

Norwegian University of Science and Technology (NTNU)
Faculty of Engineering Science and Technology
Department of Structural Engineering



One PhD and one post doctoral position in "Multi-scale Modelling and Nano-mechanics"

The Norwegian University of Science and Technology (NTNU) in Trondheim is responsible for educating 80% of the Norwegian engineers in total and represents academic eminence in technology and the natural sciences as well as in other academic disciplines ranging from the social sciences, the arts, medicine, architecture to fine art.

The Department of Structural Engineering, Norwegian University of Science and Technology (NTNU) announces a vacant PhD position and a vacant post doctoral position in the area of multi-scale modelling of mono-sized polymer particles. The two positions will be a part of the new NANOMAT KMB project "***From Molecular Structures to Mechanical Properties: Multi-scale Modelling for Polymer Particles (MS2MP)***", funded by the Research Council of Norway and the industry partner *Conpart AS*, which is a nanotechnology based company. A series of new applications of the Ugelstad polymer particles within the electronics industry have recently been developed by the industry partner. Mechanical properties are extremely important in these novel applications. The main goals of the project are to develop a multi-scale modelling methodology to predict the macroscopic mechanical properties of selected polymer particles from their nano-scale molecular structures, and provide fundamental knowledge for the industry to tailor-make polymer particles with optimised mechanical properties. The project will be in close collaboration with Prof. Jacob Fish, *Rensselaer Polytechnic Institute, USA*.

Dept. of Structural Engineering has more than 50 young, hard working and social PhD students and post doctoral fellows, and is well-equipped with experimental facilities including the recently established state-of-the-art ***NTNU Nanomechanical lab***.

The **PhD candidates** must be strong in computational methods and have a MSc degree in Mechanics, Mathematics, Materials Technology, Mechanical Engineering, Structural Engineering or Physics. The PhD position is a three years engagement and starts from autumn 2008. With 25% teaching duties the position can be extended to four years.

Applicants for the **post doctoral position** must hold a PhD degree and have relevant multi-scale modelling background. Experience in atomic scale simulation and continuum mechanics are particularly favourable. The post doctoral position has a period of two and a half years and starts from July/August 2008.

For further information, please feel free to contact:

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PhD candidates follow code 1017, grade 43-47 of the Norwegian State Salary scale, with gross salary from NOK 325 600 to NOK 348 900 per annum (before tax). PhD candidates are normally remunerated at wage level 43. There will be a 2 % deduction to The Norwegian Public Service Pension Fund from gross salary.

NTNU's PhD-rules require a master degree or equivalent with at least 5 years of studies and an average grade of A or B within a scale of A-E for passing grades (A best). Engagement as a PhD candidate is done in accordance with current appointment regulations with supplementary rules in force giving guidelines for scholarship appointments in universities and university colleges. The goal of the announced positions is to obtain a PhD degree. Applicants are obliged to engage in an organized PhD training program, and appointment requires approval of the applicant's plan for a PhD study within three months from the date of commencement. A contract of employment will be set up for the engagement period regulating the rights and duties of the PhD student.

Post doctoral candidates follow code 1352, grade 54-60 of the Norwegian State Salary scale, with gross salary from NOK 394 700 to 439 300 per annum (before tax). Post doctoral candidates are normally remunerated at wage level 54. There is a compulsory 2 % deduction to The Norwegian Public Service Pension Fund from gross salary.

Both engagements are to be made in accordance with the regulations in force concerning State Employees and Civil Servants.

NTNU is an equal opportunity employer, and encourage women to apply.

Applications inclusive CV, authorized documentation of previous education, study record with list of subjects and grades obtained, work experiences, and possible achievements in research, should be sent electronically through <http://www.jobbnorge.no>, ref.no. IVT-13/08. Application deadline: 19 March 2008.