# Hayabusa 2022 Symposium

## 14-16 Nov 2022, at 2F Conference Hall, ISAS/JAXA, Sagamihara, Japan + Online via Zoom Meeting

## **Oral Sessions**

(15 min talk + 5 min discussion for invited, 12 min talk + 3 min discussion for contributed talks )

## DAY-1 (Nov 14) AM

9:30 -			Registration Desk open (Coffee open)	
			Chairs: T. Okada	
	10:20 - 10:30	S11-01	Opening and Logistics	

10:20 - 10:30	S11-01	Opening and Logistics		Tatsuaki Okada, Tomohiro Usui	
10:30 - 10:50	S11-02	Update of the initial descriptions and distributions of individual Ryugu samples and preparation for curation of OSIRIS-REx returned samples		Toru Yada	On_site
10:50 - 11:10	S11-03	The Direct Asteroid Redirection Test (DART) - Preliminary Findings	Invited	Olivier Barnouin	<b>Online</b>
11:10 - 11:25	S11-04	Radiolytic solar wind water in rims on an Itokawa regolith grain		John P. Bradley	<b>Online</b>
11:25 - 11:40	S11-05	Importance of Material Properties on the Thermal Evolution Models of Parent Bodies		Jonas Hallstrom	<b>Online</b>
11:40 - 11:55	I S11-06	Molecular descriptors for dictating the aqueous-alteration-induced organic decomposition in carbonaceous chondrites and return sample from Ryugu asteroid		Yamei Li	Online
11:55 - 12:10	S11-07	The reproduction experiment of radial pyroxene chondrules using aerodynamic levitator furnace in a reduced condition		Tomoyo Clera Morita	On_site
12:10 - 12:20	S11-08	< Discussion >			

#### << Long Lunch Break >>

13:30 - 14:00 <<<< JAXA Sagamihara Campus Emergency Training >>>>

## DAY-1 (Nov 14) PM

14:00 -	Registration Desk Re-open (Coffee open)

		Chairs: T. Usui			
14:30 - 14:50	S12-01	Curation Challenges Associated with the Apollo Next Generation Sample Analysis Program	Invited	Ryan Andrew Zeigler	On_site
14:50 - 15:10	S12-02	Sample Return and Preliminary Examination Processes for the OSIRIS-REx Mission	Invited	Anjani Thim Polit	On_site
15:10 - 15:30	S12-03	Coordinated Thermal and Physical Analysis of OSIRIS-REx Samples of Asteroid Bennu	Invited	Andrew J Ryan	On_site
15:30 - 15:45	S12-04	Contamination monitoring of the OSIRIS-REx ISO5 asteroid sample cleanroom		Kevin Righter	On_site
	S12-05	<< Coffee Break >>			
16:15 - 16:30	S12-06	A study of the curation protocol by sample analysis working team (SAWT) in Martian Moons eXploration (MMX) project		Ryota Fukai	On_site
16:30 - 16:45	S12-07	Bridging the gap - linking remote sensing, in-situ and laboratory spectroscopy		Alessandro Maturilli	<b>Online</b>
16:45 - 17:00	S12-08	An infrared look at Ryugu returned samples in the meteorite/asteroid perspective		Rosario Brunetto	<b>Online</b>
17:00 - 17:15	S12-09	P-rich compounds within the Ryugu sample collection: a perspective from joint MicrOmega/Curation, the OU and Phase2 Kochi curation activities		Cedric Pilorget	Online
17:15 - 17:35	S12-10	Overviews of the Hayabusa2 mission and its integrated science	Invited	Sei-ichiro Watanabe	<b>Online</b>
17:35 - 17:45		<discussion></discussion>			
17:45 - 20:00	Poster	Poster Session (2 min flash talks at the beginning of the session, only by applicants )	]		

