

## 11th International Workshop on WATER DYNAMICS

Wednesday, March 12th, 2014

### Sakura Hall

Time	Speaker	Title	Chairperson
9:15-9:20	Eiji Ohtani	Opening Remarks	N. Tsuchiya
9:20-9:25	Noriaki Watanabe	Safety Information	

### Vein Formation

9:30-10:00	O-1	Noriyoshi Tsuchiya	Supercritical Geothermal Reservoir	A. Okamoto
10:00-10:30	O-2	Stephen Cox	Dynamic coupling between slip processes, fluid flow and vein formation in high fluid flux faulting regimes	
10:30-10:45			BREAK	
10:45-11:15	O-3	Tetsuo Kawakami	Syn-metamorphic boron-bearing aqueous fluid and chloride brine activities in continental collision zones	N. Tsuchiya
11:15-11:45	O-4	Flank Wendler	Phase-field modeling of mineral precipitation in veins	

### Mineral Surface and Dissolution

11:45-12:15	O-5	Hiroshi Sakuma	Electrical Conductivity of Aqueous NaCl Fluids at High Pressures and Temperatures	N. Tsuchiya
12:15-12:45	O-6	Tadashi Yokoyama	Characterization of the distributions of water and air in rock pores and its application to the understanding of water-rock interaction in the surface environment	
12:45-13:20			poster presentation (2min introduction)	
13:20-15:15			Lunch & Poster Session at Sakura Hall	

### Water-Rock Interaction and Transport Phenomena I

15:15-15:45	O-7	Hanae Saishu	Silica precipitation and the permeable-impermeable boundary of the Earth's crust	N. Tsuchiya
15:45-16:15	O-8	Yasuaki Ichikawa	Seepage and Heat Generation in Clay in Subduction Zone: Nano-micro-macro Analysis	
16:15-16:45	O-9	Roland Hellmann	The importance of nm-scale investigations of fluid-solid interfaces: case studies of chemical weathering of minerals and corrosion of nuclear glasses	
16:45-17:00	Break			
17:00-17:30	O-10	Fumiko Higashino	Multi-stage brine activity in the granulite terrane- New findings from the mafic gneisses from the Sør Rondane Mountains, East Antarctica	N. Watanabe
17:30-18:00	O-11	Masaoki Uno	Extensive mass transfer during fluid flow at subduction zone: Evidence from Sanbagawa metamorphic belt	
18:30			<b>Workshop Banquet Espace</b>	

Thursday, March 13th, 2014

### Sakura Hall

Time		Speaker	Title	Chairperson
<b>Drilling and Monitoring</b>				
9:00-9:30	O-12	Flavio Poletto	Modeling of seismic wave propagation in the brittle-ductile transition (BDT)	H. Asanuma
09:30-10:00	O-13	Shigemi Naganawa	Critical Issues in Drilling JBBP Wells and HP/HT Technology Update	
10:00-10:30	O-14	Hisao Ito	State of fluid by geophysical methods for the geothermal field characterization	
10:30-11:00	O-15	José Carcione	A crust-mantle rheology describing partial melt, seismic anisotropy, attenuation and the brittle-ductile transition	
11:00-11:20	Break			
<b>Water-Rock Interaction and Transport Phenomena II</b>				
11:20-11:50	O-16	Frieder Klein	Thermal Controls on Magnetite Formation During Serpentinization	N. Tsuchiya
11:50-12:20	O-17	Atsushi Okamoto	Coupling of mass transport and serpentinization reactions	
12:20-13:30			Lunch at Espace	
13:30-14:00			Poster Session at Espace	
<b>Water-Rock Interaction and Transport Phenomena III</b>				
14:00-14:30	O-18	Chen Zhu	Recent advances in dissolution-precipitation reaction kinetics	M. Uno
14:30-15:00	O-19	Masami Nakagawa	Geothermal Resources Development in Andean Countries: Peru and Bolivia	
15:00-15:30	O-20	Noriaki Watanabe	Overview of Fluid Flow through Rock Fracture	
15:30-16:00	O-21	Takuya Ishibashi	Precise modeling of three dimensional flow paths within fractured reservoirs by GeoFlow	
16:00-16:15			Break	
<b>Deep Carbon Cycle</b>				
16:15-16:45	O-22	Eiji Ohtani	Volatiles in the deep interior of the Earth and Mars	S. Kamada
16:45-17:05	O-23	Izumi Mashino	Elasticity of $\delta$ -AlOOH under high pressure: Implications for positive $V_s$ anomaly at 600 km depth	
17:05-17:45	O-24	Razvan Caracas	Carbonatitic melts and glasses at high pressure	

**Friday, 14th March, 2014**

**Sakura Hall**

Time		Speaker	Title	Chairperson
<b>Deep Carbon Cycle</b>				
09:30-10:10	O-25	Yuri Palyanov	Redox interactions in the mantle and mechanisms of diamond formation	S. Kamada
10:10-10:40	O-26	Masaaki Miyahara	Diamond in Almahata Sitta ureilite	

