

HAYABUSA2014: Symposium of Solar System Materials

Venue: ISAS Conference Hall
Date: 4–5 December 2014

DAY-1

09:00 – 18:00 **Registration**

Dec 4, Thu, Morning

Chairs: Masaki Fujimoto, Harold C. Connolly Jr.

Opening

09:30 – 09:35 Logistics from LOC, Greetings Tatsuaki Okada
09:35 – 09:45 Brief introduction of this symposium: Purposes and Goals Masaki Fujimoto

Planetary Missions

09:45 – 10:00 Current status of JAXA's Extraterrestrial Sample Curation Center Masanao Abe
10:00 – 10:15 Development of Hayabusa2 sampler: Current status Shogo Tachibana
10:15 – 10:30 OSIRIS-REx Mission Sample Science: Analysis of Asteroid Bennu Regolith Harold C. Connolly Jr.

10:30 – 10:45 *Coffee Break*

10:45 – 11:00 First results by ESA's Rosetta mission on comet 67P/Churyumov-Gerasimenko Maria A. Barucci
11:00 – 11:15 Numerical Simulations of Granular Processes on Asteroid Surfaces: a Tool to Interpret Imaged Asteroid Surfaces and to Help in the Design of Asteroid Space Missions Patrick Michel (Invited)
11:15 – 11:30 Human Exploration of Near-Earth Asteroids and Sample Collection Considerations Paul A. Abell
11:30 – 11:45 Spectral Variation on Asteroid Itokawa Suggesting Regional Resurfacing Sumire C. Koga
11:45 – 12:00 Miniature Lightweight X-ray Optics (MiXO) for Surface Elemental Composition Mapping Jaesub Hong

12:00 – 13:00 *Lunch*
(12:00–13:00 AO PI – Curator Lunch Meeting)

13:00 – 14:30 **Poster Viewing**

Dec 4, Thu, Afternoon

Chairs: Hideaki Miyamoto, Henner Busemann

Chronology

14:30 – 14:45 Collisional history of asteroid Itokawa recovered from EBSD and $40\text{Ar}/39\text{Ar}$ analyses of two particles Fred Jourdan
14:45 – 15:00 Asteroid 25413 Itokawa chronology by Ar Analyses Jisun Park (AO2)
15:00 – 15:15 Development of in-situ U–Pb dating of Itokawa particles Kentaro Terada (AO2)
15:15 – 15:30 Studies of Itokawa's surface exposure by measurements of cosmic-ray produced Kunihiko Nishiizumi (AO2)

15:30 – 15:45 *Coffee Break*

15:45 – 16:00 The Cosmic Ray Exposure Age Probability Density Distribution of Hayabusa Grains Matthias M.M. Meier
16:00 – 16:15 Asteroid Itokawa's history studied by correlated spectroscopy, X-ray tomography and noble gas mass spectrometry Henner Busemann (AO2)
16:15 – 16:30 Lithium and Boron Isotopic Ratios of Olivine Grains from the Itokawa Asteroid Wataru Fujiya (AO2)
16:30 – 16:45 A Combined Mineralogical and Noble Gas Study of Four Itokawas Particles: A progress Report Takaaki Noguchi (AO2)

Spectroscopy

16:45 – 17:00 Visible and Near-Infrared Spectral Survey of NIPR Meteorite Chip Samples Takahiro Hiroi (Invited)
17:00 – 17:15 Spectroscopic Measurements on Asteroid Analogues at the Planetary Emissivity Laboratory (PEL) Sabrina Ferrari
17:15 – 17:30 Surface Material Investigations by Ground Based Observations and/or Spacecraft Data Thomas H. Burbine (Invited)

17:30 – 18:00 **Discussions for Day-1** Chairs: Masanao Abe

18:30 – 20:30 **Reception Party (at ISAS Cafeteria)**

20:30 *End of Day-1*

DAY-2

Dec 5, Fri, Morning

Chairs: Takahiro Hiroi, Thomas H. Burbine

Space weathering and Regolith

09:00 – 09:15	Space Weathering effects and the case of (16173) 1999JU3	Maria A. Barucci
09:15 – 09:30	Space-weathering Features on Two Hayabusa Particles Images by Helium Ion Microscopy	Elena Dobrica (Ryan C. Oglione, AO2)
09:30 – 09:45	A Combined Cathodoluminescence and Micro-Raman Study of Plagioclase from Asteroid Itokawa: An Implication for Study of Space Weathering Processes	Arnold Gucsik (AO2)
09:45 – 10:00	Can We Distinguish Between Shock-Darkened and Space-Weathered Asteroids?	Tomas Kohout
10:00 – 10:15	Depth Profiling Analysis of Solar Wind Helium Implanted in a NASA GENESIS Sample and Implications to JAXA HAYABUSA Samples	Hisayoshi Yurimoto (AO2)
10:15 – 10:30	<i>Coffee Break</i>	
10:30 – 10:45	Solar Ion Processing of Itokawa Grains: Reconciling Model Predictions with Sample Observations	Roy Christoffersen
10:45 – 11:00	Insights into Regolith Dynamics from the Irradiation Record Preserved in Hayabusa Samples	Lindsay Keller
11:00 – 11:15	Influence of the Solar Wind Proton in Minerals Contained C-type Asteroids	Yusuke Nakauchi
11:15 – 11:30	Surface morphologies and their origins of Itokawa regolith particles	Akira Tsuchiyama (AO2)
11:30 – 11:45	Distribution of space weathered rim on Itokawa regolith particles and implication to space weathering of Asteroid Itokawa	Toru Matsumoto
11:45 – 12:00	Three Dimensional Structures of Aggregate-type Itokawa Particles Analyzed by Two Energy Synchrotron Computed Tomography	Toru Yada
12:15 – 13:15	<i>Lunch</i>	

