

Poster Session: Monday, November 04, 2019, 16:00–17:30

Engineered Barrier Systems	
01	Modelling Volume Change Behaviour of Compacted Bentonite Using a Hydro - Mechanical Coupled Framework <i>Jose A. Bosch, Alessio Ferrari, Lyesse Laloui</i>
02	Unconfined Compressive Strength for Unsaturated-Saturated Bentonite <i>Tomoyoshi Nishimura, Shuichi Yamamoto, Sin Sato, Motoki Moriiwa</i>
03	Thermo-Hydro-Mechanical Coupled Simulation of FEBEX <i>In Situ</i> Test <i>Yusuke Takayama</i>
04	Influence of Pore Water Vaporization on Saturation Process in the Buffer Material Coupled Thermo-Hydro-Mechanical Analysis <i>Shin Sato, Hirokazu Oono, Kenji Tanai, Shuichi Yamamoto, Masaaki Fukaya, Tomoyuki Shimura, Sumio Nyuunoya</i>
05	Development of a Poro-Elastoplastic (With Damage) Mathematical Model to Simulate Two-Phase Flow in a Swelling Geomaterial <i>E.E. Dagher, T.S. Nguyen, J.A. Infante Sedano</i>
06	Numerical Analysis of Coupled Hydro-Mechanical and Thermo-Hydro-Mechanical Behavior of Buffer Materials <i>Changsoo Lee, Jaewon Lee, Geon Young Kim</i>
07	Modelling of Reactive Transport in Bentonite Considering Chemo-Mechanical Coupling <i>A. Jenni, A. Yustres, P. Wersin, V. Navarro, E. Muuri, M. Niskanen</i>
08	Shaft Sealing Elements Made of Bitumen – Numerical Analysis of the Construction Process and Long-Term Behaviour <i>Philipp Herold, Christian Müller, Victoria Burlaka, Michael Jobmann</i>
09	Parameter Study of Bentonite Based Drift Sealing Concepts in German Repositories in Crystalline <i>Victoria Burlaka, Michael Jobmann, Philipp Herold</i>
10	Applicability of an Empirical Model for Pressure-induced Permeability Change in Saturated Bentonite Using OpenGeoSys <i>T. Brüning, H. Shao, J. Hesser, W. Wang, O. Kolditz</i>
11	The Hydraulic Performance Evolution of Compacted GMZ Bentonite Corroded By Cement Degradation in a HLW Repository Condition <i>Zhao Sun, Yong-gui Chen, Yu-jun Cui, Wei-min Ye</i>
12	Impact of Earthquakes on Geotechnical Barriers <i>Christian Müller, Philipp Herold</i>
13	Modelling of atmospheric cement carbonation in disposal containers for low- and intermediate-level nuclear waste <i>L. Wissmeier, N. Hubschwerlen, I. Munier, B. Cochapin, X. Bourbon, L. Trenty</i>
Gas Transport	
14	HM Coupled Modeling of Gas Migration in Buffer Materials of Deep Geologic Repository for Nuclear Waste <i>Shu-Hua Lai, Gour-Tsyh (George) Yeh</i>
15	Coupled HM and THM Interactions in Bentonite Engineered Barrier Systems <i>Chia-Wei Kuo, Gour-Tsyh Yeh</i>
16	Nonlinear Dynamics of Gas Migration in Compacted Clay <i>Yifeng Wang, Boris Faybishenko, Jon Harrington</i>
17	Advective Gas Flow Modelling Using a Mechanical Damage Model <i>Jaewon Lee, Chansoo Lee, Geon Young Kim</i>
18	Modelling Gas Flow in Clay Materials: Analysis of Boundary Conditions, Flow Direction, Material Heterogeneity, and Anisotropy <i>I.P. Damians, S. Olivella, A. Gens</i>
19	TOUGH-RBSN Modeling of Generation of Discrete Gas Flow Pathways in Bentonite <i>Kunhwi Kim, Jonny Rutqvist, Jens Birkholzer</i>

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Coupled Processes in Crystalline Rock	
