

12th International Workshop on WATER DYNAMICS
 Fluids in Solid Earth • Deep Carbon Cycle • -Deeper, Hotter and Frontier World-
 Venue: Sakura Hall, ESPASS
 Katahira Campus, Tohoku University
Monday, March 9th, 2015: Sakura Hall

Time	No.	Speaker	Title	Chairman
Opening				
9:00-9:05		Noriyoshi Tsuchiya	WS Framework	N. Tsuchiya
9:05-9:10		Eiji Ohtani	Opening Remarks	
9:10-9:15		Noriaki Watanabe	Safety Information	
9:15-9:25		Hiroshi Asanuma	Introduction of geothermal R&D at FREA, AIST	
Crustal Permeability				
9:30-10:00	O-1	Noriyoshi Tsuchiya	Natural Analogue of Supercritical Geothermal Reservoirs and Transition of Pressure Regimes	A. Okamoto
10:00-10:30	O-2	Steven Ingebritsen	Crustal permeability	
10:30-11:00	O-3	Ikuo Katayama	Fluid pathway in deep subduction zone and its implication to slow earthquakes	
11:00-11:15	Break			
11:15-11:45	O-4	Tohru Watanabe	Seismic velocity and electrical conductivity in a brine-saturated granitic rock under confining pressures	A. Okamoto
11:45-12:15	O-5	Timm John	Dehydrating slabs: mechanisms and rates of fluid release	
12:15-12:51	All Poster Presenters P-1 ~ P-19		Poster Presentation (2min. introduction)	M. Uno
12:51-14:30	Group Photo1, Lunch & Poster Session			
Geothermal Energy				
14:30-15:00	O-6	Masami Nakagawa	Integrated Understanding of Geothermal Resources and Development in South America	N. Tsuchiya
15:00-15:30	O-7	Lambok Hutasoit	Geothermal Resource Development in Indonesia: Current Situation and Future Prospect	
15:30-15:50	Break			
Subduction and Earthquake				
15:50-16:20	O-8	Ai taro Kato	Slow slip transients leading up to the 2011 Tohoku-Oki earthquake	A. Okamoto
16:20-16:50	O-9	Jun Muto	Experimental study on strain localization of lower crustal rocks caused by water	

16:50-17:20	O-10	Stephen H. Kirby	Serpentinite Belts and Mountain Building During Subduction: Serpentinite Ascent during Fluid Release from Mantle Forearcs?
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Tuesday, March 10th, 2015: Sakura Hall

Time	No.	Speaker	Title	Chairman
Deep carbon and deep water: Experimental and geological approaches				
09:00-09:30	O-11	Eiji Ohtani	Stability of hydrous minerals in slabs descending into the lower mantle	S. Kamada
09:30-10:00	O-12	Konstantin Litasov	High-temperature polymorphism in the CaCO ₃ revealed from in situ X-ray diffraction study at pressures to 30 GPa	
10:00-10:30	O-13	Sujoy Ghosh	Melting of phase D at lower mantle	
Tectonics and subduction process				
10:30-11:00	O-14	Jin Zhenmin	Metamorphic evolution of carbonates from Dabieshan ultra-high-pressure belt: implications for the global carbon cycling	M. Uno
11:00-11:30	O-15	Ivan Koulakov	Structure and dynamics of active volcanoes based on seismic tomography studies	
11:30-11:45	Break			
11:45-12:15	O-16	Zhao Dapeng	Seismic tomography and anisotropy of the Western-Pacific subduction zones	A. Okamoto
12:15-12:45	O-17	Kiyotoshi Sakaguchi	Change the crustal stress field in the Kamaishi region before and after the 2011 Tohoku-oki earthquake	
12:45-14:00	Group Photo², Lunch			
Water-Rock Interaction				
14:00-14:30	O-18	Noriaki Watanabe	Temperature and Stress Dependencies in Permeability of Fractured Granite	N. Tsuchiya
14:30-15:00	O-19	Norihiro Watanabe	Numerical simulation of fracture permeability evolution due to reactive transport and pressure solution processes	
15:00-15:30	O-20	Keika Horiguchi	Distribution and upwelling process of mantle helium in northeast Japan	
15:30-16:00	O-21	Masaoki Uno	The amount and mechanisms of water supply during intrusion of granitic dyke into the arc crust: example from Sor Rondane Mountains, East Antarctica	
16:00-16:10	Break			
16:50-17:20	O-22	Hanae Saishu	Depth variation of silica solubility for the geothermal fields based on the deep drilling	N. Watanabe
17:20-17:50	O-23	Atsushi Okamoto	Fracture sealing induced by mineral dissolution and precipitation and dynamic change in permeability	

Monday, March 9th, 2015: Espass

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Carbon and hydrogen in Planetary processes

