

Thursday, April 27, 2017
SOLAR SYSTEM SITES: MARS:
MODERN AND ANCIENT BIOSIGNATURES AND THE SEARCH FOR LIFE ON MARS II
1:30 p.m. Palo Verde

Chairs: Jeff Havig
 Andrew Czaja

- 1:30 p.m. Williams A. J. * Eigenbrode J. L. Johnson S. S. Craft K. Wilhelm M. B. O'Reilly S. S. Summons R. E. Benison K. C. Mahaffy P. R.
[*Fatty Acid Detection in Mars-Analogous Rock Samples with the Wet Chemistry Experiment on the Sample Analysis at Mars \(SAM\) Instrument*](#) [#3071]
 Molecular biosignature preservation in Mars-analogous rocks and their potential for detection by the SAM instrument onboard the Curiosity rover.
- 1:45 p.m. Thomas-Keprta K. L. Gibson E. K. * Clementt S. J. Wentworth S. J.
[*Indigenous Carbonaceous Matter and Boron Associated with Evaporite Halite Crystals in the Martian Meteorite Nakhla*](#) [#3025]
 Martian meteorite Nakhla contains indigenous carbonaceous matter within clays produced by aqueous activity. Boron is also in the evaporite phases and clays.
- 2:00 p.m. Perl S. M. * Corsetti F. A. Vaishampayan P. A. Berelson W. M. Bottjer D. Caron D. Seuylemezian A. Baxter B. K. Butler J. Tuite M. L. Ehlmann B. L. Williford K. W. Ahmed M. Flannery D. T.
[*Quantifying the Threshold of Organic Detection in Evaporites: Constraining Martian Biosignature Preservation*](#) [#3567]
 The purpose of this investigation is to show preservation metrics and detection thresholds of archaea and bacteria entombed within evaporite minerals.
- 2:15 p.m. Hickman-Lewis K. * Gautret P. Foucher F. Cavalazzi B. Cockell C. S. Westall F. MASE Team
[*Occurrence and Significance of Carbonaceous Matter at the Surface of Mars*](#) [#3123]
 The best analogue of putative biogenic carbon from the Noachian Mars is from the Archaean Earth. Ours is a multi-technique geochemical analysis of this carbon.
- 2:30 p.m. Foucher F. * Westall F. Ammar M.-R. Lopez-Reyes G. Bost N. Rull-Perez F. Rüßmann P.
[*Raman Spectroscopy as a Key Tool for the Detection of Biosignatures on Mars*](#) [#3244]
 We studied the potential of Raman spectroscopy to detect biosignatures that could be observed on Mars, in particular during the next ExoMars 2020 mission.
- 2:45 p.m. Cockell C. S. * Stevens A. Payler S. Harrison J. P. Brady A. L. Salter G. F. Hughes S. Nawotniak S. Sehkle A. Garry W. B. Haberle C. Lim D. S. S.
[*Life in Volcanic Rocks: Using Analog Basaltic Environments on Earth to Assemble a History of Martian Habitability*](#) [#3145]
 Use of basaltic analog sites to understand martian habitability.
- 3:00 p.m. Gangidine A. * Havig J. Czaja A. D.
[*A Novel Trace Element Biosignature for Life on Early Earth and Mars*](#) [#3175]
 Through trace element analyses, a novel biosignature may be developed for ancient and extraterrestrial life, independent of morphological preservation.
- 3:15 p.m. Barlow E. V. * Van Kranendonk M. J.
[*Preservation of a 2.4 Ga Ecosystem in the Kazput Formation of the Turee Creek Group, Western Australia*](#) [#3108]
 A range of techniques are used to characterize the biogenicity of a diverse array of Paleoproterozoic organisms from both shallow and deep-water environments.

3:30 p.m. Mackey T. J. * Sumner D. Y.
[Morphological Signatures of Microbial Activity in Mats of Lake Vanda, McMurdo Dry Valleys, Antarctica](#) [#3065]
Microbial mats of Lake Vanda, Antarctica contain an example of microbe-environment interactions that could be preserved in early Earth or martian deposits.

3:45 p.m. *Coffee Break*