

Tuesday, May 24, 2016
IMPACT CHRONOLOGY AND THE CRATERING PROCESS
1:30 p.m. Berkners

Chairs: Harald Hiesinger
Barbara Cohen

- 1:30 p.m. Ghent R. R. * Mazrouei S. Bandfield J. L. Carter L. M. Williams J.-P. Paige D. A.
[*Remote Sensing Constraints on Lunar Chronology*](#) [#6040]
 Moon rocks breaking down, Indicating impact flux: Faster than we thought.
- 1:45 p.m. Hiesinger H. * van der Bogert C. H. Pasckert J. H. Plescia J. B. Robinson M. S.
[*Impact Chronology of the Moon — Results from the Lunar Reconnaissance Orbiter Camera \(LROC\)*](#) [#6036]
 We present absolute model ages (AMAs) based on crater size-frequency distribution (CSFD) measurements for Copernicus, Tycho, North Ray, Cone, and Autolycus craters to test and possibly improve the lunar cratering chronology.
- 2:00 p.m. Dhingra D. *
[*Remote Mineralogical Assessment of Impact Melt Deposits: Their Role in Crustal Compositional Diversity and Evolution*](#) [#6095]
 Mineralogical diversity of the lunar crust has been extensively studied using samples and through remote sensing.
- 2:15 p.m. Zellner N. E. B. * Delano J. W.
[*Lunar Impact Glasses as Clues to the Moon's Bombardment History*](#) [#6045]
 Specific lunar impact glasses can elucidate details of the Moon's bombardment history.
- 2:30 p.m. van der Bogert C. H. * Hiesinger H. Zanetti M. Plescia J. B. Ostrach L. R. Mahanti P. Meyer H. M. McEwen A. S. Pasckert J. H. Michael G. Kneissl T. Robinson M. S.
[*Factors Affecting Crater Size-Frequency Distribution Measurements: Insights Supported by the LRO Mission*](#) [#6015]
 CSFD measurements are affected by illumination angle, count area size/slope, secondary cratering, target property effects, and differential degradation. Investigations using LRO data have made progress characterizing and quantifying these factors.
- 2:45 p.m. Zanetti M. * Jolliff B. van der Bogert C. H. Hiesinger H. Plescia J. Artemieva N.
[*Self-Secondary Crater Populations on Copernican Continuous Ejecta Blankets*](#) [#6019]
 Self-secondary craters (a population of craters formed on continuous ejecta deposits by fragments from the parent crater) may account for melt/ejecta CSFD discrepancies, and may imply inner Solar System cratering flux estimates are overestimated.
- 3:00 p.m. Break
- 3:15 p.m. Stickle A. M. * Patterson G. W. Cahill J. T. S. Bussey D. B. J.
[*Radar Scattering Properties of Young Lunar Crater Ejecta Blankets Using Mini-RF*](#) [#6058]
 Mini-Rf data provides a powerful way to examine young lunar crater ejecta. Radial profiles of radar returns outward from the crater rim provide insights into ejecta emplacement, crater degradation, and near surface stratigraphy.
- 3:30 p.m. Mahanti P. * Robinson M. S.
[*On the Small Depth-Diameter Ratios of Small Lunar Craters*](#) [#6088]
 Small lunar craters (SLC; $D < 250$ m) have simple shapes but much lower d/D value compared to larger ($D > 1$ km) simple craters - target strength properties dictate their shapes.

- 3:45 p.m. Joy K. H. * Crawford I. A. Curran N. A. Zolensky M. E. Fagan A. L. Kring D. A.
[*The Moon as an Archive of Small Body Migration in the Solar System*](#) [#6086]
We discuss how lunar samples provide evidence of different impactor species striking the Moon through time, and implications for understanding small body migration in the inner solar system.
- 4:00 p.m. Kring D. A. *
[*A Summary of Geological, Geochemical, Petrological, and Isotopic Evidence of Impactor Sources*](#) [#6068]
A diverse array of impactor signatures suggests asteroids have always dominated comets during the evolution of the Moon.
- 4:15 p.m. Jolliff B. L. * Petro N. E. Shearer C. K. Pieters C. M. Head J. W.
[*Recent Mission Datasets Shed New Light on the Character and Fate of the South Pole-Aitken Basin Impact Melt Sheet*](#) [#6054]
Characterizing and accessing impact melt rocks of the South Pole-Aitken basin is of high priority for understanding the history of the Moon, the giant basin forming process, and establishing the chronology of giant impacts in the early solar system.
- 4:30 p.m. Monitored by Session Chair
3-Minute Lightning Round of New Data and Perspectives
- 4:45 p.m. DISCUSSION