Thursday, March 10, 2011
BRINES, GULLIES, AND THE CRYOSPHERE
1:30 p.m. Waterway Ballroom 1

Chairs: **Serina Diniega**
Joseph Levy

1:30 p.m. McEwen A. * Ojha L. Dundas C. Mattson S. Byrne S. Wray J. Cull S. Murchie S.
Transient Slope Lineae: Evidence for Summertime Briny Flows on Mars? **[#2314]**
TSL form on equator-facing rocky slopes in southern summer from latitudes –32 to –48. This distribution, incremental formation and fading, and associated morphologies and mineralogies suggest the flow of brines.

1:45 p.m. Capitan R. D. * Osinski G. R. Van De Wiel M.
Martian "Gullies": A Morphological and Morphometrical (Re-)Classification of Processes on Crater Walls in Eastern Utopia Planitia, Mars **[#1761]**
In this presentation we show that the mechanisms of formation and terminology to describe gully and debris flow erosion within craters walls on Mars can be revisited and better constrained using the morphological indicators and morphometrical descriptors of these landforms.

2:00 p.m. Levy J. S. * Fountain A. G.
"Water Tracks" in the McMurdo Dry Valleys, Antarctica: A Permafrost-Based Hydrological System Supporting Complex Biological and Geochemical Processes in a Mars-Analog Environment **[#1210]**
Water tracks are shallow subsurface water/brine conduits typical of permafrost-dominated hydrological systems on Earth. They may represent a major water transport pathway that has been active in association with more recognizable fluvial processes throughout martian history.

2:15 p.m. Dickson J. L. * Head J. W.
The Role of Perennial Snow and Ice Deposits in McMurdo Dry Valley Gullies from High-Frequency, Long-Duration Time-Lapse Photography: Lessons for Mars **[#1252]**
Time-lapse photography is used over multiple seasons to document peak summer melting of perennial alcove snowbanks in the McMurdo Dry Valleys of Antarctica. Implications for recent fluvial activity on Mars are discussed.

2:30 p.m. Diniega S. * Byrne S. Dundas C. M. McEwen A. S. Bridges N. T.
Present-Day Martian Dune Gully Formation **[#1540]**
Over the recent Mars winter season, we closely monitored three active martian dune gullies. We are now beginning to quantitatively understand the sequence, timing, and types of present-day dune-gully formation and modification processes.

2:45 p.m. Schon S. C. * Head J. W.
Gullies Without Alcoves: Linking Gully Meltwater to Recent Ice Age Deposits (the Latitude-Dependent Mantle) **[#1204]**
Small-scale surficial gullies and channels in the degraded mantle, without alcoves that could serve as accumulation zones for snow, provide independent evidence that gullies form through degradation and melting of ice-rich mantling deposits.