)
- Possibly publications etc. other relevant research work
- Possibly certificates
- Names and contact information of three relevant referees

If all, or parts, of your education has been taken abroad, we also ask you to attach documentation of the scope and quality of your entire education, both Bachelor's and Master's education, in addition to other higher education. If your institution uses “diploma supplement” (normal for most European institutions), you must attach this. A description of the documentation required can also be found here. If you already have a statement from Norwegian Directorate for Higher Education and Skills (HK-dir), please attach this as well.

Joint works will be considered. If it is difficult to identify your contribution to joint work, you must attach a brief description of your participation.

When assessing the best qualified, we emphasize necessary qualifications such as education, experience and personal suitability. Motivation for the position, ambitions and potential for research will also count when assessing the candidates.

NTNU recognizes a wide range of academic contributions and has committed itself to The San Francisco Declaration on Research Assessment and CoARA (responsible assessment of research and recognition of a greater breadth of academic contributions in accordance with NTNU's social mission).

General information

A public list of applicants with name, age, job title and municipality of residence is prepared after the application deadline. If you wish to be exempt from entry on the public applicant list, this must be justified. Assessment will be made in accordance with current legislation. You will be notified if the exemption is not granted.

If you think this position looks interesting and in line with your qualifications, you are welcome to apply.

If you have any questions about the position, please contact Professor Tor Haakon Bakken on e-mail: tor.h.bakken@ntnu.no. If you have any questions about the recruitment process, please contact HR Consultant Martine Sulen, e-mail: martine.sulen@ntnu.no.

Application deadline: 11.04.2025

For practical information about working at NTNU, please visit this webpage.

The city of Trondheim is a modern European city with a rich cultural scene. Trondheim is the tech capital of Norway with a population of 200,000. The Norwegian welfare state, including healthcare, schools, kindergartens and overall equality, is probably the best of its kind in the world. Professional subsidized day-care for children is easily available. Furthermore, Trondheim offers great opportunities for education (including international schools) and possibilities to enjoy nature, culture and family life and has low crime rates and clean air quality.

NTNU - knowledge for a better world

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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.

Department of Civil and Environmental Engineering

We conduct research and teaching in civil and transportation engineering, technical planning, structural engineering, water and wastewater engineering and hydraulic engineering. Graduates from our programmes become employees - in both the public and private sectors - with a sustainability mindset combined with competitive knowledge and skills. The Department of Civil and Environmental Engineering is one of eight departments in the Faculty of Engineering.

Additional information

Contact person:

Tor Haakon Bakken, Professor
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Place of service:

Høgskoleringen 7A 7034 Trondheim (Trondheim Municipality)