

2012



地下環境基準案例模擬國際研討會

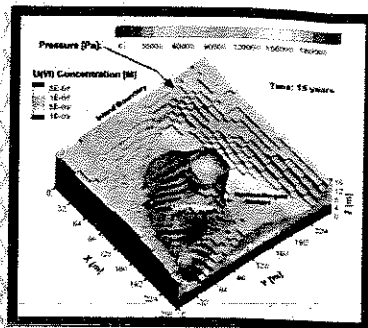
日期：民國101年10月29日至民國101年11月01日

地點：國立中央大學 國鼎圖書館

主辦單位：國立中央大學 應用地質研究所
行政院國家科學委員會

協辦單位：國立台灣大學 國立交通大學 國立成功大學

行政院原子能委員會核能研究所 行政院原子能委員會放射性物料管理局
行政院環境保護署 經濟部水利署 台灣電力公司 台中市政府水利局 工業
技術研究院綠能與環境研究所 中興工程顧問股份有限公司 環興科技股份
有限公司 成大地層下陷防治服務團 財團法人維謙基金會 地球物理學會



議程：

日期	上午議程		下午議程	
10/29 (星期一)	主持人： Carl Steefel	議題：Engineered Systems 講者：Javier Samper; Francis Claret; O. Bildstein, J.E. Lartigue, B. Cochapin, and I. Munier; Peter Alt-Epping	主持人： Chuen-Fa Ni	議題：Hydrologic Processes 講者：Olaf Kolditz; Hsien-Tsung Lin; Dirk Mallants; Neng-Chuan Tien
10/30 (星期二)	主持人： Steve Yabusaki	議題：Modeling Approaches and Hydro- Thermal-Chemical-Mechanical (HTCM) Transport 講者：Liang-Cheng Chang; Mingliang Xie; Jack Gwo; Peter Tsai		議題：Poster Session
10/31 (星期三)	主持人： Francis Claret	議題：Reactive Transport 講者：Carl Steefel; Ming-Hsu Li; Uli Mayer; Rui Ma	主持人： Ming-Hsu Li	議題：Geomechanics Coupling 講者：Yilin Fang; Gour-Tsyh (George) Yeh; Kuo-Chin Hsu; Wen-Jeng Huang
11/01 (星期四)	主持人： Gour-Tsyh Yeh	議題：Biological Systems 講者：Steve Yabusaki; Sevinc Sengor; Sergi Molins		野外參訪：Spent fuel disposal site located at TaiPower

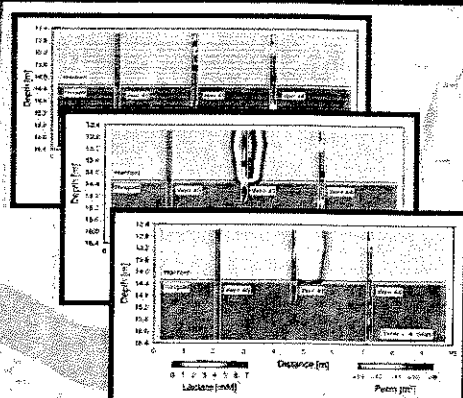
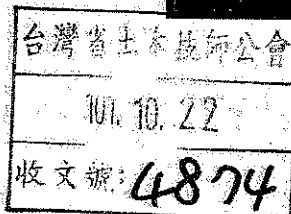
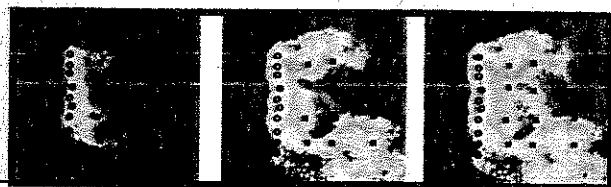
主辦人：葉高次 國科會講座教授
電子郵件：gyeh@ncu.edu.tw
電話：+886-3-4227151#65870

