

Thursday, July 27, 2017
DEVELOPMENTS IN ADVANCED TECHNIQUES
FOR METEORITE AND RETURNED SAMPLE ANALYSIS
9:15 a.m. Sweeney B

*This session will cover advances in instrumentation
and methods for laboratory analysis of planetary materials.*

Chairs: Elizabeth Koeman-Shields
Gerardo Dominguez

- 9:15 a.m. Yada T. * Sakamoto K. Yoshitake M. Nakano Y. Kumagai K. Nishimura M. Matsui S. Matsumoto T. Kawasaki N. Okada T. Abe M. Yurimoto H. Fujimoto M.
[*Present Status of both Curation of Hayabusa-Returned Samples and Preparation for Reception of Hayabusa2 Returned Samples*](#) [#6204]
 JAXA continues curating samples returned from asteroid Itokawa since 2010. It has performed international AOs to distribute their samples four times. It also prepares for curation of samples returned from C-type asteroid Ryugu by Hayabusa2 in 2020.
- 9:30 a.m. Corrigan C. M. * Gooding T. Anders C. McCoy T. J. Lunning N. G. Hoskin C. J.
[*A New Method of Classification of U.S. Antarctic Ordinary Chondrites*](#) [#6354]
 Here we describe the new process being used to classify equilibrated ordinary chondrites at the Smithsonian Institution.
- 9:45 a.m. Salem M. Dillon E. Dominguez G. *
[*Nano-Infrared Imaging of Amino Acids in Murchison: Sensitivity, Detection Limits, and First Results*](#) [#6340]
 We apply AFM-tip assisted IR imaging of laboratory standards and Murchison meteorite to identify and map distribution of amino acids and determine sensitivity of AFM-IR to amino-acid functional groups.
- 10:00 a.m. Koeman-Shields E. C. * Huss G. R. Jurewicz A. J. G.
[*SIMS Measurements of H in DoS Genesis Collectors: Differences in Physical Properties of the Collectors Affect the Results*](#) [#6142]
 We evaluate the structural heterogeneity of the Genesis Diamond on Silicon collectors by modeling several parameters of the measurements in order to obtain a precise and accurate solar wind hydrogen fluence.
- 10:15 a.m. Sehlke A. * Sears D. W. G. Friedrich J. M. Rivers M. L. Ebel D. S.
[*Synchrotron X-Ray Computed Microtomography and the Radiation History of Meteorites*](#) [#6404]
 Influence of ionization radiation on natural radiation record.
- 10:30 a.m. Salge T. * Krzesinska A. Mohr-Westheide T.
[*Non-Destructive Imaging of Martian Meteorite Chassigny and Quantification of Platinum Group Metals from Archean Spherule Layers in the Barberton Greenstone Belt, South Africa Using FEG SEM/EDS*](#) [#6209]
 An annular SDD provides high spatial resolution and high detection sensitivity without the necessity of applying a conductive coating or working in low vacuum. EDS deconvolution algorithms allow quantification of PGMs at 6 kV with ~60 nm resolution.
- 10:45 a.m. White S. M. * Stern E. C.
[*Laser Ablation Experiments on the Tamdakht H5 Chondrite*](#) [#6130]
 High-powered lasers were used to ablate and form surfaces similar to naturally formed fusion crusts on Tamdakht and basalt. High speed camera showed ablation during heating. IR reflectances at 15, 30 and 45 degrees observation angles are compared.

- 11:00 a.m. Yurimoto H. * Totonani A. Bajo K. Olinger C. T. Reisenfeld D. Jurewicz A. J. G. Itose S. Sakaguchi I. Ishihara M. Uchino K. Burnet D. S.
[Helium from Coronal Mass Ejecta Collected by NASA's Genesis](#) [#6228]
We report our new, more sensitive measurements, which show coronal mass ejection flows of solar He in addition to the low-speed and high-speed solar winds collected by NASA Genesis in the bulk solar wind collector.
- 11:15 a.m. Van Ginneken M. * Mckibbin S. J. Avila J. N. Ireland T. R. Holden P. Goderis S. Soens B. Claeys P. Debaille V. Folco L. Rochette P.
[Identification of the Parent Bodies of MicroMeteorites: High-Precision Oxygen Isotopic Compositions with SHRIMP-SI](#) [#6030]
We present results of a new study investigating the parent bodies of micrometeorites using oxygen isotopes analyzed using Sensitive High-Mass Resolution Ion Micro Probe-Stable Isotope (SHRIMP-SI).