

Tuesday, April 25, 2017

**NEW TECHNOLOGIES AND TECHNIQUES: OTHER TECHNOLOGIES AND TECHNIQUES:
ASTROBIOLOGY 'OMICS': USING SYSTEMS BIOLOGY TO
ADDRESS BIG QUESTIONS IN ASTROBIOLOGY
1:30 p.m. Mesa Room**

Chairs: **Jamie Foster**
 Wes Swingley

- 1:30 p.m. Hyer A. J. * Brazelton W. J.
 [Metagenomic Characterization of Serpentinization-Influenced Groundwater Collected at the Coast Range Ophiolite Microbial Observatory](#) [#3190]
 Metagenomic and metatranscriptomic analysis of temporally and geographically distributed subsurface fluid samples associated with serpentinite rocks.
- 1:45 p.m. Louyakis A. S. Foster J. S. * Casaburi G. Duscher A. A. Bonjawo R.
 [A Year in the Life of a Thrombolite: Metatranscriptomic Analysis over Diel and Seasonal Cycles](#) [#3337]
 In this study, metatranscriptomics was used to characterize changes in gene expression within an actively accreting thrombolite over diel and seasonal scales.
- 2:00 p.m. Ohlsson J. I. * Becraft E. D. Barmann S. M. Swingley W. D.
 [Genomic Analysis of a Hyperalkaliphilic Bacterium in an Anthropogenic Serpentinizing Spring Analogue](#) [#3343]
 A bacterium of the genus *Hydrogenophaga* has been sequenced from an extremely alkaline nonsaline anthropogenic site that resembles serpentinizing systems.
- 2:15 p.m. Osvatic J. T. * Ohlsson J. I. Swingley W. D.
 [Characterization of Dark Matter Bacteria from the Calumet Wetlands, an Extreme Alkaline Site and Analogue for Serpentinizing Systems](#) [#3341]
 A novel class of Firmicutes has been sequenced using metagenomic techniques from a high-pH anthropogenic site, considered analogous to serpentinizing systems.
- 2:30 p.m. Colman D. R. * Poudel S. Hamilton T. L. Havig J. R. Selensky M. J. Shock E. L. Boyd E. S.
 [Oxygen and the Evolution of Thermoacidophiles](#) [#3378]
 Here we provide evidence that both thermoacidophilic Archaea and the hyperacidic springs which they create are recent evolutionary and geologic phenomena.
- 2:45 p.m. Krusor M. * Jungblut A. D. Hawes I. Mackey T. J. Sumner D. Y.
 [Community Structure of Benthic Microbial Mats, Lake Fryxell, Antarctica](#) [#3455]
 Microbial mats in Antarctic Lake Fryxell change along photo- and oxyclines. Oxygen appears to be a major factor determining microbial community structure.
- 3:00 p.m. Glass J. B. * Kretz C. B. Wu J. Ranjan P. Tsementzi D. Konstantinidis K.
 Stewart F. J. Nunn B. L.
 ['Omics Explorations of Deep Hydrocarbon Hydrates](#) [#3721]
 We report on the potential function of JS-1 bacteria that co-occur with methane hydrates from metagenomic and metaproteomic sequencing.
- 3:15 p.m. Jones L. M. * Battistuzzi F. U.
 [Assessing the Quality of Calibration Points for Prokaryotes](#) [#3570]
 We are using prior-free molecular dating techniques to identify highly constraining calibration points used in reconstructing the timetree of life.
- 3:30 p.m. Srinivas A. J. * Thongsarn A. Mackelprang R.
 [Microbial Survival Strategies in Pleistocene-aged Permafrost Soil](#) [#3587]
 Use of near-complete genome assemblies from permafrost metagenomes to predict functional partitioning in permafrost microbial communities.
- 3:45 p.m. *Coffee Break*