

**Thursday, March 22, 2018**  
**POSTER SESSION II: MARS ICE AND POLAR PROCESSES**  
**6:00 p.m. Town Center Exhibit Area**

[R638]

Becerra P. Sori M. M. Thomas N. **POSTER LOCATION #616**  
[\*The Exposed Stratigraphy of the Martian South Polar Layered Deposits\*](#) [#2445]

A high-resolution quantitative study of the correlation and periodicities of the stratigraphic exposures in the South Polar Layered Deposits of Mars.

Plaut J. J. Bellutta D. Gim Y. **POSTER LOCATION #617**  
[\*New Insights into the Internal Structure of the Martian Polar Plateaus from MARSIS 3D Mapping\*](#) [#2252]

We provide interpretation of new three-dimensional radar sounding image compilations of MARSIS data for both polar regions.

Buhler P. B. Dickson J. Ehlmann B. L. Ingersoll A. P. Byrne S. et al. **POSTER LOCATION #618**  
[\*Prospects for Measuring Vertical Change on the Martian Residual South Polar Cap Using HiRISE Digital Elevation Models\*](#) [#2908]

We evaluate the prospect of using the difference between HiRISE DEMs taken at different times over the martian south polar cap to measure vertical change.

Landis M. E. Byrne S. Dundas C. M. Herkenhoff K. E.  
 Whitten J. L. et al. **POSTER LOCATION #619**  
[\*Surface Ages of the South Polar Layered Deposits, Mars\*](#) [#1605]

We present revised surface ages for the two geologic units of the South Polar Layered Deposits, Mars, based on crater counts using Context Camera (CTX) images.

Gim Y. Bellutta D. Plaut J. **POSTER LOCATION #620**  
[\*Construction of MARSIS 3D Radar Maps of the Martian Polar Regions\*](#) [#1793]

We present 3D radar maps of the martian polar regions. The maps are constructed by combining thousands of sounding measurements by MARSIS instrument.

Becerra P. Nunes D. Smith I. Sori M. M. Brouet Y. et al. **POSTER LOCATION #621**  
[\*Correlation of the Visible and Radar Stratigraphic Records of Mars' NPLD\*](#) [#1888]

We present our approach to the correlation of the HiRISE/exposure-based and SHARAD/subsurface-based stratigraphies of the North Polar Layered Deposits of Mars.

Parra S. A. Milkovich S. M. Byrne S. Russell P. S. Becerra P. **POSTER LOCATION #622**  
[\*Variations in Texture of the North Polar Residual Cap of Mars\*](#) [#2272]

Preliminary analysis of HiRISE data reveal meters-scale periodicities in texture that may exhibit ties to katabatic winds and seasonal carbon dioxide retreat.

Nunes D. C. Becerra P. Smith I. B. **POSTER LOCATION #623**  
[\*Local Variability of Radar Stratigraphy at the North Polar Layered Deposits, Mars\*](#) [#2486]

We assess local variability of SHARAD sounding profiles in the vicinity of HiRISE-derived stratigraphy to constrain input into correlation efforts.

Buhler P. B. Piqueux S. Ingersoll A. P. Ehlmann B. L. Hayne P. O. **POSTER LOCATION #624**  
[\*EnTOMBR: An Energy Balance Model for Exploring the Sequestration of the Massive Martian Buried CO<sub>2</sub> Ice Deposit\*](#) [#2878]

We present model validation and first results of an energy balance model for Mars used to investigate how the massive buried CO<sub>2</sub> deposit was entombed.

Putzig N. E. Hoover R. H. *POSTER LOCATION #625*  
[Searching for Buried Water Ice in Martian Dunes with Radar and Thermal Data](#) [#2362]

We use Shallow Radar (SHARAD) sounding data and thermal analysis results for martian dunes to assess the presence and depth of buried water ice.

Hawkswell J. E. Godin E. Osinski G. R. Zanetti M. Kukko A. *POSTER LOCATION #626*  
[Comparative Investigation of Polygon Morphology Within the Haughton Impact Structure, Devon Island with Implications for Mars](#) [#2899]

A case study of geomorphological variation in periglacial patterned ground within the area of the Haughton Impact Structure, Devon Island.

