

Monday, March 20, 2017
MARS ATMOSPHERE: THAT WAS THEN, THIS IS NOW
2:30 p.m. Waterway Ballroom 4

[M152]

Chairs: Robin Wordsworth
Robert Lillis

- 2:30 p.m. Jakosky B. M. * MAVEN Science Team
[MAVEN Observations of Mars Atmospheric Loss and Implications for Long-Term Evolution](#) [#1114]
 MAVEN completed one Mars year of observations, determining atmospheric loss to space that spans all Mars seasons and includes effects of solar storms.
- 3:00 p.m. Lillis R. J. * Deighan J. Fox J. L. Bougher S. W. Lee Y. et al.
[Photochemical Escape of Oxygen from Mars: Consequences for Climate History](#) [#1793]
 Photochemical oxygen escape rates from Mars are derived from MAVEN in situ data. Extrapolating back in time, several hundred millibars likely escaped this way.
- 3:15 p.m. Kite E. S. * Mischna M. Gao P. Yung Y.
[Climate Optimum on Mars Initiated by Atmospheric Collapse?](#) [#1747]
 Mars' first-ever atmospheric collapse shifts H₂O-ice from high ground to poles, releasing CH₄ from sub-ice clathrate. We explore the consequences for Tsurf.
- 3:30 p.m. Wordsworth R. * Kalugina Y. Lokshtanov S. Vigasin A. Ehlmann B. et al.
[Transient Reducing Atmospheres on Early Mars as a Solution to the Faint Young Sun Paradox](#) [#2092]
 New spectroscopic and climate calculations demonstrate methane and hydrogen could have warmed early Mars far more strongly than previously believed.
- 3:45 p.m. Palumbo A. M. * Head J. W. Wordsworth R. D.
[Late Noachian Icy Highlands Climate Model: Exploring the Possibility of Transient Melting and Fluvial/Lacustrine Activity Through Peak Annual/Seasonal Temperatures](#) [#2107]
 We consider a cold and icy early Mars and ask: Is formation of the valley networks and lakes possible from punctuated heating and associated melting and runoff?
- 4:00 p.m. Kloos J. L. * Moores J. E.
[Inter-Annual and Diurnal Variability in Clouds Observed from MSL Over Two Martian Years](#) [#1250]
 Inter-annual and diurnal variability of equatorial martian clouds is assessed using cloud imaging observations from the MSL mission over two martian years.
- 4:15 p.m. Fischer E. * Martinez G. M. Renno N. O.
[Recalibration and Analysis of the Phoenix Relative Humidity Sensor Data](#) [#2761]
 Here, we show initial results of our recalibration of the Phoenix Thermal and Electrical Conductivity Probe to produce high-level relative humidity data.
- 4:30 p.m. Williamson H. N. * Elrod M. K. Johnson R. E.
[A Correlation Between Martian Exospheric Structure and the Solar Wind Interaction Region](#) [#2254]
 NGIMS data from a full martian year suggests precipitating heavy ions can affect neutral densities.