Friday, March 21, 2014
FORMATION OF HABITABLE WORLDS
AND FATE OF HABITABLE ENVIRONMENTS
1:30 p.m.  Waterway Ballroom 6

Chairs: Alexander Pavlov
         Aaron Burton

1:30 p.m.  Johnson T. V. *  Mouissi O.  Lunine J. I.  Madhusudhan N.
Exoplanet Habitability: Effects of Planetesimal Carbon Chemistry [#1438]
The amount of water available beyond the snow line in exoplanet systems depends on the host star’s C/O in the circumstellar nebula.

1:45 p.m.  Henderson B. L. *  Gudipati M. S.
Two-Color MALDI-TOF Detection of Complex Organics in Electron-Irradiated Astrophysical Ice Analogs [#2512]
Bonds break, form, combine / Complexity from nothing / In the void of space..

2:00 p.m.  Burton A. S. *  Grunsfeld S.  Elsila J. E.  Glavin D. P.  Dworkin J. P.
The Effects of Thermal Metamorphism on the Amino Acid Content of the CI-Like Chondrite Y-86029 [#1394]
The CI-like chondrite Y-86029 was found to be depleted in amino acids compared to other CI chondrites, likely due to metamorphism in the presence of water.

2:15 p.m.  Chan H. S. *  Chikaraishi Y.  Takano Y.  Ogawa N. O.  Ohkouchi N.
Amino Acids in Carbonaceous Chondrites Yamato 980115 and Allan Hills A77003 [#2114]
Stable nitrogen-isotopic compositions of amino acids from CI1 Yamato 980115 and CO3 Allan Hills A77003 and the implications for their formation pathways.

2:30 p.m.  Yabuta H. *  Sakaiya T.  Kondo T.  Ohno S.  Nakabayashi M.  et al.
High Power Laser-Shock Experiment of Chondrites: Contribution of Impacts to the Early Earth Atmosphere [#2457]
A high power laser shock experiments of chondrites at 400 GPa were conducted. The produced volatiles included H2, C1–C6 hydrocarbons, and S-bearing compounds.

2:45 p.m.  Onyilagha J. C. *  Trice K.  Freeland S.
Further Investigation into the Biosynthetic Pathways of the 20 Standard Amino Acids of the Genetic Code [#1875]
The biosynthesis pathways of the 20 amino acids of the genetic code were investigated to provide more information into the origin of the standard genetic code.

3:00 p.m.  Adcock C. T. *  Hausrath E. M.
Reactive Transport Modeling of Phosphate Mineral Dissolution in High-P Martian Rocks [#2250]
Reactive transport modeling is applied to high-P martian rocks to gain insight into martian phosphate availability and the implications for potential life.

3:15 p.m.  Gainey S. R. *  Hausrath E. M.  Hurowitz J. A.  Tschauner O.
Formation of Aqueous Minerals: Implications for the Past Habitability of Mars [#2356]
Formation of aqueous minerals through the alteration of igneous rocks and its implications for the past habitability of Mars.

3:30 p.m.  Thompson C. G. *  Sobron P.  Dixon M. A.  Cabrol N.
Using Ion-Selective Optrodes to Characterize Water Chemistry in Extreme Environments [#2205]
Investigating the use of ion-selective optical sensors for characterizing biologically significant water chemistry in extreme environments.
3:45 p.m. Bultel B. B. * Quantin C. Q. Andréani M. A. Clénet H. C.  
*Deep Alteration of the Martian Crust: Insights from a Cross Section Between Hellas and Isidis Bassins [#1710]*  
We describe detections of phyllosilicates and carbonates in CRISM data by a new method of discrimination of minerals and we reconstruct a crustal cross-section.

4:00 p.m. Stern J. C. * Navarro-Gonzalez R. Freissinet C. McKay C. P. Archer P. D. Jr. et al.  
*Detection and Quantification of Nitrogen Compounds in the First Drilled Martian Solid Samples by the Sample Analysis at Mars (SAM) Instrument Suite on the Mars Science Laboratory (MSL) [#2743]*  
The SAM instrument suite on the Curiosity Rover detected both reduced and oxidized Ni-bearing compounds at Yellowknife Bay in Gale Crater.

*SAM Measurements of Krypton and Xenon on Mars [#2366]*  
SAM has measured krypton and xenon in the atmosphere of Mars from the Curiosity rover using a semi-static operating mode of its quadrupole mass spectrometer.

4:30 p.m. Pavlov A. A. * Eigenbrode J. Glavin D. Floyd M.  
*Rapid Degradation of the Organic Molecules in Martian Surface Rocks Due to Exposure to Cosmic Rays. Severe Implications to the "Extinct" Life on Mars [#2830]*  
Organic molecules are degraded effectively by cosmic rays in the top few meters of the martian rocks. SiO$_2$ matrix greatly increases the rate of degradation.