20	Modelling Fluid Flow in an Excavation Damage Zone Tobias Meier
21	Modeling the Groundwater Recovery Experiment in Tunnel with a Discrete Fracture Network Hironori Onoe, Yusuke Ozaki, Teruki Iwatsuki
22	Thermo-Mechanical Coupled Modelling of a Long-Term Evolution of the Final Repository for Spent Nuclear Fuel at Forsmark, Sweden Jeoung Seok Yoon, Arno Zang, Ove Stephansson, Carl-Henrik Pettersson, Flavio Lanaro
23	Flow and Non-Reactive Transport Modeling of Recovery Experiments at the Mizunami Underground Research Laboratory Teklu Hadgu, Yifeng Wang, Elena Kalinina
24	Reactive-Transport Simulation of Groundwater Recovery Experiment in Tunnel Yusuke Ozaki, Hironori Onoe, Teruki Iwatsuki
25	Hydraulic and Transport Model of a Drift Excavation and Flooding Using Coupled Fracture-Continuum Approach Milan Hokr, Aleš Balvín, Josef Zeman
26	Thermo-Hydrodynamic Response of Sparse Fracture Systems to Heat Injection B. Brixel, M. Klepikova, Q. Lei, C. Roques, M.R., Jalali, S. Loew
27	The Numerical Model of the Planned URF Thermo-Mechanical Experiment: Sensitivity Analysis Valentina Svitelman, Elena Saveleva, Matvey Gorelov, Evgeny Moiseenko, Nikolay Drobyshevsky
28	3D Discrete Element Modelling of the Interference Tests in the Aspö HRL, Sweden Saeha Kwon, Carl-Henrik Pettersson, Joel Geier, Tobias Meier, Ki-Bok Min
29	Simulation of Hydro-Mechanically Coupled Processes in Rough Rock Fracture Intersections Using an Immersed Boundary Method and Variational Transfer Operators Cyrill von Planta, Daniel Vogler, Xiaoqing Chen, Maria G.C. Nestola, Martin O. Saar, Rolf Krause
Coupled Processes in Claystone	
30	Numerical Study of Damage by Phase Field Method in Coupled THM Conditions and Application to Heating Test Simulation Zhan Yu, Jianfu Shao, Minh-Ngoc Vu, Gilles Armand
31	Investigating the Thermal, Hydraulic and Mechanical Response of the Cox to Thermal Load at Experimental and Repository Scale Kate Thatcher, Alex Bond, Simon Norris
32	Geomechanical Response of Carbonate-Rich Opalinus Clay to Carbonated Water Taeheon Kim, Alberto Minardi, Lyesse Laloui
33	DECOVALEX 2019 Task E: Numerical Simulation of THM Processes in the Bure Heater Experiments Using a Failure Dependent Permeability Model Wenqing Wang, Hua Shao, Lars Bilke, Dmitri Naumov, Thomas Nagel, Olaf Kolditz
34	Predictive HM-Modeling in the Heterogeneous Opalinus Clay of the Mont Terri Rock Laboratory and Validation With Monitoring Data from a Mine-By Test D. Jaeggi, J. Hesser, C. Li, C. Nussbaum, P. Bossart
35	Mechanical and Hydraulic Characterization of the Excavation Disturbed Zone (EDZ) in the Opalinus Clay of the Mont Terri Rock Laboratory Sina Hale, Xavier Ries, David Jaeggi, Philipp Blum
36	Mineralogical, Structural and Geometric Properties of Old EDZ Fractures in the Opalinus Clay Shale Martin Ziegler, Molly Williams, Dominik Zangerl, Simon Loew
37	Modeling of Thermal Induced Pressurization in COx Claystone Hao Xu, Jonny Rutqvist, Carlos Plua, Gilles Armand, Jens T. Birkholzer

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Coupled Processes in Rock Salt	
