

SCHEDULE – MSA SHORT COURSE ON *High Temperature Gas-solid Reactions in Earth & Planetary Processes*

Location: 10 Buick St, 18th floor, Boston University

Friday AUG 10

5.00 – 7.00pm Registration and Opening Reception

Saturday AUG 11

8.00am	Registration and Coffee	
9.00 – 10.00am	Penelope King , Australian National University, Canberra, Australia	Types of gas-solid reactions in nature: theory, experiments and case studies
10.00am	Morning tea	
10.30 – 11.30pm	Lindsey Yue , Australian National University, Canberra, Australia	High-temperature gas-solid heterogenous reactions in industrial processes
11.30 – 12.30pm	Kono Lemke , University of Hong Kong, China	Solute molecular chemistry in aqueous fluids having gas-like densities with applications to volcanic and hydrothermal systems
12.30pm	Lunch	
1.30 – 2.30pm	Pierre Delmelle , Université catholique de Louvain, Belgium	High temperature reactions between gas and ash particles in eruption plumes
2.30 – 3.30pm	Christian Renggli , Muenster, Germany	SO ₂ gas reactions with silicate glasses
3.30pm	Afternoon tea	
4.00pm – 5.00pm	James Kubicki , University of Texas El Paso, TX, USA	Reaction mechanisms and solid-gas phase reactions: Theory and Density Functional Theory simulations

Sunday AUG 12

8.30am	Coffee	
9.00 – 10.00am	Paolo Sossi , Inst Physique du Globe du Paris, France	Gas-condensed phase interactions in planetary science: Thermodynamics and applications
10.00 – 10.30am	Zachary Sharp , Univ New Mexico, USA	Nebular ingassing as a source of H ₂ O and He to Earth
10.30am	Morning tea	
10.50 – 11.50am	Hiroko Nagahara , Tokyo Institute of Technology, Japan	Kinetics of gas-solid reactions in the Solar System and beyond
11.50 – 12.35pm	Kim Dalby , University of Copenhagen, Denmark	Analytical techniques for probing small-scale layers that preserve information on gas-solid reactions
12.35pm	Lunch	
1.30 – 1.50pm	Richard Hervig , Arizona State University	Successful depth profiling by SIMS: a list of key parameters
1.50 – 2.50pm	Terrence P. Mernagh , Australian National University, Canberra, Australia	Vibrational spectroscopic techniques for analysing the products of gas-solid reactions
2.50 – 3.40pm	Andrew Palm , Australian National University, Canberra, Australia	Unravelling the consequences of SO ₂ - basalt reactions for geochemical fractionation and mineral formation
3.40pm	Afternoon tea	
4.00 – 4.45pm	Kim Dalby , University of Copenhagen, Denmark	Hands on exercise: Choose your analytical technique
4.45 – 5.00pm	Penelope King , Australian National University, Canberra, Australia	Summary