Dec 5, Fri, Afternoon

Chairs: Daniel J. Scheeres, Hideyasu Kojima

Described for Meteorite and Hayabusa Samples

13:15 – 13:30	Precise Determination of Ca Isotopic Compositions in Bulk Meteorites by Thermo Ionization Mass Spectrometry (TIMS)	Hsin-Wei Chen
13:30 – 13:45	Abundant amorphous silicates in primitive chondrites: Implications for asteroid Bennu	Devin L. Schrader
13:45 – 14:00	Inhomogeneity of the Pultusk H Chondrite Regolith Breccia as a Record of Dynamic Evolution of Parent Body	Agata Krzesinska (travel grant)
14:00 – 14:15	Magnetite as Possible Template for the Synthesis of Chiral Organics in Carbonaceous Chondrites	Queenie H. S. Chan
14:15 – 14:30	Mineralogical, isotopic, and structural changes of organic materials in experimentally heated Murchison	Aiko Nakato
14:30 – 14:45	H, C and N isotopic compositions of NaCl bearing organic sample in Hayabusa category	Motoo Ito
14:45 – 15:00	X-ray absorption spectroscopic study of carbonaceous materials from Hayabusa-returned samples	Hikaru Yabuta
15:00 – 15:30	<i>Coffee Break</i>	
15:30 – 15:45	Mineralogy of Itokawa Dust Particles with Possible Shock-Induced Melting	Tomoki Nakamura (AO2)
15:45 – 16:00	Petrography and TEM study of two Itokawa particles	Mutsumi Komatsu (AO2)
16:00 – 16:15	Consortium study of the largest Itokawa particle	Masayuki Uesugi
16:15 – 16:30	Probing Meteorite Matrix using Non-Destructive Techniques	Epifanio Vaccaro (travel grant)
	Dynamics of asteroids	
16:30 – 16:45	The Strength of Rubble Pile Asteroids	Daniel J. Scheeres (Invited)
16:45 – 17:00	Crater efficiency on an asteroid surface covered with a block layer	Eri Tatsumi
17:00– 18:00	Summary and Wrap-Up of this symposium	Masanao Abe
	Adjourn	
18:00–19:00	<i>Tour of Curation Center and Sagamihara Campus</i>	Guided by Toru Yada, Tatsuaki Okada

POSTERS

P01	Breaking asteroid produces big fragments and huge gas-dust cloud – a possible environment for mechanical gravitational separation of primordial mineral grains by density	Gennady G. Kochemasov
P02	Impact melt on asteroids: New insights from one-dimensional simulations	Stephanie N. Quintana (travel grant)
P03	Abiotic formation of amorphous carbonaceous particles by a HMX (cyclotetramethylenetetranitramine) explosion experiment: implication from organic matter and the quench effect	Yoshinori Takano
P04	TEM observation of carbonaceous particles in Hayabusa-returned samples	Masayuki Uesugi
P05	Policy and rules for JAXA Extraterrestrial Curation Center Activity	Tatsuaki Okada
P06	Evaluation of Contamination Control in Hayabusa Mission Based on Initial Description	Toru Yada
P07	Recent Activities on the Curation of Antarctic Meteorites in National Institute of Polar Research	Naoya Imae
P08	The contamination control for Hayabusa-returned sample in Extraterrestrial Sample Curation Center of JAXA	Yuzuru Karouji
P09	Comparison of the mineral ratios of Itokawa particles recovered from sample catcher room A and B based on additional data	Kazuya Kumagai
P10	Progresses of consortium studies for Hayabusa returned samples: troilite and phosphate-bearing particles	Yuzuru Karouji
P11	Shock state of Itokawa regolith grains	Michael Zolensky
P12	Combined Chemical/Elemental Analysis and Charging Properties Measurements of	Fabrice Cipriani (AO2)
P13	Raman spectroscopical investigations on returned particles from the asteroid Itokawa	Viktor H. Hoffmann
P14	Almahata Sitta meteorite fall – the view of magnetism	Viktor H. Hoffmann
P15	Databases of Meteorite Bulk Compositions and Their Cluster Analyses	Hideaki Miyamoto
P16	Developing in-situ micro-XRD of hydrated meteorites and their components	Ashley J. King
P17	FIGIFIGO as a tool to characterize and identify planetary analogue sites	Maria Gritsevich
P18	Laboratory Simulation of the Effect of FeS on Space Weathering	Mizuki Okazaki
P19	Photometry of Silicate-Organics Mixtures as C-type Asteroid Surface Analogs	Ayaka Fujiwara
P20	Carbon-bearing textures for terrestrial age data of the collected meteorites	Yasunori Miura
P21	Various carbon-bearing grains and textures of the Chelyabinsk and Nio meteorites	Yasunori Miura