14:30-15:00	O-24	Ye Yu	Thermo-elasticity and Equations of State for OH-chondrodite and OH-clinohumite: implications for water in the upper mantle	S. Kamada
15:00-15:30	O-25	Masaaki Miyahara	Shock metamorphism in CB type carbonaceous chondrite	
15:30-15:50	Break			

Carbon and hydrogen in Planetary processes

15:50-16:20	O-26	Alexander Eliseev	Geology and impact diamonds of the Popigai astrobleme	S. Kamada
16:20-16:50	O-27	Arnold Gucsik	Deep carbon: Martian surface process	
16:50-17:20	O-28	Suguru Takahashi	Sound velocity of Fe ₃ C at high pressure and high temperature: Implications for the density and sound velocity profiles of the Earth's inner core	
18:30			Workshop Banquet	

Tuesday, March 10th, 2015: Espass

Time	No.	Speaker	Title	Chairman
			Environmental Geology	
09:00-09:30	O-29	Noriyoshi Tsuchiya	GENIUS (Geosphere Environmental Informatic Universal System) and its application for environmental assessment of mining	T. Kuwatani
09:30-10:00	O-30	Catherine Chague-Goff	Distinguishing between tsunami and flood deposits on the Sendai Plain using ITRAX	
10:00-10:30	O-31	Takahiro Watanabe	Geochronology and geochemistry of tsunami deposits in Tohoku, northeastern Japan	
10:30-11:00	O-32	Alexey Stepanov	Prospects of using bacto-humic substances for environmental remediation in the areas of non-ferrous metals mining	N. Tsuchiya
11:00-11:15	O-33	Olga Yakimenko	Humic substances in environmental technologies	
11:15-11:45			Break	
11:45-12:15	O-34	Mohd Fadhil Md Din	Cellulolytic Natural Components as a Simplified River Water Cleansing and Rehabilitation	C. Inoue
12:15-12:45	O-35	Takeshi Komai	Medical Geology, Groundwater Pollution in Nepal	
12:45-14:00			Lunch	
14:00-14:30	O-36	Tatsu Kuwatani	Data-driven analyses in earth and environmental sciences	T. Komai
14:30-15:00	O-37	Shreeshivadasan Chelliapan	Treatment of Textile Wastewater Using Novel Electrocoagulation Process – Rotated Anode System	
15:00-15:30	O-38	Mei-Fang Chien	Little helpers which assist in efficient arsenic phytoextraction by <i>Pteris vittata</i>	

Wednesday and Thursday, 11th-12th March, 2015

[Excursion : Tsunami Stricken Area](#)

Poster Session (From 9 to 10 March)

No.	Presenter	Title
P-1	Michimasa Musha	Abiotic formation of methane via sulfur oxidation under hydrothermal condition
P-2	Takuma Kikuchi	Two-phase flow relative permeability curves for a fractured granite
P-3	Norihiro Hosoda	Geochemical analysis for discrimination of the historical tsunami deposits in Tohoku district, northeastern Japan
P-4	Masaaki Kido	Calibration law for stress measurements of Griggs-type solid medium deformation apparatus
P-5	Taku Suzuki	Calibration law for stress measurements of Griggs-type solid medium deformation apparatus
P-6	Satoshi Aoshima	Experimental study of rock failure by phase change of mineral and fluid
P-7	Fumiya Maeda	The formation of super-deep diamonds in the subducting MgCO ₃ -SiO ₂ system into the lower mantle
P-8	Nobuo Matsushima	Magmatic hydrothermal system at Satsuma-Iojima volcano, inferred from thermal and electromagnetic observations
P-9	Nanami Suzuki	Structural and Magnetic transition in Fe-Si alloys at High pressure and temperature
P-10	Takuya Kosaka	Hydrogen production from waste aluminum-hot spring water reaction
P-11		CANCELLED
P-12	Orsolya Szedlacsek	Sulfate reducing bacteria communities in various volcanic soils from Miyagi, Japan
P-13	Kengo Nakamura	Development of discriminate prediction model adjusted dissolution characteristic of tsunami deposits and soils
P-14	Ryosuke Ooyanagi	Metasomatic Processes on Crust-Mantle boundary Deduced from Hydrothermal Experiments.
P-15	Satoru Ishikawa	Infrared spectroscopic measurements of structured water on quartz and its evaluation by molecular dynamics simulation
P-16	Arie Pujiwati	Soil Performance Evaluation of Metal Elements Contamination in South Kalimantan Coal Mining Area
P-17	Ivan Bazhan	First investigation of high-pressure polymorphs in Pervomayskiy meteorite
P-18	Yuan Liang	Water contents in peridotites from different tectonic settings and lateral variation in the upper mantle
P-19	Ge Cui	Analysis of 1,2-dichlorobenzene degrading consortium