Public Customized Training Course on
'The chain of processes forming porphyry-type and epithermal ore deposits'

(Venue : Ara room)

Date/Time	Program Description	Remarks
8.17 (Mon) 09:50-10:00	**Registration and orientation**	**IS-Geo**
8.17 (Mon)	**Magmatic-hydrothermal resources — significance and geology**	
10:00-11:00	Definitions and significance	Christoph A. Heinrich (ETH Zurich, Switzerland)
11:10-12:10	Exercise with ore samples: primary rocks vs. alteration	
12:10-13:30	*Lunch*	
13:30-14:30	Geology of porphyry Cu-Mo-Au: magmatic rocks	
14:40-15:40	Exercise with ore samples	
15:50-16:50	Geology of porphyry Cu-Mo-Au: hydrothermal alteration and ores	
17:00-18:00	Summary geology of Bingham Canyon deposit	
8.18 (Tue)	**Lithosphere-scale processes**	
10:00-11:00	Mineral provinces	Christoph A. Heinrich (ETH Zurich, Switzerland)
11:10-12:10	Plate-scale processes	
12:10-13:30	*Lunch*	
13:30-14:30	Rock geochemistry: recognising fertile magmas	
14:40-15:40	Magma ascent and making a productive magma chamber	
15:50-16:50	Exercise about magma ascent	
17:00-18:00	Fluid exsolution and melt/fluid partitioning	
8.19 (Wed)	**Subsolidus fluid evolution**	
10:00-11:00	Alumbrera and Farallon Negro Volcanic complex: Case study	Christoph A. Heinrich (ETH Zurich, Switzerland)
11:10-12:10	The role of magmatic sulfides in generation good ore fluids	
12:10-13:30	*Lunch*	
13:30-14:30	Fluid inclusions – principles and investigation tool	
14:40-15:40	Fluid inclusions – exercise with microscope	
15:50-16:50	The NaCl – H_2O phase diagram	
17:00-18:00	Phase separation and P-T estimation from simple inclusion petropgraphy	
8.20 (Thu)	**Alteration and ore metal precipitation**	
10:00-11:00	Hydrothermal alteration: cation exchange between fluid and rock	Christoph A. Heinrich (ETH Zurich, Switzerland)
11:10-12:10	Alteration types in porphyry deposits: microscopic observations	
12:10-13:30	*Lunch*	
13:30-14:30	Cu-Au precipitation in porphyry deposits	
14:40-15:40	Epithermal deposits: Adularia-Sericite vs Kaolinite-Alunite types	
15:50-16:50	Process integration of porphyry – epithermal systems: fluid density is key	
17:00-18:00	Conclusion and questioning	

※ The working language is English