Tuesday, March 20, 2012
POSTER SESSION I: MORE HOT STUFF: INTERPLANETARY STUDIES OF IMPACT MELT
6:00 p.m. Town Center Exhibit Area

Wagner R. V. Robinson M. S. Ashley J. W.
Small-Scale Pits in Impact Melts **[#2266]**
The Lunar Reconnaissance Orbiter's Narrow Angle Camera has revealed over 150 10-m-scale collapse pits in impact melts of Copernican age craters. These pits may provide insight into the dynamics of impact melt emplacement.

Boyce J. M. Wilson L. Mouginis-Mark P. J. Tornabene L. L. Hamilton C. W.
Origin of Closely-Spaced Groups of Pits in Martian Craters **[#1017]**
A model of explosive degassing of thin deposits of suevite-like fall-back is proposed for the origin of closely-spaced pits formed in thin impactite deposits superposed on well-preserved martian impact craters.

Beach M. J. Head J. W. III Ostrach L. R. Robinson M. S. Denevi B. W. Solomon S. C.
The Influence of Pre-Existing Topography on the Distribution of Impact Melt on Mercury **[#1335]**
The objective of this study is to characterize the nature and distribution of impact melt, influenced by the pre-impact topography of the target site, enabled by the high-resolution images obtained during the MESSENGER primary orbital mission.

Öhman T. Kramer G. Y. Kring D. A.
Spectral Analysis of the Distribution of Impact Melt-Rich Lithologies in Lunar Crater Kepler Using M^3 Data **[#2257]**
Moon Mineralogy Mapper (M^3) data show Kepler impact melt to be gabbroic, and highlight an uprange splash. A halo of less-crystalline material, possibly derived from a collapsing impact plume, is shifted ~downrange. Both surficial features are invisible in visual imagery.

Kuriyama Y. Ohtake M. Haruyama J. Iwata T.
Distributions of Impact Melts Within Lunar Complex Craters Jackson and Tycho **[#1395]**
We identified impact melts on the central peaks as well as in the floors and on the wall terraces in the lunar complex craters Jackson and Tycho by MI spectral data and LROC image data. We tried to constrain the formation of the central peak.

Chanou A. Tornabene L. L. Osinski G. R. Zanetti M. Pickersgill A. E. Shankar B. Marion C. Mader M. M. Souders K. A. Sylvester P. Jolliff B. L. Shaver C.
Impact Melt-Pond Scenario Tested During the KRASH 2011 Analogue Mission at Kamestastin Impact Structure **[#2580]**
Discovery Hill is dominated by a wedge-like shaped outcrop of columnar-jointed impact melt rock. Field observations of the hill's morphology, geologic contacts and relative position within the Mistastin impact crater suggest a melt-pond origin.

Vaughan W. M. Head J. W. III Hess P. C. Wilson L. Neumann G. A. Smith D. E. Zuber M. T.
Depth and Differentiation of the Orientale Melt Lake **[#1302]**
We suggest that the central depression of the Orientale basin is an impact melt lake ~15 km deep and model the igneous differentiation of the melt lake. Impact melt differentiates may be represented in remotely-sensed data and the lunar sample suite.

Pittarello L. Koeberl C.
A Suevite in Black and White: SEM Study on the Samples from the El'gygytgyn Drill Core **[#1883]**
The El'gygytgyn structure, N-E Siberia (Russia), is the only impact crater on Earth in rhyolitic-trachytic volcanic rocks; it provides a unique opportunity to improve our knowledge of shock metamorphism at the microscopic scale in such a target.

Pickersgill A. E. Osinski G. R. Mader M. M.
A Formational Model for an Impact Melt-Bearing Breccia Dyke at the Mistastin Lake Impact Structure, Labrador, Canada **[#2473]**
Variation in shock level and glass clast morphology is drawn on to support a multi-stage dynamic flow emplacement model for an impact melt-bearing breccia dyke at the Mistastin Lake impact structure, Labrador, Canada.

Beauford R. E.
Carbonate Melts and Sedimentary Impactite Variation at Crooked Creek and Decaturville Impact Craters, Missouri, USA **[#1705]**
The Crooked Creek and Decaturville, Missouri, impact craters offer an opportunity to understand variation in impactite lithologies in carbonate and mixed sedimentary environments. Impactites involve mixes of carbonates, sandstone, chert, and shale.

Murty S. V. S. Ranjit Kumar P. M.
Noble Gas Isotopes: Tracers of Impactor Signatures in Lonar Impact Glasses **[#1423]**
Noble gas isotopes ^{21}Ne, ^{36}Ar, and ^{129}Xe reveal excesses due to the presence of cosmogenic, trapped, and radiogenic components of meteoritic origin, in the impact glasses from Lonar Crater, providing unambiguous signatures of the impactor.

Giuli G. Cicconi M. R. Eeckhout S. G. Koeberl C. Glass B. P. Pratesi G. Paris E.
North-American Microtektites are More Oxidised than Tektites **[#1921]**
Microtektites from the Australasian and Ivory Coast strewn fields (SF) show low values of the Fe^{3+}/Fe_{tot} ratio, comparable to tektites from the same SF. In contrast, microtektites from the North American SF show a wider range (from 0 to 0.75).

Giuli G. Cicconi M. R. Eeckhout S. G. Paris E. Pratesi G. Folco L.
Fe Oxidation State in Microtektites from the Transantarctic Mountains **[#1927]**
Fe oxidation state of microtektites from the Transantarctic mountains is consistent with that of Australasian tektites and microtektites. Despite the long distance from the presumed impact site, the Fe oxidation state does not show appreciable variation.

Goderis S. Simonson B. M. McDonald I. Hassler S. W. Izmer A. Vanhaecke F. Claeys Ph.
Geochemical Correlation of Two Late Archean Impact Spherule Layers Between South Africa and Western Australia: the Paraburdoo-Reivilo Link **[#1882]**
The unique geochemical compositions of the Late Archean Paraburdoo (Hamersley Basin, Western Australia) and Reivilo (Griqualand West Basin, South Africa) spherule layers confirm their proposed correlation.

Huber M. S. Crne A. E. Lepland A. McDonald I. Melezhik V. A. Koeberl C.
Chemical Analysis of Impact Spherules from the Zaonega Formation, Karelia, Russia, and Implications for Vredefort Origin **[#1970]**
Recently discovered spherules with a possible relationship to the Vredefort impact event have been shown to have a nonterrestrial geochemical signature. The relationship to the Vredefort target has been tested by analysis of silicates in spherules.

Fernandes V. A. Hopp J. Schwarz W. Trieloff M. Reimold W. U.
Re-Evaluation of the Chesapeake Bay Crater Impact Age: New ^{40}Ar-^{39}Ar Step-Heating Results for North American Tektites **[#1775]**
Reevaluation of Chesapeake Bay crater impact age is being undertaken by ^{40}Ar-^{39}Ar step-heating of NA tektites and impact melt found within the USGS-ICDP drill core Eyreville-B. Initial results suggest a slightly younger age than the accepted 35.3 Ma.