

Monday, March 13, 2006
MARS: VOLCANISM AND TECTONICS
2:15 p.m. Crystal Ballroom A

Chairs: S. E. H. Sakimoto
L. S. Glaze

- 2:15 p.m. Burt D. M. * Wohletz K. H. Sheridan M. F.
"Water-laid Tuff" of the Utah Desert and Similar Surge Deposit Misinterpretations: A Possible Lesson for Mars? [#2295]
 More than 25 years ago, finely stratified, cross-bedded, altered, mineralized surge deposits at Spor Mt., Utah, were widely interpreted to be water-laid. The alluvial or eolian misinterpretation was common at the time. Has a similar misinterpretation now been made on Mars?
- 2:30 p.m. Glaze L. S. * Baloga S. M.
Topographic Variability: Implications for Lava Flow Modeling [#1302]
 We develop a statistic that relates lava flow thickness to surrounding topography. The statistic can be used to better understand the influence of topography on lava flow emplacement, e.g., extracting inferences about rheologic changes and interpreting the style of emplacement.
- 2:45 p.m. Byrnes J. M. * Finnegan D. C. Anderson S. W. Ramsey M. S.
Analyses of Amboy Crater, Mojave Desert, California, as an Analog for Small Martian Volcanoes [#1205]
 This investigation presents a remote sensing data fusion approach for examining Amboy Crater as an analog for small Martian volcanoes, using laboratory, airborne, and spaceborne instruments to study VNIR, SWIR, TIR, and topographic characteristics.
- 3:00 p.m. Morris A. R. * Anderson F. S. Mougini-Mark P. J. Haldemann A. F. C. Gregg T. K. P.
Initial Analysis of Topographic Roughness of Martian and Hawaiian Terrains [#2064]
 We develop maps of roughness statistics of analog lava flows in Hawaii to identify the topographic resolution required to constrain the emplacement of volcanic features on the surface of Mars.
- 3:15 p.m. Vaucher J. * Baratoux D. Pinet P. C. Mangold N. Ceuleneer G. Gregoire M. Daydou Y. Chevrel S. Neukum G. HRSC Co-Investigator Team
Cerberus Plains, Mars: Chronology of Volcanic Event and Evidence of Recent Tectonic Activity [#1851]
 We constrain the volcanic history from a new statistical approach giving a probability law associated with each lava surface age. Lava cut by fractures evidence very recent tectonic activities.
- 3:30 p.m. Sakimoto S. E. H. *
Constraints on the Origins of Platy Flows on Mars: Mud, Lava, Frozen Sea, Or . . . ? [#2384]
 This is a progress report on a joint quantitative study of martian platy flows examining constraints on origins from fluvial, volcanic, debris (mud), and ice (frozen sea) perspectives.
- 3:45 p.m. Woodcock B. L. * Sakimoto S. E. H.
Lava Tube Flow: Constraints on Maximum Sustained Eruption Rates for Major Martian Volcanic Edifices [#1992]
 Modeling maximum volcanic flow rates of large martian volcanoes yields an inverse relationship between edifice size and flow rate . . . low rates (often lava tubes) yield the largest edifice volumes; higher rates (usually channels) produce the smallest.
- 4:00 p.m. Bleacher J. E. * Greeley R. Williams D. A. Neukum G. HRSC Co-Investigator Team
Comparison of Effusive Volcanism at Olympus, Arsia, Pavonis, and Ascraeus Montes, Mars from Lava Flow Mapping Using Mars Express HRSC Data [#1182]
 HRSC data enable lava flow mapping at high resolution with regional context. Results show a flank transition to channel-forming eruptions, followed by rift apron development where each volcano displays different morphologies and flow relationships.

- 4:15 p.m. Vidal A. * Mueller K. J. Golombek M. P.
Constraining Crustal Thickness and Hesperian Heat Flow on Solis Planum, Mars Using Depth to Detachment Mapping on Blind Thrust Faults [#1712]
We examine uncertainty in measurements of wrinkle ridge width on Solis Planum, Mars and their implications for fault modeling and heat flow calculations in the Hesperian.