A Mars Analog Study of 2D Textural Image Analysis: Effects of Shadows, Image Resolution, and Comparisons to Actual Sediment Textures from Aeolian Dune Sand, Moses Lake, WA [#2321]

Experimental Investigation of Gravity Effects on Sediment Sorting on Mars [#1529]

Reactive Surface Area of Sediments from End-Member Climates: Implications for Paleoclimate on Earth and Mars [#2613]

Producing Martian "Bricks" by Using Raw Martian Soil Simulants [#1038]

Mechanical Properties of Rock Analogs for the Mars 2020 Mission [#2949]

What does the Martian Mantle Look Like? Comparing Metasomatized and Cumulate Mantle Xenoliths from Earth as Analogues [#1164]

Mars Analogue Minerals' Spectral Reflectance Characteristics Under Martian Surface Conditions [#2294]

Characterisation of Martian Analogues Samples with MicrOmega Hayabusa2 Flight Spare Model [#2083]
Visible and NIR Spectral Characteristics of Andesite and Saline Mud Field Samples from Lake Abert, Oregon and Implications for Compositional Investigations of Martian Evaporites [#2446]

Spectral characteristics of samples from Lake Abert were investigated in the visible and NIR (0.35–12 µm) and explored as analogs to martian geochemistry.

Ye C. Glotch T. D. VNIR Reflectance and MIR Emissivity Spectral Character of Chloride-Bearing Mineral Mixtures [#2811]

Laboratory work about the spectral features of the chloride-bearing mineral mixtures on Mars.

Katz S. M. Nickerson R. D. Ehlmann B. L. Catalano J. G. Synthesis and Analysis of Synthetic Smectite Clays for Use as Spectral Standards [#1683]

This work details the analysis of synthetic ferric smectites to determine differentiating features that will ultimately result in new spectral standards.


Nanophase iron oxides and oxyhydroxides are common phases on many rocky solar system bodies. Synthetic samples have been characterized by multiple techniques.

Ray D. Shukla A. D. Chandra U. Mineralogy, Geochemistry and Mossbauer Spectroscopy of Iron Concretions from Jurassic Formation of Kutch, India: More Insights in to the Depositional History and Implications to Martian “Blueberries” [#1016]

Hematite concretions chemistry suggests uniform fluid composition resulted rind concretions and multiple precipitation likely responsible for larger concretions.

Leask E. K. Ehlmann B. L. Quantifying Mineral Abundance through VSWIR Microspectroscopy in Carbonate/Serpentine Systems [#1409]

Carbonate and serpentine mineral abundances are quantified using linear spectral unmixing from VSWIR reflectance spectra, and compared to XRD and EDS results.

Sekerak M. A. J. Koziol A. M. Investigation of Svalbard, Norway Carbonates in Basaltic Samples as an Earth Analog for Carbonate Globules Within Martian Meteorite Allan Hills 84001 [#1198]

This undergraduate project compares carbonate globules in ALH 84001 and samples from an analog site in Svalbard, Norway, to better understand carbonate formation.

Evans M. E. Niles P. B. Locke D. R. Chapman P. Two Distinct Secondary Carbonate Species in Ordinary Chondrite (OC) Meteorites from Antarctica are Possible Analogs for Mars Carbonates [#2475]

Two distinct carbonates form on Antarctic OCs with regional δ18O variation. δ13C and δ18O suggest atmos. CO2 dominates formation as Mars carbonate process analog.

Ende J. J. Szyrkiewicz A. Understanding Mechanism of Sulfate Formation on Mars: Experimental Study on the Oxidation of H2S Under Laboratory Conditions [#2372]

Sulfate formation / H2S Oxidation / How does it happen?

Flahaut J. Bishop J. L. Daniel I. Silvestro S. Tedesco D. et al. Spectral Characterization of the Sulfate Deposits at the Mars Analog Site of La Solfatara (Italy) [#2233]

Field and laboratory observations were used to better constrain the mineralogic assemblages of several Mars analog sulfate-rich deposits at la Solfatara, Italy.
Miller K. M.   Phillips-Lander C. M.   Elwood Madden A. S.   Elwood Madden M. E.  

**POSTER LOCATION #685**

*Low Temperature Anhydrite Formation in Flow-Through Dissolution Experiments* [#1308]

Flow-through and batch reactor experiments were conducted combining K-jarosite with varying wt. % CaCl2 brines; all reaction products were identified via XRD.

Sun V. Z.   Milliken R. E.   Robertson K. M.   Ruff S. W.   Farmer J. D.  

**POSTER LOCATION #686**

*Spectral Characterization and Mineralogy/Chemistry of Opaline Silica Samples from Diverse Mars Analog Sites* [#2071]

Samples from both Yellowstone and Hawaii are rich in opal-A yet spectrally distinct, possibly reflecting differences in hydration and formation environment.

Hadnott B. H.   Hayes A. H.   Glotch T. D.   Rossman G. R.   Leao J. B.  

**POSTER LOCATION #687**

*Characterization of the Temperature Dependence of O-H Vibrational Modes in Hydrated and Hydroxylated Minerals, with Application to Planetary Exploration* [#2547]

Hydrated and hydroxylated minerals are characterized for application to remote sensing and fundamental mineral physics using FTIR and geochemical methods.