

Thursday, March 24, 2016

[R639]

POSTER SESSION II: MARS POLAR PROCESSES/CRYOSPHERE

6:00 p.m. Town Center Exhibit Area

Brooker L. M. Balme M. R. Conway S. J. Hagermann A. Collins G. S. **POSTER LOCATION #565**
[Morphometric Analysis of Clastic Polygonal Networks Around Lyot Crater, Mars](#) [#2157]

Lyot polygons/ Large sized, clastic and cryptic/ Mystery measured.

Stuurman C. M. Holt J. W. Levy J. S. Petersen E. I. **POSTER LOCATION #566**
[Debris-Covered Glaciers on Mars: Investigating the Relationship Between Surface Ridges and Internal Structure Through Comparison to Earth Analogs](#) [#2732]

Ridges, debris bands / Analogues and modelling / Could unlock Mars' past.

Baker D. M. H. Carter L. M. **POSTER LOCATION #567**
[Multi-Scale Characterization of Supraglacial Debris in Deuteronilus Mensae, Mars](#) [#1638]

SHARAD radar sounding data, imagery, and topography are analyzed to constrain the physical properties of near-surface materials of glacial deposits on Mars.

Petersen E. I. Levy J. S. Holt J. W. McKinnon E. A. Goudge T. A. **POSTER LOCATION #568**
[The Effect of Surface Roughness on Shallow Radar Sounding of Debris-Covered Glaciers in Deuteronilus Mensae, Mars](#) [#2618]

It's a hard-knock life, SHARAD / Glacier skin can be so rough / Making sounding very tough / and HiRISE agrees (with a nod).

Koutnik M. R. Pathare A. V. Todd C. E. Waddington E. D. **POSTER LOCATION #569**
[Influence of Debris Cover on Glacier-Surface Evolution](#) [#1059]

We are studying the effects of debris cover on glaciers in order to best apply terrestrial flow models to debris-covered martian lobate debris aprons.

Joseph E. C. S. Pathare A. V. Crown D. A. Berman D. C. Chuang F. C. **POSTER LOCATION #570**
[Surface Characteristics of Martian Lobate Debris Aprons: Insights from HiRISE Images and Topography](#) [#2962]

We extend surface texture analyses of martian lobate debris aprons to HiRISE resolutions, enabling a more detailed study of LDA surface degradation and evolution.

Kirchoff M. R. Grimm R. E. **POSTER LOCATION #571**
[Evidence for Recent Tropical Subsurface Ice on Mars from Ages of Single-Layered Ejecta Craters](#) [#1587]

We find SLE craters with ages <500 Ma implying tropical buried ice is preserved until today and an estimated sublimation loss of 10–20m Global Equivalent Layer.

Pathare A. V. Berman D. C. Crown D. A. Joseph E. C. S. Chuang F. C. et al. **POSTER LOCATION #572**
[Glacial Flow Timescales of Martian Lobate Debris Aprons in Eastern Hellas](#) [#2563]

We model the evolution of debris-covered glaciers in Eastern Hellas to determine whether their flow history is consistent with multiple episodes of glaciation.

Levy J. S. Fassett C. I. Chaffey P. M. White M. **POSTER LOCATION #573**
[Boulder Size Distributions on Martian Debris-Covered Glaciers: Flow History and Timescale](#) [#1099]

Boulder size-frequency distributions on debris-covered glacier landforms provide insight into transport timescales, erosion, and climatic processes.

Johnsson A. Reiss D. Hauber E. Johnson M. D. Olvmo M. et al. **POSTER LOCATION #574**
[Veiki-Moraine-Like Landforms in the Nereidum Montes Region on Mars: Insights from Analogues in Northern Sweden](#) [#1229]

We have studied irregular ring-shaped landforms on Mars that show striking resemblance to Veiki moraines in northern Sweden.

Sinha R. K. Vijayan S. **POSTER LOCATION #575**
[Geomorphic Signature of Lobate Flow Feature in the Craters of Newton Basin, Mars: Implications for Moderate Debris-Covered Glaciation](#) [#1800]

Craters formed on floor of Newton basin preserved lobate flow feature in their interior that resulted from moderate debris-covered glaciation during ~100–10 Ma.

Souness C. J. Brough S. Woodward J. Hubbard B. Davis J. et al. **POSTER LOCATION #576**
[Radar-Based Observations of Variable Thickness Debris Cover on Martian Ice Masses: Evidence of Debris Transfer by Flowing Ice on Mars](#) [#2215]

We combine high-resolution imagery, digital elevation models, and shallow radar (SHARAD) to investigate variability in debris cover thickness on martian ice masses.

Scanlon K. E. Head J. W. Wordsworth R. D. **POSTER LOCATION #577**
[Snowmelt Rates in Modeled Early Mars Climate Scenarios](#) [#1532]

We used early Mars GCM output as input to an energy balance snowmelt model and compared modeled runoff rates to rates previously calculated for valley networks.

