

Wednesday, August 7, 2013
COMPLEX IMPACT CRATERS: THEIR FORMATION AND STRUCTURE
1:30 p.m. Fraser Auditorium

Insights into complex crater formation are gleaned from the Earth, Moon, and icy bodies.

Chairs: David Kring
Cassandra Marion

- 1:30 p.m. Shankar B. * Osinski G. R. Antonenko I.
[Multispectral Assessment of Impact Melt Deposits Within Complex Lunar Craters](#) [#3068]
 This study summarizes the results of data fusion using multispectral datasets in the identification and characterization of impact melt deposits around complex craters on the Moon.
- 1:50 p.m. Dhingra D. * Pieters C. M.
[Mineralogy of Impact Melt at Copernicus Crater: Insights into Melt Evolution and Diversity](#) [#3036]
 Mineralogy of impact melt is deciphered by remote spectral analysis to determine its implication on crustal diversity. The observed variation in composition and crystallinity is assessed in context of the melt morphology and target lithology.
- 2:10 p.m. Zanetti M. * Hiesinger H. Jolliff B. L.
[Mapping Aristarchus Crater: Geology, Geomorphology, and Pre-Impact Stratigraphy](#) [#3114]
 Using available remote-sensing datasets we have geologically and geomorphologically mapped the Copernican-aged lunar impact in order to understand the distribution of impact melt and reconstruct the pre-impact stratigraphy of the target lithologies.
- 2:30 p.m. Clayton J. C. * Osinski G. R. Tornabene L. L. Kalynn J. D. Johnson C. L.
[Effect of Target Lithology on the Simple to Complex Transition Diameter for Lunar Impact Craters](#) [#3110]
 We compare the number of terraces and crater depth for transitional and complex craters formed in different target types to gauge the possible effects of the target lithology on crater diameter and morphology.
- 2:50 p.m. *Coffee Break*
- 3:05 p.m. McKinnon W. B. * Singer K. N.
[Secondary Craters of Large Craters and Basins on Europa and Ganymede: Ejecta Size-Velocity Distributions on Icy Bodies](#) [#3098]
 Mapped fields of secondary craters on two major icy worlds are converted to fragment size-velocity distributions. Maximum fragment sizes decrease with ejection velocity more gradually than on the terrestrial planets, and are larger than predicted.
- 3:25 p.m. Mader M. M. Marion C. L. Osinski G. R. Pickersgill A. E. Singleton A. C. Tornabene L. L.
[A Systematic Multi-Year Field Campaign at the Mistastin Lake Impact Structure, Labrador, Canada](#) [#3113]
 In this report we summarize the results of an ongoing multi-year study of the 28 km diameter Mistastin Lake impact structure, focusing on the central uplift, crater rim, and impactites.
- 3:45 p.m. Kenkmann T. * Poelchau M. H.
[The Central Uplift of Spider Crater, Western Australia](#) [#3025]
 We present micro- and macrostructural field data along with a simple kinematic model that explains the peculiar structure of the central uplift of Spider Crater. The structural inventory of mid-sized craters that formed by oblique impacts is reviewed.

4:05 p.m. Osinski G. R. * Francis R. Hansen J. Marion C. L. Pickersgill A. E. Tornabene L. L.
[Structural Mapping of the Tunnunik Impact Structure, NWT, Canada: Insights in to Central Uplift Formation](#) [#3060]

We report on structural mapping of the newly discovered Tunnunik impact structure, a 28 km diameter structure in the Canadian Arctic. The central uplift is exposed in a 2 km long canyon and features thrust-faulted blocks and outwards dipping strata.