

Thursday, April 27, 2017
SOLAR SYSTEM SITES: MARS:
MODERN AND ANCIENT BIOSIGNATURES AND THE SEARCH FOR LIFE ON MARS I
10:15 a.m. Palo Verde

Chairs: Scott Perl

Andrew Gangidine

- 10:15 a.m. Williford K. H. * Farley K. A. Mars 2020 Project Science Group
 Mars 2020 Landing Site Working Group
[*An Update on Development and Landing Site Selection for the NASA Mars 2020 Rover Mission*](#) [#3632]
 We will present an update on mission development and the landing site selection process for the Mars 2020 rover mission.
- 10:30 a.m. Deitrick R. * Barnes R. Armstrong J. C. Scharf C. Domagal-Goldman S. D. Del Genio A. D.
[*Obliquity Evolution of Mars During the Noachian Period*](#) [#3450]
 We model the obliquity evolution of Mars during the Noachian period to search for clues on the origin of ancient martian geological features.
- 10:45 a.m. Tarnas J. D. * Mustard J. F. Sherwood Lollar B. Bramble M. S.
[*Radiolytic Hydrogen Production on Noachian Mars*](#) [#3381]
 Radiolysis produced sufficient quantities of hydrogen during the Noachian for sustainment of microbial communities, depending on its post-production behavior.
- 11:00 a.m. Sholes S. F. * Krissansen-Totton J. Catling D. C.
[*How Many Blue Whales on Mars? Obtaining a Maximum Extant Martian Biomass Using CO Antibiosignatures*](#) [#3189]
 Abundant CO on Mars represents an untapped energy source for microbes. We calculate the maximum extant biomass consistent with this uneaten “free lunch.”
- 11:15 a.m. Mumma M. J. * Villanueva G. L. Novak R. E.
[*The Search for Life on Mars: Methane as its Possible Messenger*](#) [#3635]
 The current status of methane on Mars will be described, based on measurements achieved with ground-based astronomical observatories and Mars-orbiting and -landed instruments.
- 11:30 a.m. Britt A. V. * Domagal-Goldman S.
[*Modeling MSL Measurements of Modern Martian Methane*](#) [#3448]
 We use 1D Photochemical modeling to simulate the time dependence and signal variation of present day methane in accordance with measurements taken by MSL’s SAM.
- 11:45 a.m. Steele A. * Benning L. Wirth R. Fries M. D. F.
[*Chloromethane Clathrate on Mars?*](#) [#3674]
 We discuss the finding and implications for biosignature detection of chloromethane clathrate.
- 12:00 p.m. Craig P. I. * Mickol R. L. Archer P. D. Kral T. A.
[*Nontronite and Montmorillonite as Nutrient Sources for Life on Mars*](#) [#3304]
 Methanogens can draw nutrients from certain clay minerals. Potential biosignatures are left within these minerals and could be detected by future missions.
- 12:15 p.m. *Lunch*