Tuesday, March 21, 2017
GIVING SHAPE TO IMPACT CRATERS
1:30 p.m. Montgomery Ballroom

Chairs: Henry Melosh
John Spray

1:30 p.m. Johnson B. C. * Andrews-Hanna J. C. Collins G. S. Freed A. M. Melosh H. J. et al. Multiring Basin Formation: Controls on Ring Location and Spacing [#1536]
We simulate the formation of multiring basins finding that ring location and spacing are sensitive to impactor size, thermal gradient, and crustal thickness.

1:45 p.m. Morse Z. R. * Osinski G. R. Tornebene L. L. New Morphologic Map and Analysis of Orientale Basin Ejecta [#2299]
Young lunar basin / Ejecta spread far and wide / New map reveals all.

2:00 p.m. Guo D. * Liu J. Head J W. Spatial Distribution and Geometrics of Orientale Secondary Crater [#2560]
1301 Orientale secondary crater are spatially analyzed. Sixty secondaries are geometrically investigated from 512 profiles of each crater.

We estimate the extent of fragmentation and fragment sizes produced by lunar impacts as a first step toward understanding the production of lunar megaregolith.

2:30 p.m. Prieur N. C. * Wünneeman K. Werner S. C. Crater Scaling Results for Rim-to-Rim Crater Diameter - Influence of Angle of Friction, Cohesion and Porosity on Simple Craters [#1944]
Crater scaling results for rim-to-rim crater diameter are presented for planetary targets with various angles of frictions, cohesions, and porosities.

2:45 p.m. Silber E. A. * Osinski G. R. Johnson B. C. Grieve R. A. F. Numerical Modelling of the Effect of Impactor Size and Velocity on Morphological Diversity of Simple-to-Complex Lunar Craters [#1027]
We use numerical modeling to investigate the effects of impact velocity and acoustic fluidization on lunar craters in the simple-to-complex regime.

3:00 p.m. Melosh H. J. * Johnson B. C. Bowling T. J. Impact Spall and Fragmentation by Near-Surface Stress Wave Interactions [#2051]
Lightly shocked, high-speed impact ejecta originates from close to the surface and close to the impact point. We describe a new model for fragmentation.

3:15 p.m. Kurosawa K. * Okamoto T. Genda H. Hydrocode Modeling of the Material Ejection by Spallation [#1855]
The launch of high-speed lightly-shocked ejecta was investigated. We found that the ejection velocity can exceed the upper limit in the shock physics.

3:30 p.m. Luther R. * Artemieva N. A. Collins G. S. Wünneeman K. Impact Ejecta Mechanics: Influence of Target Properties and Atmospheric Interaction on Ejecta [#1942]
Ejection characteristics depend on target properties (strength, porosity). Final ejecta deposition changes due to the existence of an atmosphere — if present.
3:45 p.m. Harwell M. L. * Melosh H. J.
Effect of an Atmosphere on the Expansion and Settlement of an Impact Ejecta Plume [#2896]
Atmosphere effects / Ejecta plume expansion / Through interactions.

4:00 p.m. Quintana S. N. * Schultz P. H.
Model Results for Impact-Winds on Mars [#1123]
A suite of CTH models provides new evidence to support the study of impact vapor-driven winds on Mars by testing both target and impactor properties.

4:15 p.m. Gisler G. R. * Heberling T. Plesko C. S. Weaver R. P.
Three-Dimensional Simulations of Oblique Asteroid Impacts into Water [#1187]
New three-dimensional simulations of small asteroid impacts at oblique angles into deep water show spectacular near-field effects, but not dangerous tsunamis.

4:30 p.m. Okamoto T. * Nakamura A. M.
Scaling of Impact-Generated Cavity-Size for Highly Porous Targets and Its Application to Cometary Surfaces [#1817]
New scaling relations for targets with porosities larger than ~30% were obtained and the results were applied for estimating crater dimensions on a comet.