Friday, March 21, 2014 **[F502]**
MARS ORGANICS AND VOLATILES IN THE CRUST AND ATMOSPHERE
8:30 a.m. Waterway Ballroom 4

Chairs: **Caroline Freissinet**
Jeremie Lasue

8:30 a.m. Freissinet C. * Glavin D. P. Miller K. Buch A. Brunner A. et al.
From SAM Instrument Background to Martian Signal: Challenges of Solid Sample Analyses on Mars **[#2796]**
Chlorohydrocarbons have been identified with the SAM instrument onboard Curiosity. These organic molecules are thought to be indigenous to the martian sample.

8:45 a.m. Glavin D. P. * Freissinet C. Eigenbrode J. Miller K. Martin M. et al.
Origin of Chlorobenzene Detected by the Curiosity Rover in Yellowknife Bay: Evidence for Martian Organics in the Sheepbed Mudstone? **[#1157]**
Chlorobenzene detected by the Curiosity rover in Yellowknife Bay provide possible evidence for martian organics in the Sheepbed mudstone.

9:00 a.m. Kaplan H. H. * Milliken R. E. Knoll A. H. Bristow T. Knowlton M. E.
Detection of Organic Matter in Ancient Sedimentary Rocks Using Reflectance Spectroscopy **[#1995]**
Martian analog fine-grained sediments are analyzed with reflectance spectroscopy to understand detection limits for organics in relation to mineral assemblage.

9:15 a.m. Nuding D. L. * Davis R. D. Gough R. V. Tolbert M. A.
Water Uptake by Mars Salt Analogs: An Investigation of Stable Aqueous Solutions Using Raman Microscopy **[#2863]**
Instant Mars particles initiate stable and metastable aqueous solutions under present-day Mars relevant temperature and relative humidity conditions.

9:30 a.m. Mitrofanov I. G. * Litvak M. L. Sanin A. B. Starr R. Lisov D. I. et al.
Content of Water and Chlorine in the Martian Soil Along the Traverse of "Curiosity", as Measured by the Active Neutron Instrument DAN Onboard the Rover **[#1436]**
The data analysis of the DAN active measurements onboard the Curiosity rover is presented for 154 individual points along 1900 meters of the rover traverse.

9:45 a.m. Usui T. * Jones J. H. Simon J. I. Alexander C. M. O'D.
Evidence from Hydrogen Isotopes in Meteorites for a Martian Permafrost **[#1623]**
This study provides evidence for a massive ground-ice/permafrost that has existed relatively intact over geologic time (>3 G.y.).

10:00 a.m. Sun T. * Niles P. B. Socki R. A. Bao H. M.
Mass Dependency of Isotope Fractionation of Gases Under Thermal Gradient and its Possible Implications for Planetary Atmosphere Escaping Process **[#2477]**
We report no non-mass-dependent isotope fractionation for neon and high-pressure O_2 gas under thermal gradient, discuss its relevance for planetary atmosphere.

10:15 a.m. Mahaffy P. R. * Brunner A. Webster C. R. Atreya S. K. McAdam A. C. et al.
The Deuterium to Hydrogen Ratio in the Water that Formed the Yellowknife Bay Mudstones in Gale Crater **[#1251]**
D/H in thermally evolved water and hydrogen from Yellowknife Bay mudstones using the SAM mass spectrometer and tunable laser spectrometer on MSL.

10:30 a.m. Franz H. B. * Mahaffy P. R. Stern J. Eigenbrode J. Steele A. et al.
Carbon and Sulfur Isotopic Composition of Yellowknife Bay Sediments: Measurements by the Sample Analysis at Mars (SAM) Quadrupole Mass Spectrometer **[#2184]**
We will discuss carbon and sulfur isotopic analyses of gases released by thermal processing of martian surface samples by the SAM instrument on Curiosity.

10:45 a.m. Dottin J. W. III * Farquhar J. Hoek J. Franz H. B.
Isotope Evidence for Links Between Sulfate Assimilation and Oxidation of Martian Melts from Meteorites MIL 03346, MIL 090030, MIL 090032, and MIL 090136 **[#2420]**
We present data for sulfur extractions from MIL 090136, MIL 090030, and MIL 090032 and compare our results with data from MIL 03346 to study oxidation reactions.

11:00 a.m. Ding S. D. * Dasgupta R. D. Lee C-T. L. Wadhwa M. W.
New Bulk Sulfur Measurements of Martian Meteorites - Implications for Sulfur Cycle and Crust Formation **[#1717]**
We measured bulk S contents of seven martian meteorites and have attempted to estimate the plausible S budgets of the martian mantle, crust, and atmosphere.

11:15 a.m. Forni O. * Gaft M. Toplis M. Clegg S. M. Ollila A. et al.
First Fluorine Detection on Mars with ChemCam On-Board MSL-Curiosity **[#1328]**
We report the first detection of fluorine at the surface of Mars with ChemCam. Chlorine is also detected. We present an interpretion for their presence.

11:30 a.m. Lasue J. * Maurice S. Cousin A. Forni O. Meslin P. Y. et al.
ChemCam Analysis of Martian Fine Dust **[#1224]**
This work shows how ChemCam/MSL data on single-element calibration targets can be used to retrieve and analyze in detail the fine dust chemical composition.