

Thursday, March 22, 2018

[R552]

MARS ROVER RESULTS I: DEPOSITIONAL AND ENVIRONMENTAL HISTORY

1:30 p.m. Waterway Ballroom 4

Chairs: Kristen Bennett
Lauren Edgar

- 1:30 p.m. Fraeman A. A. * Edgar L. A. Grotzinger J. P. Vasavada A. R. Johnson J. R. et al.
[Curiosity's Investigation at Vera Rubin Ridge](#) [#1557]
Overview of Curiosity's campaign at Vera Rubin Ridge. What we've learned about its deposition, subsequent alteration, and past redox conditions.
- 1:45 p.m. Edgar L. A. * Fraeman A. A. Gupta S. Fedo C. M. Grotzinger J. P. et al.
[Sedimentology and Stratigraphy Observed at Vera Rubin Ridge by the Mars Science Laboratory Curiosity Rover](#) [#1704]
Overview of sedimentary facies and stratigraphic trends at Vera Rubin Ridge using data from the MSL Curiosity rover.
- 2:00 p.m. L'Haridon J. * Mangold N. Rapin W. Cousin A. Johnson J. R. et al.
[Diagenetic Iron Enrichments Observed by ChemCam on Vera Rubin Ridge, Gale Crater, Mars](#) [#1333]
Iron enrichments associated with diagenetic features were observed by ChemCam on Vera Rubin Ridge, where orbital data (CRISM) showed a hematite signature.
- 2:15 p.m. Frydenvang J. * Mangold N. Wiens R. C. Clark B. C. Fraeman A. A. et al.
[Geochemical Variations Observed with the ChemCam Instrument on Vera Rubin Ridge in Gale Crater, Mars](#) [#2310]
ChemCam geochemistry observations on Vera Rubin Ridge show considerable shifts in major and minor elements compared to the underlying Murray formation bedrock.
- 2:30 p.m. Thompson L. M. * Fraeman A. A. Berger J. A. Boyd N. I. Desouza E. et al.
[APXS Determined Chemistry of the Vera Rubin \(Hematite\) Ridge, Gale Crater, Mars: Implications for Hematite Signature Origin](#) [#2826]
APXS compositional data acquired since climbing onto Vera Rubin Ridge, Gale Crater, Mars provides insight into possible ridge formation processes.
- 2:45 p.m. Fox V. K. * Bennett K. A. Vasavada A. R. Stack K. M. Ehlmann B. L.
[The Clay-Bearing Unit of Mount Sharp, Gale Crater, I: Orbital Perspective and Initial Results](#) [#1728]
The Curiosity rover will explore a layer in Mount Sharp with an orbital spectral signature indicating the presence of smectite clays and make *in-situ* observations.
- 3:00 p.m. Bennett K. A. * Fox V. K. Vasavada A. R. Grotzinger J. P. Edwards C. S. et al.
[The Clay-Bearing Unit in Gale Crater II: Plans for the Investigation of the Clay-Bearing Unit by the Curiosity Rover](#) [#1277]
Plans for the upcoming investigation of the clay-bearing unit by the Curiosity rover.
- 3:15 p.m. Squyres S. W. * Arvidson R. E. Golombek M. Fraeman A. Lamb M. et al.
[Opportunity's Exploration of Perseverance Valley](#) [#1758]
Recent results from Opportunity's exploration of Perseverance Valley, a fluid-carved gully on Mars.
- 3:30 p.m. Arvidson R. E. * Athena Science Team
[Stone Stripes Observed by the Opportunity Mars Rover in Perseverance Valley, Cape Byron, Endeavour Crater](#) [#1517]
Stone stripes observed by Opportunity in Perseverance Valley are similar to stone stripes formed in periglacial environments on Earth during freeze-thaw cycles.

- 3:45 p.m. Sullivan R. * Golombek M. Herkenhoff K. Athena Science Team
[Multiple Working Hypotheses at Perseverance Valley: Fracture and Aeolian Abrasion](#) [#2516]
Multiple working hypotheses for the origin of the Perseverance Valley trough system include the effects of faulting and aeolian abrasion.
- 4:00 p.m. Parker T. J. * Golombek M. P. Athena Science Team
[Origin of Perseverance Valley by Spillover of a Small Lake](#) [#2623]
Perseverance Valley is a 180 m channel that suggests fluid flow through a notch in the rim of Endeavour Crater from a small lake draining through the notch.
- 4:15 p.m. Hughes M. N. * Arvidson R. E. Grant J. A. Wilson S. A. Howard A. D.
[Degradation of Endeavour Crater Based on Orbital and Rover-Based Observations Together with Landscape Evolution Modeling](#) [#1563]
Landscape evolution modeling shows Endeavour experienced early fluvial erosion followed by mass wasting and diffusion, and ongoing aeolian erosion/deposition.
- 4:30 p.m. Bouchard M. C. * Jolliff B. L.
[Rock Suites of Endeavour Crater, Mars: Comparing Perseverance Valley to the Floor of Spirit of St. Louis Crater](#) [#2590]
The geochemistry of the material in Perseverance Valley is highly similar to the floor of Spirit of St. Louis Crater.