

Monday, March 19, 2018

[M103]

MARS DOWNSLOPE MASS MOVEMENT I: RSLs, GULLIES, AND LANDSLIDES

8:30 a.m. Waterway Ballroom 5

Chairs: Susan Conway
Serina Diniega

- 8:30 a.m. Schorghofer N. * Levy J. S. Goudge T. A.
[Seasonal Frost as Source of Liquid Water on Mars](#) [#1388]
We model the thermal environment of alcoves of Recurring Slope Lineae to determine whether and how seasonal water frost could melt.
- 8:45 a.m. Heyer T. * Hiesinger H. Reiss D. Bernhardt H. Erkeling G. et al.
[Seasonal Formation Rates of Slope Streaks on Mars](#) [#1050]
Seasonal variations in slope streak activity were observed at six sites within the Olympus Mons Aureole as well as Nicholson Crater.
- 9:00 a.m. Hansen C. J. * Diniega S. Hayne P. O.
[Mars' Snowfall and Sand Avalanches](#) [#2175]
HiRISE images of Mars' north polar erg are compared to data from Mars' Climate Sounder to see if new dune alcoves that form annually are the result of snowfall.
- 9:15 a.m. McKeown L. E. * McElwaine J. N. Bourke M. C. Sylvest M. E. Patel M. R.
[A Quantitative Comparison Between Theory and Experiment for CO₂ Sublimation on a Granular Surface Under Terrestrial and Martian Conditions and Morphological Results](#) [#2374]
We present the results of CO₂ block sublimation experiments conducted in the Open University Mars Simulation Chamber in the context of furrow and pit formation on Mars.
- 9:30 a.m. Raack J. * Conway S. J. Herny C. Balme M. R. Carpy S. et al.
[Boiling Water Could Levitate Sediment on Mars — An Experimental Study](#) [#1445]
We investigated a new sediment transport mechanism which only occurred under the low martian pressure and lowered the amount of needed water up to a magnitude.
- 9:45 a.m. Sylvest M. E. * Dixon J. C. Conway S. J. Patel M. R. McElwaine J. N. et al.
[CO₂ Sublimation in Martian Gullies: Influence of Slope Angle and Grain Size on Sediment Movement](#) [#1137]
Experiments reveal four types of sediment movement triggered by CO₂ sublimation under Mars conditions. Creep suggests possible role in lobate feature formation.
- 10:00 a.m. McElwaine J. * Diniega S. Hansen C. Bourke M. Nield J.
[The Formation of Martian Dune Gullies by Dry Ice: Field Experiments](#) [#2174]
We present results on field experiments with CO₂ ice blocks in the Utah desert designed to be analogous to some gully formation mechanisms on Mars.
- 10:15 a.m. Diniega S. * Dundas C. M.
[Exploring Variations Between Active Martian Gullies in the Northern and Southern Hemisphere](#) [#2244]
Active avalanche / Are they all formed the same way? / Mars is so tricky.
- 10:30 a.m. Widmer J. M. * Diniega S.
[New Alcove Activity in Lyot Crater: A Modern-Day Mystery in the Martian Mid Latitudes](#) [#1651]
Comparing alcoves / North Pole and Mid-Lat regions / But where is the frost?

- 10:45 a.m. Conway S. J. * Butcher F. E. G. de Haas T. Deijns A. A. J. Grindrod P. M.
[*Intense Glacial Erosion Could Have Erased Gullies on Mars*](#) [#1875]
We report on evidence for intense glacial erosion in the last 10 Ma on Mars caused by sediment pore-water, which could have erased previous landforms/gullies.
- 11:00 a.m. Magnarini G. * Mitchell T. M. Grindrod P. M. Goren L. Schmitt H. H.
[*Origin of Longitudinal Ridges and Furrows Associated with Long Runout Landslides: The Case Study of a Martian Landslide*](#) [#1527]
Morphometric analysis of longitudinal ridges associated with a martian long runout landslide.
- 11:15 a.m. Singh P. * Sarkar R. Porwal A.
[*Tributary Canyon and Associated Mass Wasting Features in the Valles Marineris Region*](#) [#2697]
The presence of debris flows at the mouth suggest that these tributary canyons have formed by sudden, catastrophic collapse.
- 11:30 a.m. Johnson B. C. * Campbell C. S. Sori M. M.
[*Fall Height and Volume Control Landslide Mobility Throughout the Solar System*](#) [#1555]
Observations and numerical modeling suggest that fall height and volume control landslide mobility on the Earth, Mars, Iapetus, and Ceres.