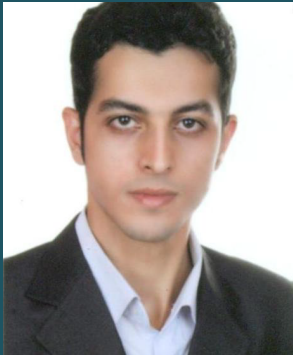


Next event



Title: Advances in characterization of water retention behaviour of highly expansive clays

Author: Ali Seiphoori

Date: 11.12.2012

Time: 17h00 - 18h00

Location: GC A1 416, EPFL

Summary

Granular MX-80 bentonite (highly swelling clay mineral) is going to be used as buffer material in engineering barrier systems for disposal of high level radioactive wastes. To certify the efficiency of waste isolation system, it is essential to characterize the thermo-hydro-mechanical response of this material. In this sense, the new advances in characterization and modeling of soil water retention behaviour of MX-80 bentonite are presented in this seminar. In order to precisely obtain the water retention response of highly expansive clays in terms of void ratio, temperature and hysteresis of the retention curve a new experimental technique is presented. A micro-structural approach is pointed out in order to specify different roles of suction terms for highly swelling material. Finally, modeling of soil water retention behaviour, relating the degree of saturation to the matric suction, is proposed for MX-80 bentonite used in this context.

Speaker

Ali Seiphoori is a PhD student at the Laboratory for Soil Mechanics at the Ecole Polytechnique Fédérale de Lausanne. He obtained his Master degrees in Civil Engineering from Sharif University of Technology (Iran) and the State University at Buffalo (US) respectively in 2008 and 2010. His PhD research is focused on the experimental investigation and modeling of the thermo-hydro-mechanical behaviour of MX-80 bentonite used as buffer material for disposal of nuclear wastes.


List of recent publications

An advanced calibration process for a thermo-hydro-mechanical triaxial system, A. Seiphoori, A. Ferrari and L. Laloui, International Symposium on Deformation Characteristics of Geomaterials, Pp. 396-403. September 1-3, 2011, Seoul, Korea

An innovative triaxial cell for thermo-hydro-mechanical investigation in unsaturated geomechanics, A. Seiphoori, A. Ferrari, L. Laloui, AMTSS workshop, Septemebr 3-5, 2012, Lausanne, Switzerland.



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 The seminar room GC A1 416 is located at the following link: <http://plan.epfl.ch/?lang=en&room=gca1416>
The seminar will be followed by refreshments. Thank you for **registering** by e-mail to lms@epfl.ch before **Dec 1st, 2012**.
It is helpful for the organisers to know the number of

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- Prof. Lyesse Laloui

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

Francesco Parisio, P.E., Ph.D Student

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Hydromechanical coupling in landslides induced by rainfall

13.09.2013

Abudushalamu Aili, P.E., Ph.D student

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Geotechnical design of energy pile foundations

17.10.2013

Alice Di Donna, P.E., Ph.D student

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