聯絡人：倪春發 副教授
電子郵件：nichuenfa@geo.ncu.edu.tw
電話：+886-3-4227151#65874

許巧宜 小姐
電子郵件：cyhsu@cc.ncu.edu.tw
電話：+886-3-4227151#65854

地址：32001桃園縣中壢市中大路300號 應用地質研究所

網址：<http://2012ssb.geo.ncu.edu.tw/>



地下環境基準案例模擬國際研討會會議程

Monday, October 29, 2012		
08:20-08:50	Registration	
08:50-09:30	Introduction and Opening Remarks	Convener: Carl Steefel
Issue: Engineered Systems		
09:30-10:10	Javier Samper	Nonisothermal multiphase flow and reactive transport of geochemical interactions of corrosion products and clays and cementitious phases in engineered barrier systems of HLW repositories
10:10-10:40	Break Time	
10:40-11:10	Francis Claret	Benchmark of reactive transport codes in the context of complex cement/clay interactions
11:10-11:40	O. Bildstein, J. E. Lartigue, B. Cochevin, and I. Munier	Modelling glass-iron-clay interactions in deep geological repository conditions
11:40-12:10	Peter Alt-Epping	Multicomponent reactive transport in dense clay systems (such as claystone and compacted bentonite)
12:10-12:30	Lunch Time	Convener: Chuen-Fa Ni
Issue: Hydrologic Processes		
13:30-14:10	Olaf Kolditz	Benchmarking Forever Initiatives in Geosciences and Hydrology
14:10-14:40	Break Time	
14:40-15:10	Hsien-Tsung Lin	Estimating Pumping Rates and Identifying Recharge Potential Zones for Groundwater Management in Multi-Aquifers System: a Case Study in the Choushui River Alluvial Fan, Taiwan
15:10-15:40	Dirk Mallants	Coupled water flow and chemical transport in the vadose zone of arid and semi-arid environments
15:40-16:10	Neng-Chuan Tien	Estimation of CO ₂ storage capacity of saline aquifer in north-west Taiwan
Tuesday, October 30, 2012		
Issue: Modeling Approaches		
09:10-09:40	Liang-Cheng Chang	The Development of Novel Numerical Simulation Platform- Adaptive Computation Framework
09:40-10:10	Break Time	
10:10-10:40	Mingliang Xie	Implementation and testing of permeability-porosity relationships
Issue: Hydro-Thermal-Chemical-Mechanical (HTCM) Transport		
10:40-11:10	Jack Gwo	Benchmark Problems for Near-Field Thermo-Hydro-Mechanical-Chemical Coupled Processes in Potential High-Level Waste Repositories with Insights from the DECOVALEX-2015 Project
11:10-11:50	Peter Tsai	Coupling Fractional-Flow Based Multiphase Flow, Thermal Transport, and Reactive Biogeochemical Transport
11:50-12:30	Lunch Time	
13:30-16:00	Poster Session	
	Jung-Hwi Kihm, Sang-Uk Park, and Jun-Mo Kim	Hydrogeochemical numerical simulation of impacts of mineralogical compositions on trapping mechanisms and efficiency of carbon dioxide injected into deep saline sandstone aquifers
	Sang-Uk Park, Jimin Lee, Jung-Hwi Kihm, and Jun-Mo Kim	Three-dimensional numerical simulation of fresh water injection and salt water extraction schemes to mitigate seawater intrusion due to urbanization in a coastal aquifer system, Busan, Korea
	Shilpi Saxena and J.P. Shrivastava	Isotopic-Chemical Framework And Pollutant Transport Modeling Of Groundwater Aquifer At Najafgarh Drain Basin Area, Delhi Region, India-An Integrated Scientific Approach
	P. Thouvenot, O. Bildstein, I. Munier, and B. Cochevin	Modelling approaches to atmospheric carbonation of concrete in the context of deep geological Intermediate-Low Level Waste disposal
	David Ching-Fang Shih, Chien-Tai Chen, Cong-Zhang Tong, Shin-Jon Ju, Fu-Lin Chang	Total System Performance Assessment for the Spent Nuclear Fuel Final Disposal in Taiwan
	Jui-Sheng Chen, Chen-Wuing Liu, Chen-Ching-Ping Liang, Keng-Hsing Lai	A Novel Analytical Solution for Coupled Multi-Species Contaminant Transport in Finite Spatial Domain Subject to Arbitrary Time-Dependent Inlet Boundary Condition
	Keng-Hsin Lai, Jui-Sheng Chen, Ching-Ping Liang, Chen-Wuing Liu	An analytical solution for one-dimensional advective-dispersive transport problem in semi-infinite domain with flexible initial condition, inlet boundary condition, and inner source.
	Wen-Jie Wu and Jia-Jyun Dong	Laboratory experiments for assessing porosity and permeability of sedimentary rocks: implication for fluid flow simulation
	Yi-Hsien, Chuen-Fa Ni, Chi-Ping Lin, Wi-Ci Li	Stochastic simulations of CO ₂ geological sequestrations in the Changhua Coastal Industrial Park in central Taiwan
	Ziyong Sun	Analysis of Flow Paths in a Complex Karst Groundwater Flow System Based on Isotopic, Hydrogeochemical Tracer and Temperature Data
	W S Lin, C.W. Liu and M. H. Li	Influences of Hydrogeochemistry on Concrete Degradation in Low-Level Radioactive Waste Disposal Facilities
	Jui-Hsuan Tsao, Wen-Sheng Lin, Hsien-Tsung Lin, Chen-Wuing Liu, Yih-Chi Tan	Simulation of Hydrogeochemical Transport of Low-Level Radioactive Waste Through Engineered Barrier
Wednesday, October 31, 2012		
Issue: Reactive Transport		
09:10-09:50	Carl Steefel	New Directions in Reactive Transport Modeling
09:50-10:30	Ming-Hsu Li	Assessment of Natural Attenuation with Reactive Transport Modeling
10:30-11:00	Break Time	
11:00-11:30	Uli Mayer	Reactive transport modeling of metal release and attenuation in partially water-saturated mine tailings
11:30-12:00	Rui Ma	Uranium Reactive Transport in a Heterogeneous Aquifer at the Hanford Site, USA
12:00-12:30	Lunch Time	Convener: Ming-Hsu Li
Issue: Geomechanics Coupling		
13:30-14:00	Yilin Fang	Coupled Fluid Flow and Stress Analysis for Carbon Sequestration
14:00-14:30	Gour-Tsyh (George) Yeh	A Geo-Mechanic Model for Coupling with Multiphase Flow and Thermal and Reactive Bio-Geo-Chemical Transport
14:30-15:00	Break Time	
15:00-15:30	Kuo-Chin Hsu	Flow-Deformation Interaction in Randomly Heterogeneous Porous Media
15:30-16:00	Wen-Jeng Huang	Strain accumulation across strike-slip faults: Investigation of the influence of laterally varying lithospheric properties
Thursday, November 01, 2012		
Issue: Biological Systems		
09:10-09:40	Steve Yabusaki	Bioremediation of Uranium In Situ Recovery Sites
09:40-10:10	Sevinc Sengor	Simulating bioprecipitation and re-oxidation of uraninite
10:10-10:40	Sergi Molins	Microbially-Mediated Chromium Reduction under Denitrifying Conditions in a Biostimulation Column Experiment
10:40-11:10	Break Time	
11:10-12:00	Next Steps and follow-on workshop	
12:00-13:00	Lunch Time	
Technical Tour of Taiwan: Spent fuel disposal site located at TaiPower		