Thursday, March 19, 2015

PLANETARY VOLCANISM: IF YOU CAN'T STAND THE HEAT, GET OUT OF THE MANTLE
8:30 a.m. Waterway Ballroom 5

Chairs: Lori Glaze
Thomas Platz

Magma conduit/Shape is vital yet unknown/How does it erupt?

8:45 a.m. Hamilton C. W. *, Scheidt S. P., Bleacher J. E., Irwin R. P. III, Garry W. B. "Fill and Spill" Lava Emplacement Associated with the December 1974 Flow on Kilauea Volcano, Hawaii, USA [#1072]
During the December 1974 eruption, catastrophic drainage of perched lava ponds produced distinctive lava facies that are analogous to those observed on Mars.

9:00 a.m. Glaze L. S. *, Baloga S. M. *The Role of Cooling in Pahoehoe Emplacement on Planetary Surfaces* [#1174]
Models are presented for slowly-emplaced pahoehoe lava on low slopes. Pressure-driven flows produce elongated lobes consistent with field observations.

We discuss the formation of streamlined islands and branching channel networks through lava construction without requiring erosion by lava or water.

Lunar craters crack/With magma’s rising fury/But Mercury’s, no.

9:45 a.m. Bennett K. A. *, Horgan B. H. N., Bell J. F. III, Meyer H. M., Robinson M. S. *Moon Mineralogy Mapper Investigation of the Ina Irregular Mare Patch* [#2646]
We use M3 data to investigate the maturity and mineralogy of Ina and place constraints on its origin.

We use LP-GRS data to show that the thorium around the Compton-Belkovich Volcanic Complex was likely created by the explosive eruption of silicic magma.

This paper integrates new data on C-O-H-S solubility in lunar picritic magmas into a model of dike emplacement and explosive eruption.

10:30 a.m. Chen Y. *, Wu Y. Z., Wang Z. C., Zhang X. W., Tang X., et al. *The Thickness of Late Stage Basalts in Mare Imbrium* [#1806]
This study produced the high-resolution map of the thickness of young high-Ti basalts in Mare Imbrium using M3 combined LOLA DEM data.
Evolving Magmas, Explosive Eruptions and Hydrothermal Deposits at Nili Patea Caldera,
Syrtis Major, Mars [1783]
Nili Patera: ignimbrites, caldera collapse, intrusive and extrusive magmatism, and implications for habitability.

11:00 a.m. Hauber E. * Brož P. Rossi A. P. Michael G.
A Field of Small Pitted Cones on the Floor of Coprates Chasma, Mars: Volcanism Inside Valles Marineris? [1476]
Clusters of small pitted cones in Coprates Chasma, Mars, are interpreted as scoria and tuff cones. They were formed after the subsidence of Valles Marineris.

11:15 a.m. Le Corvec N. * McGovern P. J.
Volcanic Spreading on Mars: Role of a Basal Decollement on Faulting and Magma Propagation [2891]
The vertical extent of surface faulting on martian volcanos is constraining the influence of lithospheric flexure and gravitational spreading.

11:30 a.m. Davies A. G. * Veeder G. J. Matson D. L. Johnson T. V.
A New Map of Io’s Volcanic Heat Flow [1551]
Io’s volcanic heat flow map shows discrepancies with end-member interior heating models, and identifies areas of greatest heat flow that are not yet explained.

11:45 a.m. Kite E. S. * Rubin A. M.
Sustained Eruptions on Enceladus Explained by Turbulent Dissipation in Tiger Stripes [1247]
Turbulent dissipation within tiger stripes may plausibly explain the persistence of the plumes, the eruption phase curve, and the moon’s power output.