38	Horizontal Borehole Experiments and Simulations to Understand Heat, Brine and Vapor Migration in Bedded Salt Philip Stauffer, Kris Kuhlman, Hakim Boukalfa, Michelle Bourret, Brian Dozier, Eric Guiltinan, Terry Miller, Shawn Otto, Jonny Rutqvist, Douglas Weaver
39	Coupled Thermo-Hydro-Mechanical Model of Ground Surface Deformation at Swiss Heat Storage Sites Daniel T. Birdsell, Martin O. Saar
Fault Slip and Induced Seismicity	
40	Coupled Hydro-Mechanical Modelling of Fault Slip induced by Water Injection in Low Permeability Rock Jung-Wook Park, Taehyun Kim, Eui-Seob Park, Yves Guglielmi, Bastian Graupner, Jonny Rutqvist
41	Modelling of Fluid-Injection-Induced Fault Reactivation in an Argillaceous Rock Ting-Yu Fan, Chin-Yu Lin, Hsien-Chou Lin, Shu-Jun Chang
42	Mathematical Modelling of Fault Activation from Water Injection at an Underground Research Facility T.S. Nguyen, J. Brown, B. Graupner, Y. Guglielmi, J. Rutqvist
43	Modelling of Fluid Injection Induced Fault Reactivation by Hydro-Mechanical Coupled 2D & 3D Distinct Element Models Jeoung Seok Yoon, Arno Zang, Carl-Henrik Pettersson
44	Stress Inversion Using in Situ Direct Displacement Information on Fault Reactivation During Fluid Injection Maria Kakurina, Yves Guglielmi, Christophe Nussbaum, Benoît Valley
45	An Extension to the FE Method-Based Simulator OpenGeoSys to Represent Shear Rupture Luca Urpi, Bastian Graupner, Wenqing Wang, Thomas Nagel, Antonio P. Rinaldi
Cross-Cutting Topics and Emerging Methods	
46	Measurement and Numerical Simulation of Thermally-Induced Pore Water Pressures in Rock Ruiping Guo
47	A Multiphysics Platform for Modelling Coupled Deformation, Damage, Flow and Transport in Fractured Rocks Qinghua Lei, Nima Gholizadeh Doonechaly, Xiaoguang Wang, Chin-Fu Tsang, Simon Loew
48	Accelerating Geochemical Equilibrium and Kinetics Calculations for Modeling Radioactive Waste Disposal Svetlana Kyas, Martin O. Saar, Allan M. M. Leal
49	Decoding Nanoscale Chemical Mechanical Heterogeneity of Shale Xu Tang, Devon S. Jakob, Xiaoji G. Xu, Robert Mokaya, Nino Ripepi
50	Hydro-Mechanical Processes in a Single Rough Fracture: Effect of Fracture Geometry Hoda Javanmard, Daniel Vogler, Anozie Ebigbo, Martin Saar
Radionuclide Transport and Performance Assessment	
51	Integrating Near-Field THMC Processes into Field-Scale THC Simulations for Nuclear Waste Repository Performance Assessment Michael Nole, Kyung Won Chang, Emily Stein, Dave Sevougian, LianGe Zheng, Jonny Rutqvist
52	Thermal-Hydrologic Design Constraints for the Disposal of High-Heat Waste Packages in a Deep Geologic Repository Tara LaForce, Emily Stein, David Sevougian, Glenn Hammond, Michael Nole, HeeHo Park, Kyung Won Chang
53	Reductive Immobilization of U(VI) by Magnetite and Zero-Valent Iron Yue Ma, Xi Chen, Mingliang Kang
54	Diffusion Simulation of Radionuclide Transport and Sorption Processes in the Opalinus Clay Theresa Hennig, Thomas Kempka, Michael Kühn
55	Use of High Performance Computing Cluster for Reactive Transport Modelling Jan Šembera, Pavel Štrof, Josef Zeman, Naďa Rapantová
56	On Conceptual Models of Chaotic Advection and Diffusion in Complex Fractured-Porous Media Boris Faybishenko, Jens Birkholzer