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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.

Faculty of Engineering
Department of Mechanical and Industrial Engineering

PhD position in Innovative Methods to Build Floors and Side Panels (IV-193/18)

The Faculty of Engineering Science (<http://www.ntnu.edu/iv>) at the Norwegian University of Science and Technology (NTNU) has a vacancy for one PhD position in "New and innovative methods to build floors and side panels" (at the Department of Mechanical and Industrial Engineering). The PhD position is for 3 years.

Work description

Building environmentally friendly houses is important for society and the climate. This project looks at developing side panels and floors made from recyclable materials that have good thermal and noise insulation while also being easy to install and being attractive to the eye.

The goal of the PhD project is to select candidate materials and structural solutions based on possible production processes and required long term strength. The best selected solutions shall be built as prototypes and tested for performance. Production will be done in the laboratory at NTNU, at RISE PFI and also partially at Alloc's factory.

The PhD project is part of the research project "En ny og innovativ måte å lage gulv og veggprodukter på", financed by the Norwegian Research Council and the industrial partners Alloc AS, Norske Skog Saugbrugs AS, Thor Magne Hansen og Sønn AS, RISE PFI AS, Ranheim Paper & Board AS and Åbo Akademi.

Qualifications

The position requires a Master's degree in mechanical or civil engineering or a similar relevant area, with an average grade of B or better according to either NTNU's or the ECTS grading system. Candidates from universities outside Norway are requested to send a Diploma Supplement or a similar document, which describes in detail the study and grade system and the rights for further studies associated with the obtained degree: ec.europa.eu/education/tools/diploma-supplement_en.htm. An appointment without this information is not possible.

The candidate must have excellent analytical and modeling skills combined with interest and experience in experimental work. The successful applicants are motivated and ambitious students with excellent grades. Proficiency to carry out goal-oriented work, good skills to deliver oral and written presentations of research results (good writing skills in English are essential), and good cooperation abilities will be emphasized. Knowledge of a Scandinavian language would be beneficial.

The project covers a wide range of topics and the following subject areas will be important. Please state your previous experience with all of them (given in alphabetical order).

Biopolymers
Buckling
Computer programming skills
Composite to metal joints
Core materials for sandwich structures
Creep
Dynamic behavior of structures
Extrusion of polymers
Fatigue
Finite element analysis
Laminate theory
Mechanical properties of sandwich structures
Physics
Progressive failure analysis
Python programming language (or similar)
Rate dependent properties
Short fiber composites
Structural analysis
Surface treatments
Swelling of materials
Thermal conductivity
Viscoelasticity

The PhD candidates will be required to work in Trondheim at the Department of Mechanical and Industrial Engineering in close cooperation with RISE PFI at a nearby location. Some work is also expected to be carried out at Alloc's factory in Lyngdal in southern Norway.

A statement on when the applicant can start in the position if selected should be supplied.

Conditions of appointment

PhD Candidates are remunerated in code 1017, and are normally remunerated with a gross salary NOK 436.900 before tax deduction. There will be a 2 % deduction to the Norwegian Public Service Pension Fund from gross wage. As a member of the Norwegian Public Service Pension Fund you are offered:

- A good pension scheme
- A favorable housing loan interest
- Good insurance schemes

Applicants for a PhD will have to engage in an organized PhD training program, and appointment in the positions requires approval of the applicants plan and qualifications for the PhD study within three months from the date of commencement of the PhD position. See <https://www.ntnu.edu/iv/phd-information> and <https://innsida.ntnu.no/doktorgrad> for more information.

The engagement is to be made in accordance with the regulations in force concerning State Employees and Civil Servants. The positions adhere to the Norwegian Government's policy of balanced ethnicity, age and gender. Persons with immigrant background are encouraged to apply. NTNU's objective is to increase the number of females in scientific positions and female applicants are therefore encouraged to apply.

Application

The application should contain:

- CV, it should include: relevant formal educational background, diploma grade, participation in research projects, work experience, skills and any other relevant experience.
- Certified diploma (note that diploma supplement or similar has to be attached for degrees outside Norway).
- Master diplomas from China have to be verified by CDGDC (<http://www.chinadegrees.cn/en/>). The certificate is preferred attached or at least ordered by you within application deadline.
- Certified grade transcripts and documentation of an average grade of B or better as described above.
- Three reference letters.
- Motivational letter of maximum two pages describing why the applicant wants to come to NTNU, the applicant's view of research challenges within the area of the PhD position and how the applicant's competence can contribute to solve these challenges.
- Statement of experience with regard to the list of important subject areas mentioned above.
- If applicable, list of publications, conferences presentations and other relevant scientific work
- Proficiency in English, best shown by providing TOEFL scores.
- Proficiency in a Scandinavian language.
- Graduate Record Examination (GRE) Test scores or equivalent would strengthen the application.

Applications should be submitted electronically through www.jobbnorge.no. Applications submitted elsewhere will not be considered.

For further information about the position, please contact Professor Andreas Echtermeyer, andreas.echtermeyer@ntnu.no.

Mark the application with ref.no IV-193/18

Anticipated commencement: 15 August 2018 or 10 January 2019 (to be agreed with the Department)

Application deadline: 29 June 2018

According to the new Freedom of Information Act, information concerning the applicant may be made public even if the applicant has requested not to be included in the list of applicants.

Jobbnorge-ID: 154120, Søknadsfrist: Avsluttet