Wednesday, May 23, 2018
SESSION III
8:30 a.m. Lecture Hall

Chair: Louise Prockter

8:30 a.m. Neto-Lima J. * Fernández-Sampedro M. Prieto-Ballesteros O.
Low Temperature Approach to Serpentinization Processes on Ocean Worlds **[#6028]**
MIR results from laboratory experiments at constant temperature of 90ºC. The monitoring of the mineral alterations is done in the presence of different amounts of a Fe-Ni catalyst (awaruite) and ammonia, using XRPD, IR, SEM-EDS, XPS,RAMAN and ICP-MS.

8:50 a.m. Smith A. R. * Mueller R. Fisk M. R. Mason O. U. Popa R. Kieft B. Colwell F. S.
Prevalence of the Ancient Wood-Ljungdahl Pathway in a Subseafloor Olivine Community **[#6047]**
The ancient Wood-Ljungdahl pathway used for biosynthesis and energy generation was found to be the predominant metabolic pathway in a microbial community from olivine grains incubated in the Juan de Fuca subseafloor aquifer.

9:10 a.m. McCollom T. M. * Klein F.
Hydrogen and Methane Generation in Serpentinizing Systems: An Experimental Perspective **[#6021]**
Experimental studies indicate rates of serpentinization as well as H_2 and CH_4 production are very sluggish at low temperatures. Temperatures >200–300°C or prolonged reaction times may be required to produce significant H_2 and CH_4 within icy worlds.

9:30 a.m. Neveu M. * Desch S. J. Castillo-Rogez J. C.
Water-Silicate Interactions in Icy World Interiors: Fate of Antifreezes, Radionuclides, Carbon, Nitrogen, and Sulfur **[#6036]**
Geochemistry / Feeds back on geophysics / In multiple ways.

9:50 a.m. Rubin K. H. * Chadwick W. C. Embley R. W. Butterfield D. A.
Explosive Deep Sea Volcanism Produces Composite Volcanoes (Stratocones) with Predominantly Diffuse Flow Hydrothermal Ecosystems **[#6039]**
Newly-discovered extensive explosive deep sea volcanism produces distinct stratovolcano structures and physical rock characteristics, and host primarily diffuse flow hydrothermal activity, unlike focused flow systems at effusive submarine volcanoes.

10:10 a.m. Girguis P. R. * Hoer D. Michel A. Wankel S. D. Baker I. Farr N.
Somewhere, Beyond the Sea: Advancing Geochemical Sensor Technologies for Biological and Abiotic Analyses on Ocean Worlds **[#6027]**
Here we present our data from recent efforts aimed at examining the relationships among abiotic and biological processes in our ocean. These technologies may help us address that enduring question as to whether life exists on other celestial bodies.

10:30 a.m. *Break*

11:00 a.m. DISCUSSION

12:00 p.m. *Lunch*