Wednesday, March 19, 2014 **[W352]**

MARS GEOMORPHOLOGY AS AFFECTED BY AQUEOUS PROCESSES OVER THE HISTORY OF MARS

1:30 p.m. Waterway Ballroom 4

Chairs: **Carlton Allen**
William Dietrich

1:30 p.m. Jaumann R. * Neukum G. Tirsch D. Hauber E. Hoffmann H. et al.
The Martian Geomorphology as Mapped by the Mars Express High Resolution Stereo Camera (HRSC): Implications for Geological Processes and Climate Conditions **[#1772]**
After 10 years of orbiting the planet, HRSC on Mars Express has covered about 90% of the surface in stereo and color with resolutions up to 10 m/pixel.

1:45 p.m. Irwin R. P. III * Tanaka K. L. Robbins S. J.
Noachian Resurfacing in the Martian Highlands: Analysis of a New Global Geologic Map and Crater Database **[#2685]**
Analysis of the new global geologic map of Mars and impact crater database indicate spatially nonuniform Noachian resurfacing by gravity-driven processes.

2:00 p.m. Head J. W. III * Wordsworth R. Forget F. Madeleine J.-B. Halevy I.
Late Noachian "Cold and Icy Highlands" Model: Geological Predictions for Equilibrium Environments and Equilibrium/Non-Equilibrium Melting Scenarios **[#1412]**
We test the Late Noachian icy highlands model exploring predictions for geologic settings/cryospheric processes in equilibrium/nonequilibrium climate states.

2:15 p.m. Bennett K. A. * Bell J. F. III
A Global Survey of Central Mounds in Large Martian Craters: Implications for Paleolakes **[#1539]**
We present our global survey of central mounds as well as mound and crater rim heights that have implications for mound formation from lacustrine settling.

2:30 p.m. Allen C. C. * Dapremont A. M. Oehler D. Z.
The Complex, Multi-Stage History of Mt. Sharp **[#1402]**
Mt. Sharp was formed in two phases of deposition and erosion, separated by a significant time gap. Location and morphology were influenced by a peak ring.

2:45 p.m. Dietrich W. E. * Palucis M. C. Parker T. Rubin D. de Pablo M. A. et al.
Looking Towards Curiosity's Canyon Path: A 4 km Sequence of Gully, Debris Deposits, and Fan/Deltas which are Bordered by a Sloping Bedform-Capped Plain and Crossed by Lake Shorelines **[#1684]**
Curiosity's canyon path includes a gully, debris deposits, and fan/deltas that are bordered by a sloping bedform-capped plain and crossed by lake shorelines.

3:00 p.m. Kite E. S. * Lucas A. Armstrong J. C. Aharonson O. Lamb M. P.
Resolving the Great Drying of Mars: Paleo-Climate Versus Time from River Deposits in Aeolis Dorsa **[#2638]**
River-channel dimensions in Aeolis Dorsa suggest a threefold reduction in peak runoff production during the $\gtrsim$ (1–20)-m.y. interval of deposition.

3:15 p.m. Hauber E. * Adeli S. Le Deit L. Kleinhans M. G.
Outflow Channels and Associated Fan Deltas: Post-Noachian Fluvial Diversity in the Southern Highlands of Mars **[#2021]**
A series of channels in the southern highlands of Mars resemble outflow channels en miniature, and represent a rich post-Noachian record of aqueous activity.

3:30 p.m. Harrison T. N. * Osinski G. R. Tornabene L. L.
Global Documentation of Gullies with the Mars Reconnaissance Orbiter Context Camera (CTX) and Implications for Their Formation **[#2124]**
We inspected CTX images planet-wide from T01–D09 to document the locations of gullies in an attempt to constrain their possible formation mechanism(s).

3:45 p.m. Conway S. J. * Balme M. R. Murray J. B. Towner M. C.
A Signal for Water on Mars: The Comparison of Topographic Long Profiles of Gullies on Earth to Gullies on Mars **[#2438]**
We compare topographic long profiles of fluvial and debris flow gullies on Earth to those on Mars. Martian gullies are similar to both terrestrial gully-types.

4:00 p.m. Auld K. S. * Dixon J. C.
Classification of Martian Gullies from HiRISE Imagery **[#1270]**
HiRISE imagery and was used to develop a classification of gully types based on the morphological components of gullies. Classes are developed and maps created.

4:15 p.m. Dickson J. L. Head J. W. Barbieri L. Goudge T. A.
Evolution of the Latitude Dependent Mantle on Mars: Thickness Estimates and Evidence for Cyclical Emplacement as Revealed by Late Amazonian Gullies **[#1680]**
Multiple episodes of gully activity allow for the first measurements of minimum latitude dependent mantle thickness using HiRISE stereo DEMs.

4:30 p.m. Watkins J. * Ojha L. Chojnacki M. Reith R. Yin A.
Structurally Controlled Subsurface Fluid Flow as a Mechanism for the Formation of Recurring Slope Lineae **[#2911]**
A fault-controlled brine flow hypothesis, in which structural inhomogeneities act as conduits for subsurface fluid migration, is tested for RSL formation.