Uceda E. R. Rodriguez J. A. P. Fairen A. G. Woodworth-Lynas C. **POSTER LOCATION #578**
[The Relationship Between Icebergs and Tsunamis in Ancient Oceans on Mars](#) [#1102]

Tsunami waves flooded martian glacier valleys and rafted large volumes of glacial ice into the oceans during the backwash retreat phase.

Aye K.-M. Schwamb M. E. Portyankina G. Hansen C. J. **POSTER LOCATION #579**
[Analysis Pipeline and Results from the PlanetFour Citizen Science Project](#) [#3056]

Description of the analysis pipeline and first results from the PlanetFour Citizen Science project.

O'Neel-Judy E. A. Titus T. N. **POSTER LOCATION #580**
[Characterizing the Evolution of Mars South Polar Jets and Fans Using CRISM-THEMIS Observations](#) [#1600]

We use images from CRISM and THEMIS to measure South Polar springtime seasonal fan lengths, which are then compared to insolation, ice thickness, and wind speed.

Whitten J. L. Campbell B. A. Morgan G. A. **POSTER LOCATION #581**
[Evaluating the Structure of the South Polar Layered Deposits on Mars Using SHARAD Data](#) [#1487]

The interior structure of the South Polar Layered Deposits on Mars are analyzed to determine the stratigraphy of layer packets across the cap.

Seelos K. D. Brown A. J. Calvin W. M. Titus T. N. Smith I. B. et al. **POSTER LOCATION #582**
[Exploring Mars' South Polar Residual Cap Units Using CRISM Data: Search for the Signature of Buried Ice Layers](#) [#2130]

CRISM data of the south polar residual cap are analyzed for spectral signatures corresponding to the extensive buried CO₂ ice deposit discovered by SHARAD.

Philippe S. Schmitt B. Thollot P. Appéré T. Beck P. **POSTER LOCATION #583**
[First Observation of CO₂ Ice Slab Formation During Autumn in the South Polar Region of Mars](#) [#2188]

Observation of CO₂ slab ice formation during autumn has been made with OMEGA. The observation is described and radiative transfer characterize the slab.

Buhler P. B. Ingersoll A. P. Ehlmann B. L. Fassett C. I. Head J. W. III **POSTER LOCATION #584**
[How the Martian South Polar Residual Cap Loses Mass](#) [#2550]

We present evidence that internal sublimation in the SPRC's CO₂ frost mesas leads to subsidence and surface cracking, where the SPRC's ubiquitous pits nucleate.

Portyankina G. Hansen C. J. **POSTER LOCATION #585**
[HiRISE Detects New Dendritic Troughs in Southern Polar Regions](#) [#2189]
Report on the detection of new dendritic troughs related to the early spring cold jets eruptions in several locations in the martian southern polar areas.

Lalich D. Holt J. W. **POSTER LOCATION #586**
[SHARAD Reflectors and Marker Beds: Unlocking the Climate Record of the North Polar Layered Deposits, Mars](#) [#2213]
SHARAD reflectors / May form a climate record / Let's try to read it.

Becerra P. Byrne S. Sori M. M. **POSTER LOCATION #587**
[Searching for a Climate Signal in Mars' North Polar Deposits](#) [#1732]
Wavelet analysis of a stratigraphic column of Mars' NPLD shows possible correlations with orbital and rotational signals in its recent insolation history.

Rodriguez J. A. P. Fairen A. G. Miyamoto H. Gulick V. Glines N. et al. **POSTER LOCATION #588**
[North Polar Spiral Trough In-Situ Formation as a Water-Ice Source to Lower Latitude Glacial and Periglacial Environments on Mars](#) [#2605]
We propose that martian north polar troughs are not migratory features and that their locations represent the sites where they were originally excavated.

Bramson A. M. Byrne S. **POSTER LOCATION #589**
[Implications of Martian Excess Ground Ice Stability](#) [#2314]
We investigate conditions to preserve excess ground ice in the mid-latitudes of Mars and the implications for Amazonian ice distribution and climate.

Bapst J. Byrne S. **POSTER LOCATION #590**
[Louth Crater Water Ice as a Martian Climate Proxy](#) [#3027]
We employ a thermal model, constrained by orbital thermal infrared datasets, to estimate the mass balance of a water ice mound in the polar regions of Mars.

Krasilnikov S. S. Kuzmin R. O. Bühler Y. Zubarev A. E. **POSTER LOCATION #591**
[Simulation of Water Ice Glacial Surges in North Polar Craters on Mars](#) [#1881]
We represent the results of numerical modeling of lobate moraine-like ridges formation on high latitudes of Mars as results of H₂O ice glacial surges processes.