Tuesday, March 18, 2014 **[T204]**
IMPACTS I: THEORY AND MODELS
8:30 a.m. Waterway Ballroom 6

Chairs: **Ross Potter**
Veronica Bray

8:30 a.m. Tonge A. L. * Ramesh K. T. Barnouin O. S.
Large Impacts on Airless Bodies: The Himeros Event on Eros **[#1998]**
We investigate the link between observables, such as the bulk porosity, and the impact history on Eros including multiple impacts using a new material model.

8:45 a.m. Bray V. J. * Collins G. S. Morgan J. V. Melosh H. J. Schenk P. M.
Summit-Pit Crater Formation in Layered Crusts and the Effect of Target Heat Flow on Pristine Crater Dimensions **[#2729]**
Pristine crater shape / Much changed by crustal heat flow / Summit-pits formed too. (My first attempt at the LPSC haiku; don't judge!).

9:00 a.m. Hay H. C. F. C. * Collins G. S. Davison T. M.
Complex Crater Collapse: A Comparison of the Block and Melosh Models of Acoustic Fluidization **[#1938]**
We compare two models of dynamic weakening in numerical simulations of impact crater formation. Localized regeneration of acoustic energy facilitates collapse.

9:15 a.m. Elbeshausen D. * Melosh H. J. Wünnemann K.
Formation of Peak Ring Craters — Insights from Numerical Modelling and GRAIL **[#2034]**
We are studying the formation of peak-ring craters by use of numerical modeling and gravity data from GRAIL.

9:30 a.m. Stewart S. T. * Lock S. J. Mukhopadhyay S.
Atmospheric Loss and Volatile Fractionation During Giant Impacts **[#2869]**
We present a scaling law to predict blowoff of atmospheres and oceans by giant impacts. Partial loss of the atmosphere was common; loss of an ocean was not.

9:45 a.m. Kraus R. G. * Root S. Lemke R. W. Stewart S. T. Jacobsen S. B. et al.
Vaporization of Planetesimal Cores During Accretion **[#2888]**
The iron rich cores of planetesimals will vaporize at the end stages of Earth's accretion.

10:00 a.m. Bottke W. F. * Vokrouhlicky D. Marchi S. Swindle T. Scott E. R. D. et al.
The Evolution of Giant Impact Ejecta and the Age of the Moon **[#1611]**
Scattered ejecta from the Moon-forming impact hit asteroids and made ancient Ar-Ar reset ages. They suggest the Moon formed 100 ± 30 Ma after CAIs.

10:15 a.m. Citron R. I. Aharonson O. * Perets H. Genda H.
Moon Formation from Multiple Large Impacts **[#2085]**
We investigate the possibility that the Moon formed from the merger of successive large impacts that each produced a distinct debris disk.

10:30 a.m. Sarid G. * Stewart S. T. Leinhardt Z. M.
Mercury, the Impactor **[#2723]**
Mercury, the most peculiar terrestrial planet, may have played the role of the significantly deformed and disrupted projectile in an early hit-and-run event.

10:45 a.m. Jögi P. M. * Paige D. A.
A Ballistic Model for Antipodal Impact Melt Deposits on the Moon **[#2574]**
We propose that the presence of anomalous melt deposits at the antipode of Tycho Crater is due to the frictional heating of ballistically emplaced ejecta.

11:00 a.m. Kreslavsky M. A. * Asphaug E.
Direct Delivery of Lunar Impact Ejecta to the Earth **[#2455]**
Large impacts into the eastern hemisphere of the Moon cause hours- to days-long impact showers on Earth with a chance for traces in the terrestrial geological record.

11:15 a.m. Potter R. W. K. * Kring D. A.
Collisional Erosion: Consequences for the Young Earth **[#2230]**
The viability of collisional erosion as a method for removing Earth's crust and, therefore, producing Earth's observed geochemical anomalies is assessed.

11:30 a.m. Abramov O. * Kring D. A. Mojzsis S. J.
Predictions of Crustal Age-Resetting by Impact Bombardments on Early Earth **[#2491]**
Effects of impact bombardments, individual impact craters, and ejecta blankets are modeled to make predictions for the oldest terrestrial rocks and minerals.