

Monday, March 21, 2016
MARTIAN AEOLIAN PROCESSES:
MSL AT THE BAGNOLD DUNE FIELD
2:30 p.m. Waterway Ballroom 6

[M153]

Chairs: Lori Fenton
James Zimbelman

- 2:30 p.m. Bridges N. T. * Ehlmann B. L. Ewing R. C. Newman C. E. Sullivan R. et al.
[*Investigation of the Bagnold Dunes by the Curiosity Rover: Overview of Initial Results from the First Study of an Active Dune Field on Another Planet*](#) [#2298]
 MSL is now passing through an active sand dune field. We review initial results from the campaign at a high level.
- 2:45 p.m. Lapotre M. G. A. * Ewing R. C. E. Lamb M. P. Fischer W. W. Lewis K. W. et al.
[*Orbital and In-Situ Observations in Support of the Existence of an Unknown Stable Aeolian Bedform Regime on Mars*](#) [#1510]
 We report on the discovery of a new stable aeolian bedform regime based on orbital and rover observations of dunes fields on Mars.
- 3:00 p.m. Ewing R. C. * Bridges N. T. Sullivan R. Lapotre M. G. A. Fischer W. W. et al.
[*Aeolian Sedimentary Processes at the Bagnold Dunes, Mars: Implications for Modern Dune Dynamics and Sedimentary Structures in the Aeolian Stratigraphic Record of Mars*](#) [#2783]
 Analysis of MSL Curiosity rover images of sand dunes reveals both familiar and strikingly different sedimentary structures from those recognized on Earth.
- 3:15 p.m. Achilles C. N. * Vaniman D. T. Blake D. F. Bristow T. F. Rampe E. B. et al.
[*Mineralogy of Eolian Sands at Gale Crater*](#) [#2532]
 The mineralogy of active, Bagnold, and inactive, Rocknest, eolian sand deposits in Gale Crater, Mars is compared and constraints on their sources are explored.
- 3:30 p.m. Cousin A. * Forni O. Meslin P. Y. Schroeder S. Gasnault O. et al.
[*Chemical Diversity Among Fine-Grained Soils at Gale \(Mars\): A Chemical Transition as the Rover is Approaching the Bagnold Dunes?*](#) [#2044]
 This study focuses on soil analyses by ChemCam along the traverse as we approach the Bagnold dunes, the first active dune field accessible by a Mars rover.
- 3:45 p.m. Ehlmann B. L. * Bridges N. Fraeman A. A. Lapotre M. G. A. Edgett K. et al.
[*Chemistry and Mineralogy In Situ at the Bagnold Sand Dunes: Evidence for Aeolian Sorting and Size-Dependence in Sand Composition*](#) [#1536]
 We provide an overview of in situ chemistry and mineralogy results from the Curiosity rover science campaign at the Bagnold dunes.
- 4:00 p.m. O'Connell-Cooper C. D. * Thompson L. M. Spray J. G. Berger J. A. Desouza E. D. et al.
[*Preliminary Comparison of Soils Within Gale Crater to Those from Gusev Crater and Meridiani Planum*](#) [#2477]
 APXS analyses highlight compositional similarities between soils at Gale, Gusev, and Meridiani, whilst showing varied compositions in soils at Bagnold Dunes.

- 4:15 p.m. Chojnacki M. * Urso A. C. Michaels T. I. Fenton L. K.
[*Aeolian Dune Sediment Flux Heterogeneity in Meridiani Planum, Mars*](#) [#2091]
Widespread dune migration is detected in the region surrounding the Opportunity rover. Results show spatially and temporally variable sand fluxes for dunes.
- 4:30 p.m. Banham S. G. Gupta S. Rubin D. M. Watkins J. A. Sumner D. Y. et al.
[*Reconstruction of an Ancient Eolian Dune Field at Gale Crater, Mars: Sedimentary Analysis of the Stimson Formation*](#) [#2346]
Surface observations of the Stimson formation, Gale crater, lead us to interpret that it was deposited by an eolian dune field, undergoing episodic aggradation.