Next event

Title: **: Hydromechanical analyses of partially saturated slopes for the establishment of landslide early-warning thresholds**

Author: **John Eichenberger**

Date: **04.10.2012**

Time: **17h00 - 18h00**

Location: **GC D0 386, EPFL**

Summary

Rainfall-induced landslides in steep soil slopes of volcanic origin are a major threat to human lives and infrastructure. Due to their loose structure, volcanic ash slopes are prone to wetting-induced instability phenomena which are not accounted for in standard slope stability methods. In this seminar, physically-based approaches including conceptual and numerical 1D and 2D models are presented for the analysis of failure initiation and the establishment of thresholds for measurable field variables in loose unsaturated slopes subjected to rain infiltration. Model requirements are discussed with reference to the objectives of the analysis and key physical processes in rainfall-induced landslides.

Speaker

John Eichenberger is a PhD student at the Laboratory for Soil Mechanics at the Ecole Polytechnique Fédérale de Lausanne. He attained his Master's degree in Civil Engineering in the same institution in 2008. His research interests are focused on numerical modelling of landslides, unsaturated soil mechanics and hydromechanical couplings. He is co-author of one book chapter, 3 journal articles and 6 conference papers, and is co-editor of the proceedings of the first EPFL doctoral conference in Mechanics (EDCM) held in 2010.

List of recent publications

Early warning thresholds for partially saturated slopes in volcanic ashes, Eichenberger J., Ferrari A., Laloui L., Computers and Geotechnics (submitted), 2012.

Analyses géo-mécaniques pour l'évaluation quantitative du danger des glissements de terrain, Eichenberger J., Ferrari A., Laloui L., Bulletin de la Société Vaudoise des Sciences Naturelles, volume spécial JRDN 2011, in press., 2012.

Modelling the onset of shallow landslides in partially saturated slopes subjected to rain infiltration, Eichenberger J., Nuth M., Laloui L., Geo-Frontiers 2011 Conference, ASCE, Dallas, USA: 1672-1682. doi:10.1061/41165(397)171, 2011.

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The seminar room Auditoire CE 2 is located at the following link: http://plan.epfl.ch/?lang=en&room=gcd0386

The seminar will be followed by refreshments. Thank you for registering by e-mail to lms@epfl.ch before Sept 27th, 2012. It is helpful for the organisers to know the number of attendees.

Layout: Chao LI

LMS Seminar Series 2012

The laboratory of soil mechanics (LMS) is pleased to invite you to the seminar series introducing state of the art and practise in geotechnical engineering. Topics covers the environmental impact of natural hazards as well as new technologies such as nuclear waste disposal, energy structures and activities related to CO2 storage.

- Prof. Lyesse Laloui

Hydromechanical analyses of partially saturated slopes for the establishment of landslide early-warning thresholds - 04.10.2012
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Long term behaviour of energy piles
01.11.2012
Alice Di Donna, P.E., Ph.D student
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Thermo-hydro-mechanical behaviour of bentonite
06.12.2012
Ali Seiphoori, P.E., Ph.D student
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Thermo-hydro-mechanical testing of shales
10.01.2013
Alessio Ferrari, P.E., Ph.D, Researcher
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Heat exchanger anchors for thermo-active tunnels
07.02.2013
Thomas Mimouni, P.E., Ph.D student
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Gas flow propagation and related chemo-hydro-mechanical response of sand-bentonite mixture - 07.03.2013
Donatella Manca, P.E., Ph.D student
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Multiphase hydromechanical processes induced by CO2 injection into deep saline aquifers - 10.04.2013
Chao Li, P.E., Ph.D student
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Analysis of opalinus clay behaviour in a thermo-hydro-mechanical Framework - 10.05.2013
Valentina Favero, P.E., Ph.D Student
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Experimental investigation on the mechanical behaviour of reservoir materials as a result of CO2 injection and storage - 10.06.2013
Samuel González Maceda, P.E., Ph.D Student
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Thermo-hydro-mechanical modeling for opalinus clay
12.07.2013
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