



TIMODAZ First Training Course: THM behaviour of clays in deep excavation with application to underground radioactive waste disposal
EPFL, Lausanne, Switzerland, 7th – 9th July 2008

First Announcement

Monday, 7 th July 2008		
0900 – 0930	Orientation Participants introduce themselves	P. Blaser, ITC, V. Labiouse, EPFL; All
0930 – 1000	The TIMODAZ Project – Main Issues	X.L. Li, Euridice
1000 – 1015	COFFEE	
1015 – 1045	What we need to know and what is important for End-users Introduction to radioactive waste management	M. Van Geet, Ondraf/Niras
1045 – 1215	Laboratory Experiments Introduction to technology, methodology. Examples of results for Boom Clay, Opalinus Clay and Callovo-Oxfordian Argillite	P. Delage, ENPC / C. Viggiani, UJF
1215 – 1345	LUNCH	
1345 – 1500	Main THM Processes and Field Equations Field equations to account for the chemo-thermo-hydro-mechanical coupling in porous media.	J. Vaunat, UPC
1500 – 1615	Modelling of thermo-mechanical Behaviour of Soils Constitutive models that account for the thermo-mechanical damage in soils. Examples on clayey materials.	L. Laloui, EPFL
1615 – 1630	COFFEE	
1630 – 1830	Exercise on Laboratory Experiments Determination of model parameters from laboratory tests results and constitutive simulations	F. Collin, ULg, B. François, EPFL
Tuesday, 8 th July 2008		
0845 – 0945	Visit of the EPFL Geomechanical laboratories	L. Laloui, V. Labiouse EPFL
0945 – 1000	COFFEE	
1000 – 1130	Learning from In-Situ Experiments Properties of claystones for radioactive waste management (Boom Clay, Opalinus Clay and Callovo-Oxfordian Argillite)	W. Bastiaens, Euridice
1130 – 1230	Modelling Approaches and Techniques Computation methods for the modelling of the thermo-hydro-mechanical behaviour of saturated soils	R. Charlier, ULg
1230 – 1400	LUNCH	
1400 – 1445	Hydro-mechanical Coupling around Galleries in low permeable Media In situ observations, closed form solutions and numerical modelling of hydro-mechanical coupling around tunnels	V. Labiouse, EPFL



1445 – 1530	Examples of Geoscientific Modelling in Radioactive Waste Disposal Hydrodynamic and geomechanic models, scaling issues and THM coupled processes	T. Vietor, Nagra
1530 – 1545	COFFEE	
1545 – 1830	Numerical Modelling Exercise Simulation with FE code (LAGAMINE) of a THM coupled case. Scoping calculations	F. Collin, ULg, B. François, EPFL
2000	COURSE DINNER in Lausanne	
Wednesday, 9th July 2008		
0800 – 1400	Excursion to Mont Terri Rock Laboratory 0800 Departure 1000 Coffee 1015 Introduction (meeting room of «La Fabrique de Chaux») 1115 Early lunch at St. Ursanne 1230 Transfer into rock laboratory (by minibus) 1300 – 1400 Guided tour in the rock laboratory	T. Vietor, Nagra, P. Blaser, ITC
1430 – 1515	How THMC Processes are handled in Performance Assessment	X. Sillen, SCK•CEN
1515 – 1600	Panel Discussion on Significance of THMC Processes for Radioactive Waste Management Informal panel of technical experts answer <u>any</u> questions	Tutors All
1600 – 1615	COFFEE	
1615 – 1645	Summary & Feedback Discussion How participants plan to use what they have learned and maintain contacts and build upon the workshop	V. Labieuse, EPFL, P. Blaser, ITC All
1645	Departure to Lausanne Approx. return at about 1845	All

Objectives The training course is held within the framework of the EC FP6 Integrated Project TIMODAZ (Thermal Impact on the Damaged Zone around a Radioactive Waste Disposal in Clay Host Rocks, www.timodaz.eu). It is organised by Ecole Polytechnique Fédérale de Lausanne (EPFL) and ITC School in collaboration with the TIMODAZ partners. The main objective of the training course is to provide contextual training on the "Thermo-Hydro-Mechanical and Chemical (THMC) behaviour" of clays and claystones to the younger generations currently involved in the research areas of TIMODAZ but which lack the overall picture of the nuclear waste management context. In addition the course can be used to provide the required training to new members of the radioactive waste management community.

Who should attend? Young professionals as well as scientists entering the research areas of TIMODAZ, preferably with Master in civil engineering or geotechnical and geological engineering (with good basic knowledge of geomechanics). Staff from nuclear agencies working in performance assessment and using results could also attend. Scientists and students from outside the project are most welcome. One ECTS credit can be received by EPFL based on a succeeded report on the performed course exercises.

Course Fee (including lunches, coffees and excursion): 170.- CHF / person
Course Dinner: 70.- CHF / person

Note The organisation of the course does not arrange accommodation. For list of hotels including map, see: <http://www.epfl.ch/RelationsPubliques/intranet/hotels/hotels-ls/index.html>

Expression of interest As soon as possible by email: gabi.vonlanthen@itc-school.org

Registration deadline: 10th June 2008