Thursday, March 22, 2018 **[R502]**

GEOLOGIC HISTORY FROM CURIOSITY OBSERVATIONS AT GALE CRATER

8:30 a.m. Waterway Ballroom 4

Chairs: **Vivian Sun**
Michelle Minitti

8:30 a.m. Grant J. A. * Wilson S. A.
Possible Geomorphic and Crater Density Evidence for Late Aqueous Activity in Gale Crater **[#2102]**
Superposition relations, preserved morphology, and crater densities on alluvial surfaces in Gale Crater are consistent with aqueous activity occurring <3 Ga.

8:45 a.m. Bedford C. C. * Schwenzer S. P. Bridges J. C. Wiens R. C. Rampe E. B. et al.
Geochemical Endmembers Preserved in Gale Crater: A Tale of Two Mudstones and Their Compositional Differences According to ChemCam **[#1895]**
We have isolated major element alteration trends from host rock geochemistry in Gale Crater's mudstone units and identified the igneous source compositions.

9:00 a.m. Fedo C. M. * Grotzinger J. P. Gupta S. Fraeman A. Edgar L. et al.
Sedimentology and Stratigraphy of the Murray Formation, Gale Crater, Mars **[#2078]**
This abstract represents a progress report on the sedimentology and stratigraphy of part of the Murray formation in Gale Crater, Mars.

9:15 a.m. Stack K. M. * Williams R. M. E. Grotzinger J. P. Rubin D. M. Frydenvang J. et al.
Sandstones and Conglomerates at the Foothills of Mount Sharp, Gale Crater, Mars: Facies Analysis and Stratigraphic Implications **[#1712]**
At Mount Sharp's foothills / Sandstones and conglomerates / Younger than we thought?

9:30 a.m. Minitti M. E. * Van Beek J. Calef F. J. III Harker D. Herkenhoff K. E. et al.
Primary and Secondary Features Within the Pahrump Hills Outcrop as Seen in the MARDI Sidewalk Mosaic **[#1560]**
The MARDI sidewalk mosaic at Pahrump Hills effectively characterizes primary and secondary features, and their distributions, throughout the outcrop.

9:45 a.m. Newsom H. E. * Edgett K. S. Fey D. M. Wiens R. C. Frydenvang J. et al.
A Buried Aeolian Lag Deposit at an Unconformity Between the Murray and Stimson Formations at Marias Pass, Gale Crater, Mars **[#2263]**
A thin layer of material (Missoula lens) consisting of fragments of Murray, embedded in a Stimson matrix, formed as an aeolian lag deposit.

10:00 a.m. Schieber J. * Minitti M. Sullivan R. Malin M. Parker T. et al.
Engraved on the Rocks — MARDI Observations Show the Relationship of Eolian Abrasion of Murray Formation Mudstones to Modern Wind Patterns in Gale Crater, Mars **[#1102]**
Ventifacts (wind tails) on mudstone surfaces of the Murray Formation show good agreement with average wind patterns detected from orbit.

10:15 a.m. Rivera-Hernandez F. * Sumner D. Y. Mangold N. Stack K. M. Edgett K. et al.
Characterizing Shifting Ancient Depositional Environments in the Murray Formation, Gale Crater, Mars from ChemCam LIBS Data **[#2973]**
Inferred grain sizes and possible depositional environments for rocks in the Murray formation, Gale Crater, Mars are presented based on ChemCam LIBS data.

10:30 a.m. Meslin P.-Y. * Gasda P. L'Haridon J. Forni O. Lanza N. et al.
Detection of Hydrous Manganese and Iron Oxides with Variable Phosphorus and Magnesium Contents in the Lacustrine Sediments of the Murray Formation, Gale, Mars **[#1447]**
Hydrous Mn/Fe-oxides were observed in the sediments of the Murray fm, indicative of a shallow lacustrine environment with variable chemistry and redox conditions.

10:45 a.m. Sun V. Z. * Stack K. M. Nachon M. Johnson S. S. Kronyak R. E. et al.
Late-Stage Diagenesis in the Murray Formation, Gale Crater, Mars: Evidence from Diverse Concretion Morphologies **[#1587]**
Diverse and abundant concretions are observed in the lacustrine Murray formation, providing evidence for multiple late-stage diagenetic episodes in Gale Crater.

11:00 a.m. Rapin W. * Ehlmann B. Grotzinger J. Dromart G. Clegg S. et al.
Briny Waters Evidenced by Magnesium Sulfate Rich Layers Discovered In Situ at Gale Crater **[#2936]**
Epsomite rich bands / Little rover stumbled on / Formed when brines once came.

11:15 a.m. Rice M. S. * Dixon D. Bell J. F. III Wellington D. Johnson J. R.
Spectral Variability of Sulfate Veins Observed by Mastcam Along Curiosity's Traverse in Gale Crater, Mars **[#2949]**
Mastcam spectra of Ca-sulfate veins exhibit considerable variability across Curiosity's traverse, which may be consistent with changes in iron oxidation state.

11:30 a.m. Gallegos Z. E. * Newsom H. E. Gasnault O. Le Mouélic S. Lewis K. W. et al.
Recent Results and Future Plans for the Peace Vallis Campaign Including ChemCam RMI Super-Resolution Observations **[#2965]**
The nature and evolution of Peace Vallis fan is evaluated with new imaging and analysis, including super-resolution, by the MSL Peace Vallis campaign (PVc).