Highlighted Abstracts

**ORAL PRESENTATIONS —**

* Asterisks denote speaker

**Monday Morning, March 18, 2013**

SPECIAL SESSION: MARS SCIENCE LABORATORY I: GEOLOGY AND ENVIRONMENT, Waterway Ballroom 4

8:30 a.m. Grotzinger J. P. * Blake D. F. Crisp J. Edgett K. S. Gellert R. et al.

*Mars Science Laboratory: First 100 Sols of Geologic and Geochemical Exploration from Bradbury Landing to Glenelg* [#1259]

The Mars Science Laboratory rover, Curiosity, touched down on the surface of Mars on August 5, 2012. Numerous geologic and geochemical studies were performed.

**Monday Afternoon, March 18, 2013**

SPECIAL SESSION: MARS SCIENCE LABORATORY II: SOILS AND ROCKS, Waterway Ballroom 4


*Chlorine and Hydrogen Contents from the First 90 Sols of MSL DAN Active Measurements* [#1752]

Chlorine and hydrogen abundances are derived from MSL DAN active measurements. Analysis of DAN quick-look parameters and modeling of DAN data are presented.

4:30 p.m. Stolper E. M. * Baker M. B. Fisk M. Gellert R. King P. L. et al.

*The Petrochemistry of Jake_M: A Martian Mugearite* [#1685]

Rock “Jake_M” analyzed by the APXS on MSL is consistent with a highly fractionated alkaline rock. Its normative mineralogy and chemistry suggest a mugearite.

**Tuesday Morning, March 19, 2013**

ORIGIN AND EVOLUTION OF THE MOON, Waterway Ballroom 6

8:30 a.m. Taylor S. R. * Koeberl C.

*The Origin of the Moon Revisited* [#1165]

Processes that occur during large-scale impact events can provide guidance in understanding certain aspects of the composition of the Moon.
**Tuesday Morning, March 19, 2013 (continued)**

**SPECIAL SESSION: MARS SCIENCE LABORATORY III: THE ROCKNEST SAND DUNE, Waterway Ballroom 4**

*Possible Detection of Perchlorates by Evolved Gas Analysis of Rocknest Soils: Global Implications* [#2168]

The SAM instrument on MSL has tentatively identified perchlorate, confirming Phoenix results. Implications of globally-distributed perchlorates are discussed.

**Tuesday Afternoon, March 19, 2013**

**SPECIAL SESSION: GRAIL EXPLORES THE MOON’S INTERIOR, Waterway Ballroom 6**

1:30 p.m.  Zuber M. T. * Smith D. E. Asmar S. W. Konopliv A. S. Lemoine F. G. et al.  
*Gravity Recovery and Interior Laboratory (GRAIL): Extended Mission and Endgame Status* [#1777]

The GRAIL extended mission has provided gravity models that are being used to map the upper crust of the Moon in unprecedented detail.

**MARS EXPLORATION ROVER: RESULTS FROM ENDEAVOUR CRATER, Waterway Ballroom 4**

1:45 p.m.  Squyres S. W. * Arvidson R. E. Athena Science Team  
*Overview of Opportunity Rover Results from Clay-Bearing Materials at Endeavour Crater* [#2352]

Overview of scientific results to date from Opportunity’s exploration of clay-bearing materials at Endeavour crater.

3:00 p.m.  Arvidson R. E. * Bennett K. Catalano J. Fraeman A. Gellert R. et al.  
*Smectites on Cape York, Matijevic Hill, Mars, as Observed and Characterized by CRISM and Opportunity* [#1286]

We describe the first groundbased observations of phyllosilicates on Mars and discuss implications based on the combined CRISM and Opportunity measurements.

**Wednesday Morning, March 20, 2013**

**TISSINT AND NWA 7034: THE LATEST IN MARS SAMPLE RETURN, Waterway Ballroom 4**

9:30 a.m.  Lin Y. * El Goresy A. Hu S. Zhang J. Gillet P. et al.  
*NanoSIMS Analysis of Organic Carbon from Mars: Evidence for a Biogenetic Origin* [#1476]

Two petrographic settings of organic carbon in the Tissint martian meteorite and its isotopic compositions of C, N, and H by nanoSIMS demonstrate a biogenetic origin.

