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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 Civil and Environmental Engineering

PhD position on Early Warning Systems for Rainfall Induced Soil Slides (IV-97/17)

Description

The Department of Civil and Environmental Engineering provides competence and technological solutions within the areas of civil and transportation engineering, structural engineering, water and wastewater engineering, and hydraulic engineering. Students and researchers graduating from our programs provide our partners with sustainable and competitive expertise, for application in both the public and private sectors.

The research group of Geotechnical Engineering is recruiting a PhD within early warning systems for rainfall induced soil slides. During intense precipitation, soil masses in steep terrain may be eroded and can accelerate downhill growing in speed and volume into debris flows that may cause devastating damage to infrastructure. During extreme weather, landslides cannot always be prevented but simple actions like closing roads or evacuating people will mitigate the consequences of the slide. This requires reliable early warning systems (EWS). An EWS may in general operate at different spatial and temporal scales and combines risk knowledge, monitoring, analysis and forecasting, warning and response. This PhD will focus on EWS suitable for debris flows and water dominated slides frequent in Norway, for regional as well as local scales of operation. The research will be on identifying vulnerable sites and triggers, on methods for monitoring and on analysis and forecasting including probabilistic modelling. Close cooperation with meteorologists is expected. The analysis and forecasting require development or adaptation of threshold models and criteria calibrated against historical data. The research should target practical applications and cost-effective landslide risk reduction in Norway. The research should take future climate scenarios into account.

The PhD position is part of Klima 2050, a Centre for Research-based Innovation (SFI) financed by the Research Council of Norway and 20 consortium partners, hosted by SINTEF. Klima 2050 aims to reduce the societal risks associated with climate changes and increased precipitation and floodwater exposure within the built environment. Read more about the SFI at www.klima2050.no.

The current PhD position is at NTNU within the SFI - Work Package 3 (WP3) "Landslides triggered by hydro-meteorological processes". This is PhD position No. 2 of 3 within WP3. WP3 is led by the Norwegian Geotechnical Institute (NGI). The work will be performed in close cooperation with NGI, SINTEF and with the public and industrial sponsors of Klima 2050.

Qualifications

Preferably, the applicant should hold a Master's degree in geology or geotechnical engineering with experience from statistical or probabilistic modelling. Applicants with alternative MSc degrees may be considered if relevant knowledge is documented, for instance in geoscience in combination with statistics, probabilities, instrumentation, geomatics, hydrology or meteorology. The successful candidate should be enthusiastic, highly motivated and be willing to work independently and in a team. Ability to cooperate with the Klima 2050 project partners is essential. In the application the candidate is encouraged to present his or her motivation for this particular PhD study and briefly sketch how he or she expects, intends or hopes to contribute to Klima 2050 on early warning systems.

The successful candidate must fulfil the requirement for admission to the doctoral program at the Faculty of Engineering, NTNU. The working languages will be Norwegian and/or English. All applicants must be able to communicate fluently in English (spoken and written). Candidates from universities outside Scandinavia and non-English speaking countries are kindly requested to document English language proficiency (TOEFL, IELTS, Cambridge Certificate in Advanced English (CAE) or Cambridge Certificate of Proficiency in English (CPE)).

Conditions

PhD Candidates are remunerated in code 1017, and are normally remunerated at gross NOK 432,300 before tax. There will be a 2 % deduction to the Norwegian Public Service Pension Fund from gross wage.

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 the 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.

The position is of 3 years duration. Working address is at NTNU in Trondheim. For further information about the position, please contact Prof. Steinar Nordal, NTNU, Trondheim. Email: steinar.nordal@ntnu.no or WP3 leader Dr. José Cepeda at NGI, Email: jose.cepeda@ngi.no

See <http://www.ntnu.edu/ivt/phd> 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. Women are encouraged to apply.

The application

The application must contain information of educational background and work experience. Certified copies of transcripts and reference letters should be enclosed. Contact information for two references (including email addresses and telephone number) is wanted. Applications with CV, grade transcripts and other enclosures should be submitted via this webpage at www.jobbnorge.no. **Mark the application with IV-97/17**

Start-up date preferably 1. September 2017

Application deadline is 28 May 2017

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: 136600, Søknadsfrist: Avsluttet