

Thursday, May 4, 2017
ORIGIN, DIFFERENTIATION, STRUCTURE, METEORITES
8:30 a.m. Aula Conference Room

Topics include discussion of the origin, differentiation, and structure of the Moon and chapter summaries covering these topics and lunar meteorites.

Chairs: Carle Pieters
Jeffrey Andrews-Hanna

- 8:30 a.m. Magna T. * Dauphas N. Righter K. Camp R.
[Stable Isotope Constraints on the Formation of Moon](#) [#6044]
 The development of high-precision techniques to measure stable isotope compositions of a number of elements which, in the past, were considered homogeneous, implicated a new fresh look at the origin of Moon.
- 8:45 a.m. Kleine T. * Kruijjer T. S. Burkhardt C.
[Isotopic Constraints on the Origin of the Moon](#) [#6028]
 Isotopic constraints on the origin of the Moon will be reviewed, with a focus on 182W. Explaining the Earth-Moon similarity in 182W is a challenge to current lunar formation models.
- 9:00 a.m. Righter K. * Canup R. M. Dauphas N. Magna T.
[Impact Origin of the Moon: New Data, New Models, and New Challenges](#) [#6042]
 We review the new data, models, and challenges for the origin of the Moon.
- 9:15 a.m. Andrews-Hanna J. C. * Weber R. C. Ishihara Y. Kamata S. Keane J. Kiefer W. S. Matsuyama I. Siegler M. Warren P.
[Structure and Evolution of the Lunar Interior](#) [#6039]
 Recent significant improvements in both data and analysis techniques have yielded fundamental advances in our understanding of the structure and evolution of the lunar interior.
- 9:30 a.m. Ohtake M. O. * Yamamoto S. Y. Uemoto K. U. Ishihara Y. I.
[Distribution and Composition of the Lunar Mantle Material and Its Implication](#) [#6016]
 We analyzed exposures of possible mantle material to identify their origin. Result indicates that vertical heterogeneity (olivine dominant and low-Ca pyroxene dominant layers) of the lunar mantle, which apparently correspond to the original depth.
- 9:45 a.m. Pieters C. M. *
[Do the Olivine-Plagioclase Observations at Basins Imply Lunar Mantle Overturn?](#) [#6032]
 If the olivine at basins didn't come from the mantle directly, how DID it become associated with plagioclase in the lower crust?
- 10:00 a.m. BREAK
- 10:15 a.m. Gaffney A. M. * Warren P. H. Borg L. E. Draper D. S. Dygert N. Elkins-Tanton L. T. Joy K. Prissel T. Rapp J. Steenstra E. S. van Westrenen W.
[Magmatic Evolution I: Initial Differentiation](#) [#6040]
 This presentation is summary of the material that will be reviewed and synthesized in the Magmatic Evolution 1: Initial Differentiation chapter of the NVM2 volume.
- 10:30 a.m. Zeigler R. A. * Joy K. H. Arai T. Gross J. Korotev R. L. McCubbin F. M.
[Lunar Meteorites: A Global Geochemical Dataset](#) [#6047]
 A summary of the status of the chapter on Lunar Meteorites.