

**Monday, March 12, 2007**  
**MARS VOLCANISM**  
**2:30 p.m. Crystal Ballroom B**

**Chairs: J. E. Bleacher**  
**M. H. Bulmer**

- 2:30 p.m. Bleacher J. E. \* Greeley R. Williams D. A. Neukum G.  
*Morphometric Characterization and Comparison Among the Tharsis Montes-related Low Shield and Fissure Vent Fields* [#1314]  
 Tharsis Montes-related small vents increase in abundance, density, and distance from the main vent, from Arsia to Ascraeus Mons, indicating that isolated batches of magma increased in abundance and dispersal away from the main vent to the northeast.
- 2:45 p.m. Baloga S. M. \* Glaze L. S.  
*Time-Dependent Levee Growth for Mars Lava Flows* [#1276]  
 A new model is presented that narrows constraints between viscosity, flow rate, and emplacement time for channelized lava flows. Levees are constructed by the difference in flow rate for all material traveling faster than the average flow velocity.
- 3:00 p.m. Greeley R. \* Williams D. A. Fergason R. L. Neukum G. Baratoux D.  
 Pinet P. HRSC Co-Investigator Team  
*Amphitrites and Peneus: New Insight into Highland Paterae* [#1373]  
 Amphitrites, Peneus, Malea, and Pityusa are four highland paterae that form a volcanic complex draped over the south-southwest rim of the Hellas basin.
- 3:15 p.m. Usui T. \* McSween H. Y. Jr.  
*Hypothesis for Petrogenesis of Wishstone-Class Rocks in Gusev Crater: Implications for CO<sub>2</sub> Inventory in the Martian Mantle* [#1272]  
 Here we propose that the Wishstone-class originates in an alkaline suite related to a carbonatite-bearing alkaline complex. This implies that, at least under Gusev crater, CO<sub>2</sub> resided in the Mars mantle.
- 3:30 p.m. Lang N. P. \* Tornabene L. L. McSween H. Y. Jr. Ghosh A.  
*Exploring the Possible Relationship Between Martian Meteorites and Tharsis-related Lava Flows* [#1718]  
 We begin testing the hypothesis that Tharsis is a SNC source region through spectroscopic examination of four relatively dust-free Arsia Mons-sourced lava flows.
- 3:45 p.m. Kreslavsky M. A. \* Head J. W.  
*Sulfur Species from Volcanic Outgassing on Mars: Potential Signatures in Geomorphology* [#1510]  
 We review possible effects of volatile S species under cold climate conditions. They include surface and sub-ice runoff of aqueous solutions of sulfuric acid, and, for very cold climate, sulfur dioxide glaciers and liquid sulfur dioxide runoff.
- 4:00 p.m. Johnson S. S. \* Zuber M. T. Grove T. L. Pavlov A. A. Mischna M. A.  
*Sulfur Volatiles in the Early Martian Atmosphere* [#1754]  
 Our modeling indicates a high sulfur solubility in martian mantle melts and suggests that sulfur volatile pulses associated with large, discreet volcanic events during the late Noachian may have significantly warmed the atmosphere.

- 4:15 p.m. Wilson L. \* Head J. W. III  
*Dispersal of Tephra in Explosive Eruptions on Mars (1): Stable Convecting Eruption Clouds* [#1117]  
We assess pyroclast dispersal from stable convecting eruption clouds on Mars including consequences of erupted clast size distribution and accretionary lapilli formation. The latter can sequester volatiles into deposits instead of the atmosphere.
- 4:30 p.m. Bulmer M. H. \* Finnegan D. Anderson S. W.  
*Defining the Optimal Topographic Resolution for Process-driven Studies* [#1116]  
We are attempting to define the topographic resolution required to derive essential information for process-driven studies.