

Thursday, April 27, 2017
 SOLAR SYSTEM SITES: MARS:
 HABITABILITY AND PRESERVATION POTENTIAL OF
 SILICA-PRODUCING HYDROTHERMAL SYSTEMS
 4:15 p.m. Palo Verde

Chairs: Steven Ruff

Martin Van Kranendonk

- 4:15 p.m. Ruff S. W. * Farmer J. D.
[*A Silica-Producing Hydrothermal System on Mars and Its Microbially Inhabited Analog at El Tatio, Chile*](#) [#3400]
 We hypothesize that silica outcrops in the Columbia Hills of Mars are hot spring/geyser sinter deposits, and may include potential biosignatures.
- 4:30 p.m. Campbell K. A. * Handley K. M. Sriaporn C. Ruff S. W. Van Kranendonk M. J. Guido D. M. Djokic T.
[*Ubiquity and Diversity of Nodular and Digitate Micro-Stromatolites in New Zealand's Siliceous Hot Springs: Relevance for Mars Biosignature Exploration*](#) [#3239]
 Hot springs in New Zealand entomb microbes in opal and form nodular, micro-digitate stromatolites akin to putative sinter on Mars, and at El Tatio, Chile.
- 4:45 p.m. Djokic T. * Van Kranendonk M. J. Campbell K. A. Walter M. R.
[*Exceptional Preservation of Biosignatures in c. 3.48 Ga Terrestrial Hot Spring Deposits, Pilbara, Western Australia*](#) [#3021]
 This study provides key examples of ancient biosignatures preserved in c. 3.48 Ga terrestrial hot spring deposits from the Pilbara of Western Australia.
- 5:00 p.m. Hickman-Lewis K. * Cavalazzi B. Westall F.
[*Chemotrophic Biosignatures in Clotted Carbonaceous Cherts*](#) [#3125]
 Clotted carbonaceous cherts preserve enigmatic carbonaceous biosignatures and pseudosignatures, which unveil aspects of a hydrothermal chemotrophic biosphere.
- 5:15 p.m. Bower D. M. * Steele A. Ackerson M. R. Bullock E. S. Fries M. D. Conrad P. G.
[*Geochemical Characterization of Cherts from a Range of Depositional Environments to Assess Commonalities and Differences in Possible Biosignatures*](#) [#3360]
 We used confocal micro Raman spectroscopy and electron probe microanalysis to characterize quartz fabrics, mineral phases, and carbon in a suite of cherts.
- 5:30 p.m. Rask J. C. * Bywaters K. F. Magnuson T. S.
[*Radioactivity and Temperature Variations at Worswick Hot Springs*](#) [#3593]
 We report on a systematic characterization of the environmental conditions at Worswick Hot Springs, a radioactive, silica-producing hydrothermal system.