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

1 PhD Position in multi-scale simulation of hydrogen embrittlement – IVT 83/14

The Norwegian University of Science and Technology (NTNU) in Trondheim represents academic eminence in technology and the natural sciences as well as in other academic disciplines ranging from the social sciences, the arts, medicine, teacher education, architecture to fine art. Cross-disciplinary cooperation results in innovative breakthroughs and creative solutions with far-reaching social and economic impact.

Department of Structural Engineering is looking for one PhD candidate within the field of Hydrogen-Embrittlement. The position is a part of a researcher project ***"Hydrogen-induced degradation of offshore steels in ageing infrastructure - models for prevention and prediction (HIPP)"*** financed by PETROMAKS II program of The Research Council of Norway. The primary objective of **HIPP** is to develop a model framework which describes and couples environment-assisted hydrogen degradation mechanisms at different length and time scales towards a predictive mechanism-based integrity assessment approach for oil and gas steel infrastructure. The partners of the HIPP project are: SINTEF, University of Oslo, Statoil, Aker Solutions, DNV GL, Kyushu University (Japan), the University of Illinois at Urbana-Champaign (USA), University of Wisconsin-Madison (USA), Ruhr-Universität Bochum (Germany).

The PhD Position will focus on molecular dynamics simulation based multi-scale modeling of hydrogen embrittlement of steels. The anticipated commencement is 1st of August 2014.

The PhD position requires a Master's degree or equivalent in nanotechnology, material science, mechanical/structural engineering, or related fields. The applicants must be qualified for the doctoral program within any of these disciplines. The successful applicants are motivated and ambitious students with excellent grades. Knowledge on molecular simulations will be an advantage. Proficiency to carry out goal-oriented work, good skills to deliver oral and written presentation of research results, and good cooperation abilities will be emphasized.

PhD Candidates are remunerated in code 1017, and are normally remunerated at wage level 50, gross NOK **420 800** before tax. The salary is adjusted according to the recent wage negotiations, and given subject to the final approval of the Storting (the Norwegian Parliament). There will be a 2 % deduction for superannuation.

The period for the appointment is three years. Engagement as a PhD Candidate is done in accordance with "Regulation concerning terms and conditions of employment for the posts of post-doctoral research fellow, research fellow, research assistant and resident", given by the Ministry of Education and Research of 19.07.2010. The goal of each of the announced positions is to obtain a PhD degree. Applicants will engage in an organized PhD training program, and appointment requires approval of the applicants plan for a PhD study within three months from the date of commencement. See http://www.ntnu.edu/ivt/phd for more information.

Applicants must agree to participate in organized doctoral study programs within the period of the appointment and have to be qualified for the PhD-study. A contract will be drawn up regarding the period of appointment and work related duties. 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. 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.

Applications with CV, possible publications and other scientific works, certified copies of transcripts and reference letters must be submitted electronically via www.jobbnorge.no. Mark your application with **ref.no. IVT-83/13**.

Please contact Prof. Zhiliang Zhang, zhiliang.zhang@ntnu.no, http://www.ntnu.edu/nml; tel 0047-73592530 in case of questions.

Application deadline: 05.05.2014.