9:45 a.m.  Steele A. * McCubbin F. M. Benning L. Siljestrom S. S. Cody G. D. et al.  
*Organic Carbon Inventory of the Tissint Meteorite* [#2854]

We have inventoried the organic material in the Tissint meteorite. We find C and N containing organic compounds associated with hydrothermal mineral inclusions.
**Wednesday Morning, March 20, 2013 (continued)**

**TISSINT AND NWA 7034: THE LATEST IN MARS SAMPLE RETURN, Waterway Ballroom 4 (continued)**

10:30 a.m. Ziegler K. * Sharp Z. D. Agee C. B.  
*The Unique NWA 7034 Martian Meteorite: Evidence for Multiple Oxygen Isotope Reservoirs* [#2639]  
NWA 7034 contains multiple coexisting oxygen-isotope reservoirs, and attests to isotopic differences between the deep mantle and the crust/atmosphere of Mars.

10:45 a.m. Cartwright J. A. * Ott U. Hermann S. Agee C. B.  
*NWA 7034 Contains Martian Atmospheric Noble Gases* [#2314]  
Black Beauty's her name, from Mars she certainly came, as our work displays. Noble gas it’s clear, shows trapped martian atmosphere, more data to come!

11:15 a.m. Hewins R. H. * Zanda B. Humayun M. Pont S. Fieni C. et al.  
*Northwest Africa 7533: an Impact Breccia from Mars* [#2385]  
NWA 7533 contains clast-laden melt rocks, orthopyroxene, norite-monzonite, and microbasalt. Inverted pigeonite and alkali feldspars indicate a deep origin.

11:30 a.m. Humayun M. * Zanda B. Hewins R. H. Göpel C.  
*Composition of North West Africa 7533: Implications for the Origin of Martian Soils and Crust* [#1429]  
Implications of the matrix chemistry of the new martian impact breccia, NWA 7533, for the origin of martian soils and crustal thickness will be presented.

**MERCURY SCIENCE FROM MESSENGER, Waterway Ballroom 5**

9:30 a.m. Irving A. J. * Kuehner S. M. Bunch T. E. Ziegler K. Chen G. et al.  
*Ungrouped Mafic Achondrite Northwest Africa 7325: A Reduced, Iron-Poor Cumulate Olivine Gabbro from a Differentiated Planetary Parent Body* [#2164]  
Some mineralogical and bulk compositional features of this unique achondrite match known data for Mercury. Could this be a Hermean meteorite?

**Friday Afternoon, March 22, 2013**

**MARS VOLATILES FROM MANTLE TO ATMOSPHERE: WATER, HALOGENS, AND ORGANICS, Waterway Ballroom 4**

*A Reduced Organic Carbon Component to Martian Basalts* [#2659]  
We describe reduced organic carbon in 12 martian basalts. It is either associated with magmatic and/or hydrothermal activity and spans 4.2 Ga of Mars history.

3:30 p.m. Burton A. S. * Callahan M. P. Elsila J. E. Baker E. M. Smith K. E. et al.  
*Amino Acids from Mars? Clues from the Martian Shergottite Roberts Massif (RBT) 04262* [#2613]  
The martian meteorite RBT 04262 was found to contain primarily nonproteinogenic amino acids that may be extraterrestrial in origin.
Poster Presentations —

Tuesday Evening, March 19, 2013

Poster Session II: Ceres, 6:00 p.m., Town Center Exhibit Area

Bland M. T.  Singer K. N.  McKinnon W. B.  
*The Surface Topography of Ceres: Pre-Dawn Predictions for Extensive Viscous Relaxation* [#1655]
Warm surface temps and a putative ice layer result in extensive visous relaxation of even small impact craters. Equatorial/polar craters are erased/preserved.

Dombard A. J.  Schenk P. M.  
*The Giant Cue Ball: Efficient Relaxation of Ceres’ Craters* [#1798]
We model the relaxation of Ceres’ craters, finding only the freshest and highest-latitude craters should show any significant topography to the Dawn spacecraft.