

Monday, May 16, 2016
FUNDAMENTAL COMPARISON OF EARTH VS. MARS
FROM A PALEOBIOLOGY PERSPECTIVE
1:30 p.m. Regency AB

Times include a 5 minute discussion at the conclusion of each presentation.

Chairs: **Nathalie Cabrol**
Elizabeth Hausrath
Richard Leveille

- 1:30 p.m. Ehlmann B. L. *
[*Mars Time and Martian Environments: Changing Habitability Through Time and Prospects for Ancient Mars Biosignatures*](#) [#2080]
 A summary of martian chronology and processes contributing to habitability (magnetic field, atmospheric pressure, solar luminosity, impact cratering, and volcanism) versus the age of rocks accessible at each landing site.
- 1:50 p.m. Boston P. J. * Alexander C.
[*Preservation of Microbial-Mineral Biosignatures in Caves*](#) [#2074]
 Earth caves are wonderful preservation environments for distinctive in situ biopatterns and biominerals. Several thousand volcanic caves have been detected on Mars and may contain biosignatures or extant life and are valuable future mission targets.
- 2:10 p.m. Horgan B. *
[*Strategies for Searching for Biosignatures in Ancient Martian Sub-Aerial Surface Environments*](#) [#2032]
 Organics can be preserved in sub-aerial soil environments if the soils have high clay contents and were formed under reducing (saturated) conditions. Possible ancient soils with these characteristics are present on Mars.
- 2:30 p.m. Break
- 3:00 p.m. Gupta S. * Grotzinger J. P. Sumner D. Y. Rubin D. M. Banham S. G. Stack K. M. Watkins J. A. Stein N. Edgett K. S. Hurowitz J. Lewis K. X. Yingst R. A. Minitti M. E. Schieber J. Vasavada A. R.
[*Ancient Lacustrine Mudstones and Associated Fluvio-Deltaic Strata at Gale Crater: Martian Sedimentary Contexts in the Search for Ancient Biosignatures*](#) [#2053]
 We characterize the sedimentology of ancient lacustrine mudstones in Gale crater, Mars, and consider the implications of their physical and chemical characteristics in the search for ancient biosignatures.
- 3:20 p.m. Clarke J. D. A. Stoker C. R. *
[*Searching for Life on Early Mars: Lessons from the Pilbarra*](#) [#2020]
 We mapped, imaged and sampled a field of 3.4 Ga stromatolites in Pilbarra Western Australia. Results from that work provide insight into requirements for finding early life on Mars.
- 3:40 p.m. Ruff S. W. * Farmer J. D.
[*Opaline Silica Occurrences in the Columbia Hills of Mars: A Case Study in the Hunt for Biosignatures*](#) [#2024]
 Microbially mediated silica sinter deposits of El Tatio in the Atacama Desert of Chile have remarkably similar morphologic and spectral characteristics as those of silica deposits adjacent to Home Plate in the Columbia Hills of Mars.
- 4:00 p.m. SESSION DISCUSSION
- 5:00 p.m. Session Adjourns