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

3:30 p.m. Hardgrove C. J. * Moersch J. Drake D. Mitrofanov I. G. Litvak M. et al.
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

10:30 a.m. Archer P. D. Jr. * Sutter B. Ming D. W. McKay C. P. Navarro-González R. et al.
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 mutiple 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

3:15 p.m. Steele A. * McCubbin F. M. Agee C. B. Fries M. D. F. Glamoclija M. et al.
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. ***POSTER LOCATION #129***
The Surface Topography of Ceres: Pre-Dawn Predictions for Extensive Viscous Relaxation **[#1655]**
Warm surface temps and a putative ice layer result in extensive viscous relaxation of even small impact craters. Equatorial/polar craters are erased/preserved.

Dombard A. J. Schenk P. M. ***POSTER LOCATION #130***
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.