Jobbnorge ID: 274232
Deadline: 3/15/2025
Website: http://www.ntnu.no
Scope: Fulltime
Duration: Temporary

The Department of Structural Engineering has a vacancy for a

PhD Candidate in Structural Engineering and Sustainability

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

Are you ready to take on the challenge of a PhD and unlock an exciting career path? As a PhD Candidate with us, you will not only work toward earning your doctorate but also gain valuable experience that will prepare you for a successful career in research, academia, and industry. Do you have a background and passion for **Structural Engineering**? Are you ready to challenge conventional paradigms in designing safe and sustainable structures? If so, we encourage you to apply!

Your immediate leader will be the supervising professor.

About the project

Structures form the backbone of our built environment, yet they contribute significantly to resource consumption and greenhouse gas emissions. Today's design standards often fail to balance material efficiency with safety and functionality and rarely incorporate circular design principles that enable the safe reuse of reclaimed components. With millions of structures being built and demolished annually, it's time to rethink structural design to ensure a more sustainable future.

The **FRIPRO project REStructureD**, funded by the **Norwegian Research Council**, aims to revolutionize the way we design engineering structures. By moving beyond conventional, linear design processes, the project will introduce an innovative framework that integrates advanced optimization techniques, such as **risk-informed decision-making** and **parametric design**, with data from reclaimed structural components. The objective is to enable resource-efficient, customized structures that make optimal use of existing materials.

In addition to developing this new design framework, the project will create user-friendly tools that demonstrate the feasibility of these methods and promote their adoption within the industry, ultimately shaping future standards for sustainable and circular construction practices.

To be part of this transformative initiative, we are seeking a highly motivated and talented PhD student who will be an integral part of the academic environment at NTNU and SINTEF. You will receive close mentorship and contribute to supervising master's students linked to the project. You will also have the opportunity to expand your expertise in **risk analysis, decision-making, and sustainability performance of structures** through relevant NTNU courses.

Duties of the position

- Complete the doctoral education until obtaining a PhD degree
- Conduct high-quality research aligned with the project's goals
- Publish academic papers and contribute to popular science communication
- 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

- Master's degree (or equivalent) in Structural Engineering or a closely related field. The degree must be equivalent to a five-year Norwegian program (120 ECTS at the master's level).
- Strong academic performance, with an average grade equivalent to **B** or better on NTNU's grading scale (or a comparable level of achievement).
- Applicants must meet the criteria for admission to NTNU's PhD program.
- You must meet the requirements for admission to the Doctoral Programme of the Faculty of Engineering.
- Proficiency in spoken and written English.

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

If you cannot document skills in Norwegian, Swedish or Danish at level A2 upon employment, you must complete Norwegian courses corresponding to at least 15 credits before the end of the employment period. NTNU will facilitate this.

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

- Excellent computation skills
- Background in Structural Reliability Theory
- Background in sustainability assessment (LCA, MFA)

Personal characteristics

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

- Work independently
- Work in a structured way, set goals and make plans to achieve them
- Present and discuss your research with other professionals
- Get involved and contribute constructively with feedback
- Work constructively under pressure or in the face of adversity
- 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
- A 3-month research stay at a renowned foreign university.
- Collaboration with an engineering consulting company during the PhD, gaining real-world industry experience.
- 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
- working capital that can be used to implement the project
- mentor programme as a new employee at NTNU
- training during working hours and company sports 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 532 200 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. If learning Norwegian (level A2 corresponding to at least 15 credits) is to be completed before the end of the employment period, the employment period can be extended by 10 weeks.

For employment as a PhD Candidate, it is a prerequisite that you gain admission to the PhD programme in Engineering.

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.

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. If you have recently submitted your Master's thesis, you can attach a draft of the thesis. Documentation of a completed Master's degree must be presented before taking up the position.
- Letter of motivation (400-800 words/1-2 pages)
- 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).

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 be in conflict with the criteria in the latter act, will not be able to be employed.

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 have any questions about the position, please contact Professor Jochen Köhler, jochen.kohler@ntnu.no or Dr. Ramon Hingorani, ramon.hingorani@sintef.no. If you have any questions about the recruitment process, please contact Kristine Grønvold, kristine.gronvold@ntnu.no.

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

Application deadline: 15.03.2025

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

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.

Department of Structural Engineering

We teach mechanical engineering, engineering and ICT, and civil and environmental engineering. The Department conducts internationally leading research and participates in several large national research projects. The Department of Structural Engineering is one of eight departments in the Faculty of Engineering.

Additional information

Place of service:

- Høgskoleringen 1 7491 Trondheim (Trondheim Municipality)
- Richard Birkelands vei 1A 7034 Trondheim (Trondheim Municipality)