# DAY-2 (Nov 15)AM

9:00 -		Registration Desk open			
		Charis: S. Tachibana			
9:30 - 9:50	S21-01	MMX samples curation in Europe	Invited	Enrica Bonato	On_site
9:50 - 10:05	S21-02	Can SIMS measurements constrain the D/H ratio of water on Ryugu?		Larry Nittler	Online
10:05 - 10:20	S21-03	Pentlandite: A Compositional Indicator of Oxygen Fugacity for Chondrites		Devin Lee Schrader	<b>Online</b>
10:20 - 10:35	S21-04	1H and 13C Solid state Nuclear Magnetic Resonance (NMR) spectroscopy of an HCI extracted Ryugu C0002 particle		George D Cody	<b>Online</b>
		<< Coffee Break >>		•	
11:05 - 11:20	S21-05	Oxygen isotope analyses of magnetite in Ryugu		Noriko T. Kita	Online
11:20 - 11:35	S21-06	Magnetite and non-magnetite framboids in Ryugu sample		Yuki Kimura	On_site
11:35 - 11:50	S21-07	Nitrization of magnetite on the surface of C-type asteroid Ryugu.		Toru Matsumoto	Online
11:50 - 12:05	S21-08	Neutron Capture 36Cl in Ryugu Samples		Kunihiko Nishiizumi	On_site
12:05 - 12:15		<discussion></discussion>			
10.15 10.00					•
12:15 - 12:20		<< Group Photo (1)>>			
		<< Lunch >>			
13:00 - 13:20		<< Curation Facility Tour (1) >>			

# DAY-2 (Nov 15) PM

#### Chairs: R. Kanemaru, R. Fukai, T. Okada

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13:30 - 13:45	S22-01	Lithological variation of asteroid Ryugu samples returned by the Hayabusa2 spacecraft: Assessment from the 18 particles distributed to the initial analysis "Stone" team		Takashi Mikouchi	On_site
		distributed to the initial analysis Stone team			
13:45 - 14:00	S22-02	Non-destructive analysis of C-type asteroid Ryugu using negative Muon: Determination of bulk chemistry of Ryugu samples		Kentaro Terada	On_site
14:00 - 14:15	S22-03	Chondrule-like objects and CAIs in asteroid Ryugu: Earlier generations of chondrules		Daisuke Nakashima	On_site
14:15 - 14:30	S22-04	GEMS-like material from asteroid Ryugu regolith		Hope A. Ishii	<b>Online</b>
		<< Coffee Break >>			
15:00 - 15:15	S22-05	Zinc, copper and calcium isotopic composition of Ryugu's samples		Frederic Moynier	On_site
15:15 - 15:30	S22-06	Molybdenum and Osmium isotopic compositions of Ryugu sample		Nao Nakanishi	On_site
15:30 - 15:45	S22-07	Ryugu's volatiles investigated using stepped combustion and EGA methods		Alexander B Verchovsky	Online
15:45 - 16:00	S22-08	Defect microstructure of pyrrhotite in regolith material returned from C-type asteroid 162173 Ryugu – evidence for shock		Falko Langenhorst	Online
15.45 - 10.00		metamorphism		raiko Langennorst	Onnie
16:00 - 16:15	S22-09	Chemical heterogeneity of insoluble organic matter in Ryugu grains		Eric Quirico	<b>Online</b>
		<< Coffee Break >>			
16:45 - 17:00	S22-10	Properties of the asteroid Bennu's surface based on contact measurements and their implications		Daniel J Scheeres	On_site
17:00 - 17:15	S22-11	Formation of Moons and Equatorial Ridge around Top-shaped Asteroids after Surface Landslide: Applications to asteroids		Duuki Huada	On aita
17:00 - 17:15	522-11	Ryugu, Bennu, Didymos, and more		Ryuki Hyodo	On_site
17:15 - 17:30	S22-12	Yarkovsky-Driven Orbital Migration of Asteroid Ryugu: Implications for its Collisional History and Source Family		Masanori Kanamaru	On_site
17:30 - 17:50	S22-13	The ESA Hera mission: detailed investigation of the NASA DART impact outcome and characterization of the binary asteroid	Invited	Patrick Michel	Online
17:50 - 17:50	522-15	Didymos	mvited		Onine
17:50 - 18:05	S22-14	The ANIME mission and beyond: SmallSat exploration of near-Earth asteroids		Davide Perna	On_site
18:05 - 18:15		<discussion></discussion>			
10.00 10.10			1		
18:20 - 18:40		<< Curation Facility Tour (2) >>			

