

Friday, April 28, 2017

**NEW TECHNOLOGIES AND TECHNIQUES: LIFE DETECTION:
LIFE DETECTION LESSONS FROM ANALOGUE ENVIRONMENTS ON EARTH II**

1:30 p.m. Palo Verde

**Chairs: Jacqueline Goordial
Magdalena Osburn**

- 1:30 p.m. Matys E. D. * Mackey T. Sumner D. Y. Krusor M. Wall K. Jungblut A. Hawes I. Mueller E. Summons R. E.
[*Bacterioplanepolyols Across Environmental Gradients in Ice-Covered Lakes of the McMurdo Dry Valleys, Antarctica*](#) [#3387]
We describe the distribution of lipid biomarkers and how they relate to environmental conditions in Antarctica's ice-covered lakes.
- 1:45 p.m. Brady A. L. * Slater G. F. Gibbons E. Kobs Nawotniak S. Hughes S. S. Payler S. Stevens A. Cockell C. S. Haberle C. Sehlke A. Elphic R. C. Lim D. S. S.
[*Detection of Microbial Organic Biomarkers in Terrestrial Basalts in a Mars Analogue Environment*](#) [#3492]
Basalts from Idaho were investigated for habitability as Mars analogues. Microbial lipid analysis shows higher biomass in altered compared to unaltered basalts.
- 2:00 p.m. Stockton A. M. * Amador E. S. Cable M. L. Cantrell T. P. Chaudry N. Cullen T. Duca Z. A. Gentry D. M. Jacobsen M. Kirby J. McCaig H. Murukesan G. Rennie V. Schwieterman E. Stevens A. Tan G. K. Yin C. Cullen D. Geppert W.
[*Field Exploration and Life Detection Sampling Through Planetary Analogue Sampling \(FELDSPAR\)*](#) [#3637]
A primary goal of FELDSPAR is to conduct field operations analogous to Mars sample return in its science, operations, and technology. Facebook @FELDSPARResearch.
- 2:15 p.m. Pasterski M. J. * Barry G. Hanley L. Kenig F.
[*Mapping and Depth Profiling of Organic Compounds in Geologic Material at the Micron Scale: Femtosecond-Laser Desorption Positionization Mass Spectrometry \(fs-LDPI-MS\)*](#) [#3694]
These are the first results from fs-LDPI-MS mapping of organic compounds across the surface and with depth of geologic samples at the micron scale.
- 2:30 p.m. Sobron P. * Cabrol N.
[*Biosignature Detection with Raman and LIBS Instruments: Enhancing Mission Readiness Through In-Situ Analyses on Andes Analogues*](#) [#3640]
We demonstrate organic and mineral detection/identification capabilities of Raman and LIBS in several analog sites in Chile.
- 2:45 p.m. Li L. * Wing B. A. Bui T. H. McDermott J. M. Slater G. F. Wei S. Lacrampe-Couloume G. Sherwood Lollar B.
[*Isotopic Insights into Habitability and Potential Microbial Activity in the Long-Isolated Deep Terrestrial Subsurface*](#) [#3141]
Sulfate for the metabolism in the deep terrestrial subsurface biosphere is produced in situ by fluid-rock interaction and sustainable at geological time scales.
- 3:00 p.m. Casar C. P. * Osburn M. R. Flynn T. M. Masterson A. L. Kruger B. R.
[*Cultivating the Deep Subsurface Microbiome*](#) [#3310]
Field and lab cultivation techniques target deep subsurface fracture-associated biofilms and novel ferric oxide reducing microbes in a Mars analogue system.
- 3:15 p.m. Kruger B. R. * Wanger G. Mullin S. W. Sackett J. D. Bhartia R. Orphan V. J. Moser D. P. Amend J. P.
[*Fishing in the Desert: Accessing the Deep Biosphere Through Continental Wells*](#) [#3548]
A summary of the ongoing deep biosphere life characterization efforts in a deep continental well by the NASA Astrobiology-Life Underground team.

- 3:30 p.m. Li W. * Skidmore M. L. Dore J. E. Lindsay M. R. Steigmeyer A. J. Tunby P. G. Boyd E. S.
[Life Detection in Basal Ice from the Greenland Ice Sheet: Challenges and Opportunities](#) [#3527]
Physical, chemical, and biological properties of debris-rich ice from the margin and deep (~ 2500m ice depth)
Greenland Ice Sheet.
- 3:45 p.m. CONFERENCE ADJOURNS