Wednesday, March 18, 2015 **[W352]**
MARS LOW-TEMPERATURE GEOCHEMISTRY AND MINERALOGY
1:30 p.m. Waterway Ballroom 4

Chairs: **Elizabeth Rampe**
Briony Horgan

1:30 p.m. Yen A. S. * Ming D. W. Gellert R. Clark B. C. Mittlefehldt D. W. et al.
Silica Retention and Enrichment in Open-System Chemical Weathering on Mars **[#2380]**
Samples analyzed at Meridiani Planum, Gusev Crater, and Gale Crater show similar signatures of open-system chemical weathering.

1:45 p.m. McLennan S. M. * Dehouck E. Grotzinger J. P. Hurowitz J. A. Mangold N. et al.
Geochemical Record of Open-System Chemical Weathering at Gale Crater and Implications for Paleoclimates on Mars **[#2533]**
Sedimentary rocks examined by Curiosity at Pahrump Hills exhibit evidence for chemical weathering, consistent with relatively clement climatic conditions.

2:00 p.m. Ming D. W. * Mittlefehldt D. W. Gellert R. Peretyazhko T. Clark B. C. et al.
Iron-Manganese Redox Reactions in Endeavour Crater Rim Apron Rocks **[#2676]**
Redox reactions have played an important role in mobilization and transportation of redox sensitive elements in Endeavour crater rim deposits.

2:15 p.m. Szynkiewicz A. * Goff F. Faiia A. M. Vaniman D. T. Subia T. et al.
Aqueous Sulfur Budget and Oxidation of Fumarolic H_2S in the Volcanic Complex of Valles Caldera, New Mexico — Geochemical Implications for Mars **[#1303]**
We have been studying the terrestrial hydrological sulfur cycle related to volcanic sulfur emission and aqueous chemical weathering as Mars geochemical analogs.

2:30 p.m. Rampe E. B. * Morris R. V. Archer P. D. Jr.
Recognizing Sulfate and Phosphate Complexes Adsorbed onto Nanophase Weathering Products on Mars **[#2689]**
We examine the ability to detect chemisorbed SO_4 and PO_4 complexes on Mars by analyzing ion-adsorbed nanophase materials using mission-relevant instruments.

2:45 p.m. Fox A. * Peretyazhko T. Sutter B. Niles P. Ming D. W. et al.
Effect of Sulfur Concentration and pH Conditions on Akaganeite Formation: Understanding Akaganeite Formation Conditions in Yellowknife Bay, Gale Crater, Mars **[#1199]**
The formation of akaganeite in variable pH conditions and sulfur concentrations was studied to better understand how akaganeite formed at Yellowknife Bay, Mars.

3:00 p.m. Kronyak R. E. * Kah L. C. Nachon M. Mangold N. Weins R. C. et al.
Distribution of Mineralized Veins from Yellowknife Bay to Mount Sharp, Gale Crater, Mars: Insight from Textural and Compositional Variation **[#1903]**
Rocks at Gale Crater contain light-toned calcium sulfate veins representing overpressuring of pore-fluids and fracturing of sediments during burial diagenesis.

3:15 p.m. Siebach K. L. * Grotzinger J. P. McLennan S. M. Hurowitz J. A. Ming D. W. et al.
Constraining the Texture and Composition of Pore-Filling Cements at Gale Crater, Mars **[#2234]**
Pore waters in Gale/Made sandstone from sediment/What cements Mars rocks?

3:30 p.m. Horgan B. * Rutledge A. Rampe E. B.
Clay Mineralogy and Crystallinity as a Climatic Indicator: Evidence for Both Cold and Temperate Conditions on Early Mars **[#2923]**
Warm and arid climates tend to produce more crystalline clays than cold climates. Clay minerals on Mars suggest both cold and seasonally temperate climates.

3:45 p.m. Gainey S. R. * Hausrath E. M. Hurowitz J. A.
Weathering Profiles at Mawrth Vallis Yield Insight into the Aqueous History and Potential Habitability of Mars **[#2248]**
Reactive transport modeling of potential weathering profiles at Mawrth Vallis may yield insight into the aqueous history and potential habitability of Mars.

4:00 p.m. Peretyazhko T. S. * Sutter B. Morris R. V. Agresti D. G. Le L. et al.
Smectite Formation from Basaltic Glass Under Acidic Conditions on Mars **[#2404]**
Formation of smectites studied under acidic conditions.

4:15 p.m. Friedlander L. R. * Glotch T. D.
Nontronite Detections in Nili Fossae Based on an Impact-Altered Natural Nontronite Sample Resemble Regional-Scale Spectral Variability Previously Associated with Phyllosilicate Diagenesis **[#2852]**
Results from CRISM image processing show that some spectral shifts previously interpreted as diagenesis may also be related to impact processes.

4:30 p.m. Osterloo M. M. * Hynek B. M.
Martian Chloride Deposits: The Last Gasps of Widespread Surface Water **[#1054]**
We present results of geologic characterizations of the largest chloride sites to better understand their geologic setting, age, and formation mechanisms.