

MISASA INTERNATIONAL SYMPOSIUM 2018

MISASA VII “*Sample-returns and Astrobiology*”

in Yonago, Tottori, Japan: December 19-21, 2018

hosted by

Institute for Planetary Materials, Okayama University

Institute of Space and Astronautical Science, JAXA

August 16, 2018

ABOUT THE SYMPOSIUM

Following on the wonderful success of the sample return from S-type asteroid Itokawa by Hayabusa in 2010, a new sample return mission was soon developed by JAXA/ISAS and launched on December 3rd, 2014. The spacecraft of "Hayabusa 2," arrived at the C-type asteroid, "Ryugu", on 27th June, 2018 and is scheduled to investigate the surface and then collect samples to be returned to Earth in December 2020. The scientific goal of this mission is to understand the substances associated with the origin of life in the solar system, using pristine materials returned from a water-carbon-rich asteroid "Ryugu". It is the first step in pioneering a new area of astrobiology, which will utilize material science to investigate samples returned from celestial bodies. A number of missions are scheduled to follow in the footsteps of the "Hayabusa 2," including OSIRIS-REx (C-type asteroid, scheduled to return in 2023), MARS 2020 (Mars), ExoMars 2020 (Mars), Martian Moons eXploration (MMX; scheduled to return in 2028) and CAESAR, which plans to bring a comet nucleus sample back to Earth from 67P/Churyumov-Gerasimenko (its return is scheduled for 2038). It appears certain that this very important astrobiological research, based on study of samples returned from celestial bodies without the complicating effects of terrestrial alteration, will be implemented internationally, thus maximizing the potential for great scientific breakthrough.

In response to Hayabusa 2's safe arrival at Ryugu and its initiation of surface observations and sampling, we are organizing an international symposium entitled "Sample-returns and Astrobiology." This symposium will be accompanied by an outreach event "Space Science World in Tottori 3" and both events will be held in Yonago City, Tottori Prefecture, Japan. At this symposium and outreach event, project and Science managers of Hayabusa 2, and related scientists, will present preliminary observations made at the asteroid Ryugu. In

keeping with the vision for sample return as an emphasis in future solar system planetary exploration, international collaboration merging the fields of astrobiology and planetary science, with a materials science perspective, will be discussed among scientists representing the sample return missions mentioned above.

The Institute for Planetary Materials (IPM), Okayama University at Misasa, has been designated as a Phase 2 Curation Facility and will thus play a central role in the materials science research on samples returned by Hayabusa 2. The IPM is aiming to be an international hub laboratory for sample return analyses employing the Comprehensive Analytical System for Terrestrial and Extraterrestrial Materials (CASTEM) established at this institute. The CASTEM suffered tremendous damage due to the Tottori Chubu Earthquake on October 21, 2016. Thanks to the support of the Japanese government and Okayama University, and the great efforts of our laboratory staff, CASTEM has been revived and is becoming even more sophisticated than before the earthquake. During this symposium, we will demonstrate the advanced CASTEM, highlighting its capability as an international collaboration research center to play a key role in the analysis of Earth and planetary materials, including those to be obtained by the upcoming sample return missions.

We are looking forward to meeting you in December this year in Yonago, Japan.

Eizo NAKAMURA
Chair of the Organizing Committee
Professor
Institute for Planetary Materials, Okayama University at Misasa

REGISTRATION

Online registration can be made at the website shown below. A registration fee of 10,000 JPY per participant is required, and should be paid at the registration desk during the symposium. Information regarding travel support, etc. will also be announced via the website. Please direct your questions regarding the symposium to: misasa7@itokawa.misasa.okayama-u.ac.jp.

CALL FOR PRESENTATION

Submit your abstract at the website shown below, after completing registration. Contributed presentations are welcome. Note that because of the limited capacity, some of the presentations will have to be given as posters.

SYMPOSIUM VENUE

Yonago Convention Center (294 Suehiro-cho, Yonago, Tottori 683-0043, Japan)

WEBSITE

Please check for the latest information on the following website:

http://sympo.misasa.okayama-u.ac.jp/misasa_vii/

SCHEDULE

September 1, 2018: Start of online registration and abstract submission

November 15, 2018: Deadline for online registration

December 1, 2018: Deadline for abstract submission

December 19, 2018: Registration and icebreaker reception

December 20–21, 2018: Symposium

December 21, 2018: Banquet

December 22-23, 2018: Outreach

LORCAL ORGANIZING COMMITTEE

Institute for Planetary Materials, Okayama University:

Eizo NAKAMURA (Chair), Katsura KOBAYASHI, Ryoji TANAKA, Takuya KUNIHIRO, Hiroshi KITAGAWA

ISAS/JAXA:

Masaki FUJIMOTO (Deputy Director of ISAS), Yuichi TSUDA (Project Manager of Hayabusa2), Sei-ichiro WATANABE (Project Science Director of Hayabusa2), Tomohiro USUI, Yoshifumi INATANI