Tober B. S. Holt J. W. Grima C. Levy J. S. *POSTER LOCATION #627*  
[Radar Reflectivity Analysis of Boulder Halos on Mars: Is Subsurface Ice the Culprit?](#) [#2935]

Analysis of boulder halo reflectivity, aimed at discriminating between the deterministic and non-deterministic structure of the surface and near-surface.

Whitten J. L. Campbell B. A. Plaut J. J. *POSTER LOCATION #628*  
[Defining the Material Properties of the Dorsa Argentea Formation Using MARSIS Radar Sounder Data](#) [#2632]

The subsurface extent and material properties of the Dorsa Argentea Formation in the south polar region of Mars are analyzed using MARSIS radar sounder data.

Parsons R. A. Miyamoto H. *POSTER LOCATION #629*  
[Influence of Debris Cover on the Temperature of Buried Martian Ice Deposits](#) [#1927]

Low thermal conductivity, 10 m-thick regolith insulates underlying ice, elevating temperature and lowering viscosity of ice by a factor of 3 for 400 m-thick ice deposit.

Brown A. J. Bapst J. Byrne S. *POSTER LOCATION #630*  
[Observations of a New Stabilizing Process for Surface Water Ice on Mars](#) [#1177]

We present CRISM images of Louth Crater documenting a process that is replenishing and perhaps stabilizing the ice mound with H<sub>2</sub>O ice from surrounding regolith.

Jawin E. R. Head J. W. Fastook J. L. *POSTER LOCATION #631*  
[Late-Stage Paraglacial Activity on Mars: Formation of Washboard Terrain](#) [#1154]

Martian washboard terrain is an enigmatic paraglacial feature that likely formed through glacial crevassing at several locations within a glaciated crater.

Strom C. S. *POSTER LOCATION #632*  
[Effect of Valley Wall Steepness on Glacier Formation, Frequency, and Morphology on Earth and Mars](#) [#1820]

Rock glacier formation which could be used to study past climate on Earth and Mars is also influenced by topographic features such as valley wall steepness.

Glines N. H. Gulick V. C. *POSTER LOCATION #633*  
[Thermokarst Paleolake Assemblages and Channels in Lyot Crater, Mars](#) [#2955]

Curious channels and circular depressions are mapped on the floor of Lyot Crater, possibly analogous to thermokarst lake assemblages and beaded streams on Mars.

Cook C. W. Bramson A. M. Byrne S. Viola D. Holt J. W. et al. *POSTER LOCATION #634*  
[Searching for Subsurface Ice in Hellas Planitia Using SHARAD](#) [#2457]

We are mapping subsurface radar interfaces and finding associated dielectric constants to determine whether ice is present in Hellas Planitia.

Sejourne A. Costard F. Losiak A. Swirad Z. M. Balme M. R. et al. **POSTER LOCATION #635**  
[Grid Mapping of Ice-Related Landforms in Utopia Planitia on Mars: Distribution and Stratigraphy of Ice-Rich Deposits](#) [#2199]

Based on their spatial association at regional and local scale, three different assemblages of landforms are defined, and are associated with deposits.

Hunter J. M. Young C. A. Christ A. J. Withers P. Marchant D. R. **POSTER LOCATION #636**  
[Survey of Martian Mid-Latitudinal Craters Containing Possible Glacial Landforms](#) [#1128]

Identified glacier-like forms within mid-latitudinal craters on Mars and identified relationships between them to interpret their origin and evolution over time.

Johnsson A. Reiss D. Conway S. J. Hauber E. Hiesinger H. et al. **POSTER LOCATION #637**  
[Unusual and Possible Glacial Deposits in Nereidum Montes, Mars: Insights from Veiki Moraines in Northern Sweden](#) [#2785]

Very unusual landforms have been observed in Nereidum Montes Mars. Their striking resemblance to Veiki moraines in Sweden suggest a possible glacial origin.

Butcher F. E. G. Balme M. R. Gallagher C. Arnold N. S. Conway S. J. et al. **POSTER LOCATION #638**  
[Evidence for Recent Wet-Based Crater Glaciation in Tempe Terra, Mars](#) [#1498]

Sinuuous ridges in a glaciated mid-latitude crater in Tempe Terra, Mars: Glacier-linked eskers, inverted channels, or both?