10:40-11:10	O-27	Vincenzo Stagno	Carbon speciation in the Earth's interior	
11:10-11:20			Break	
11:20-11:50	O-28	Kyusei Tsuno	Deep subduction of carbon and water constrained from high-pressure melting experiments of pelitic sediments	S. Kamada
11:50-12:20	O-29	Kenji Mibe	Second critical endpoints in the hydrous Earth's interior	
12:20-13:30			Lunch	

#### Thursday, March 13th, 2014

#### Espace

Time		Speaker	Title	Chairperson
9:00-9:30		Chihiro Inoue	Opening remark, Japanese status	K. Suto
09:30-10:00	O-30	Ming Zhang	Green and Sustainable Remediation of Contaminated Sites	
10:00-10:30	O-31	Qamar ul Islam	Water Dynamics on GIS Bases in the Diversified Regions of Pakistan: 21st Century Vision	
10:30-11:00	O-32	Noorul Hassan	Performance efficiency of scavenger wells in Lower Indus Basin of Pakistan for controlling groundwater pollution	
11:00-11:20			Break	
11:20-11:50	O-33	Chiharu Tokoro	The role of surface complexation at the hydroxide/water interface in AMD treatment	K. Suto
11:50-12:20	O-34	Takeshi Komai	Medical geology: groundwater pollution and health effects in Asian countries	
12:20-13:30			Lunch at Espace	
13:30-14:00			Poster Session at Espace	
14:00-14:30	O-35	Kazuki Sugawara	Field Trial of Phytoremediation in Arsenic and Cadmium Contaminated Site in Japan.	T. Shiratori
14:30-15:00	O-36	Tanapon Phenrat	Restoration of Cadmium-contaminated Paddy Soil by Ex-situ Magnetic-Assisted Soil Washing: Proof of Concept	
15:00-15:30	O-37	Shazwin binti Mat Taib	Assessment of Groundwater Quality in the Vicinity of the Seelong Sanitary Landfill, Johor, Malaysia	
15:30-16:00	O-38	Gad Mohamed Elqady	Groundwater: demands, environmental impacts and rules of geophysics	

#### Tsunami Deposit

16:15-16:45	O-39	Takahiro Watanabe	Inorganic geochemistry and <sup>14</sup> C age dating of past tsunami deposits from Tohoku area, northeast Japan	N. Tsuchiya
16:45-17:15	O-40	Tastu Kuwatani	Machine learning techniques for geochemical discrimination of 2011 Tohoku tsunami deposits	
17:15-17:45	O-41	Catherine Chague-Goff	Environmental impact of tsunami inundation on the Sendai Plain	

#### Poster session

**Wednesday, March 12th – Friday, March 14th, 2014**

**Sakura Hall**

P-1	Takayuki Nakatani	Experimental constraints on the serpentinization rate under the antigorite-stable P-T condition
P-2	Ryosuke Oyanagi	Si-metasomatism and porosity changes of serpentinization in O1-Qtz system
P-3	Yoshihiro Nakamura	Graphite-bearing pseudotachylytes in metasediment; Implication for CO <sub>2</sub> degassing by oxidation of graphite
P-4	Yumiko Tsubokawa	Prograde garnet zoning from Meffjell, Sør Rondane Mountains, East Antarctica
P-5	Chiaki Ikawa	Morphological change of zircon under high temperature metamorphism -A case study from the Kiso district in the low P/T Ryoke metamorphic belt-
P-6	Michimasa Musha	The derivation of the CO <sub>2</sub> fluids in the Shimanto belt on Muroto Peninsula, SW Japan: regional and single-vein scale distribution of C-H-O fluids
P-7	Kenshiro Kimura	Elucidation of formation mechanism of hydroxyapatite crystals in hydrogel
P-8	Satoru Ishikawa	Measurement of structured water on quartz interface by Raman-FTIR spectroscopy and its evaluation by molecular dynamics
P-9	Ryo Yamada	Porosity structures in a fracture during quartz veins revealed by micro X-ray CT
P-10	Fumiya Maeda	The stable phase in the MgCO <sub>3</sub> -SiO <sub>2</sub> system under the lower mantle conditions and formation of ultra-deep diamonds
P-11	Yohei Amaike	Stability field of phase H MgSiO <sub>2</sub> (OH) <sub>2</sub> at lower mantle condition
P-12	Ivan Bazhan	Detailed mineralogical study of the chondrite meteorites Kunashak, Novosibirsk, and Markovka
P-13	Orsolya Szedlacsek	Comparison of Bacterial diversities and sulfate-reducing activities in volcanic soils from Miyagi Prefecture, Japan
P-14	Kazuki Sugawara	Comparison with Effect of Temperature and Soil Condition to Arsenic Accumulation by <i>Pteris vittata</i>
P-15	Takahiro Watanabe	Geochemical characteristics of natural water from the Okama crater lake and Kamoshika hot springs in Zao volcano area, Japan
P-16	Fumiko Nara	Geochemical analysis (TN, TOC, TS and d34S) of 2011 Tohoku-Oki Tsunami sediments