# DAY-3 (Nov 16) AM

9:00 -			Registration open			
			Chairs: M. Grott, T. Yada			
9:30 - 9:	):50	S31-01	The Physical Properties of Carbonaceous Asteroids	Invited	Daniel Britt	<b>Online</b>
9:50 - 10	0:05	S31-02	New theoretical results on asteroid regolith specific heat, cohesion and heat transfer, and a revisit of comet 67P surface strength		Jens Biele	On_site
10:05 - 10	0:20	S31-03	Comparison of Thermal Inertia between Ryugu Sample and Carbonaceous Chondrites		Takuya Ishizaki	On_site
10:20 - 10	0:35	S31-04	Thermal properties of asteroid Ryugu from global, local, and micro-scale observations and the possible formation and evolution scenario of Ryugu		Tatsuaki Okada	On_site
			<< Coffee Break >>	•		
11:05 - 11	1:20	S31-05	Evidence of Permafrost Processes in C-Asteroid Regoliths		Michael Zolensky	On_site
11:20 - 11	1:35	S31-06	Modeling of aqueous alteration in the parent body of the asteroid Ryugu		Akira Tsuchiyama	<b>Online</b>
11:35 - 11	1:55	S31-07	Chemical abundances in Ryugu, nugget effect, and cosmic composition	Invited	Nicolas Dauphas	<b>Online</b>
11:55 - 12	2:10	S11-05	Importance of Material Properties on the Thermal Evolution Models of Parent Bodies		Jonas Hallstrom	<b>Online</b>
12:10 - 12	2:15		<< Group Photo (2) >>			
			<< Lunch >>			
13:00 - 13	3:20		<< Curation Facility Tour (3) >>	Ĩ		

# DAY-3(Nov 16) PM

#### Charis: T. Yada, S. Sugita, J. Duprat

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.3:30 - 13:45	S32-01	Abundance and properties of Ryugu diffuse organic matter		Rhonda Stroud	On_site
.3:45 - 14:00	S32-02	Sulfur-XANES of intact Ryugu grains and the isolated IOM		Hiroki Suga	<b>Online</b>
4:00 - 14:15	S32-03	Investigating the noble gas and nitrogen relationship between Ryugu and other carbonaceous chondrites		Bernard Marty	On_site
4:15 - 14:30	I S32-04	Nitrogen isotopes in Ryugu return samples revealed by the stepwise combustion analysis, in comparison with CI falls and Antarctic finds		Ko Hashizume	On_site
		<< Coffee Break >>			
.5:00 - 15:15	I S32-05	Visible to near-Infrared spectrophotometry of C0002 powder samples of asteroid 162173 Ryugu in comparison with ONC-T and NIRS3 instruments onboard Hayabusa2 spacecraft		Takahiro Hiroi	On_site
5:15 - 15:30	S32-06	Reflectance spectrum of Ryugu grains and their acid-extracted residues in the UV–VIS range		Koki Yumoto	On_site
5:30 - 15:45	S32-07	Nano-infrared spectroscopy of Ryugu samples using AFM-IR measurement		Van Thi Hai Phan	On_site
5:45 - 16:00	S32-08	Multi-scale variations of the ~2.7 $\mu$ m feature in Ryugu samples, observed by MicrOmega		Tania Le Pivert-Jolivet	On_site
6:00 - 16:15	S32-09	Organics in Ryugu samples, from MicrOmega and FTIR analyses within the ISAS curation facility		Jean-Pierre Bibring	On_site
		<< Coffee Break >>			
.6:45 - 17:00	S32-10	MicrOmega detections of carbonates in Ryugu returned samples within the Hayabusa 2 JAXA Extraterrestrial Curation Center		Damien Loizeau	Online
7:00 - 17:15	S32-11	Oxygen and carbon isotope compositions of Ryugu's carbonates: Constraints on the conditions of aqueous alteration		Wataru Fujiya	On_site
7:15 - 17:30	S32-12	Extraterrestrial Amino Acids and Amines Identified in Asteroid Ryugu Samples Returned by the Hayabusa2 Mission		Eric Thomas Parker	On_site
7:30 - 17:50	S32-13	Carbon dust, from the ISM to the Solar System	Invited	Emmanuel Dartois	On_site
7:50 - 18:00		Wrap up		Tomohiro Usui	
.8:00 -		Adjourn	]		
			]	Tomohiro Usui	

# Poster Session (Online) : Day-1 (Nov 14) 17:45-20:00

• All the posters are presented online at the breakout room in Zoom. In addition, a hard copy poster can be displayed on site, if requested.

 $\cdot$  2 min flash talks at the beginning of the poster core time, only for applicants

Chair: T. Ishizaki

P-01	Utilizing Chemical Optical Sensor Technology to Assess Oxygen Permeability of Candidate Asteroid Regolith Sample Containers	Christopher Jorge Snead	on_site
P-02	Space Resources – From the Moon to Near-Earth Asteroids and Back	Dennis Harries	on_site
P-03	Formation processes of spherulitic magnetite in the Ryugu samples	Elena Dobrica	online
P-04	The Aguas Zarcas breccia - similarities to surface features of C-type asteroids Ryugu and Bennu	Imene Kerraouch	on_site
P-05	An Astromaterial Curation Facility at MNHN-Paris, the National Center for Extraterrestrial Material	Jean Duprat	on_site
P-06	Distinct ages and temperatures of aqueous activities recorded in Ryugu samples	Kazuhide Nagashima	online
P-07	Elastic property of Ryugu samples collected at the second touch-down site	Keisuke Onodera	on_site
P-08	Slickenside as a record of shock metamorphism on asteroid Ryugu	Masaaki Miyahara	online
P-09	Spectral variations in serpentine and saponite 2.7 $\mu$ m band due to heating under vacuum.	Sahejpal Sidhu	online
P-10	Mn/Cr relative sensitivity factors of SIMS determined for synthetic Mn-, Cr-, and Fe-bearing dolomites	Shingo Sugawara	on_site
P-11	Winchcombe CM2 meteorite fall 2021 – first results of systematic LASER Raman Spectroscopy	Viktor H Hoffmann	online
P-12	Asteroids as Localized Rocks with Mixed and Less Activity	Yasunori Miura	online
P-13	Grains to Press: Outreach ideas for sharing analysis results from the Ryugu sample	Elizabeth Tasker	on_site
P-14	TOF-SIMS analysis of macromolecular organic matter in Ryugu samples	Minako Hashiguchi	on_site
P-15	Continuing preparations for NASA curation of the OSIRIS-REx asteroid sample	Nicole Gabriel Lunning	on_site

# Notices

	On-site Oral presentation:
N-01	You will use your own PC and share the window via Zoom during your talk, or send your presentation file to LOC (#) at least
	30 minutes before your presentation starts and LOC will display your presentation via Zoom.
	Online Oral presentation:
	You will use your own PC and share the window via Zoom during your talk, or send your presentation file to LOC (#) at least
N-02	30 minutes before your presentation starts and LOC will display your presentation via Zoom.
	A pre-recorded VTR presentation is allowed especially in case you cannot present on time, which must be sent to LOC (#) at
	least 30 minutes before your presentation starts.
	Poster Presentation (all):
N-03	You will use your own PC and display your poster (any format is acceptable) in the breakout room of Zoom (a breakout room
11-03	is prepared for each poster presentation during the Poster Session core time). A hard copy poster (AO size = W841 x H1189
	[mm] or smaller) can be displayed at the PV area if you bring it with you.
	Poster Presentation (only for applicants):
N-04	In addition to the online poster presentation, you can give your 2 min flash talk at the beginning of the Poster Session core
11-04	time. A short (2-3 pages) presentation file should be sent to LOC (#) at least 30 minutes before the Poster Session starts.
	LOC will also display the flash talk files during the lunch times and/or coffee breaks on the 2nd and 3rd days.

#: https://curation.isas.jaxa.jp/symposium/file/Fileuploader.html

(Username and password are sent by email to all the presenters)

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