Thursday, March 26, 2009
COMPARATIVE PLANETOLOGY
8:30 a.m. Waterway Ballroom 5

Chairs: Patrick McGovern
Kathleen Nicoll

8:30 a.m. Montési L. G. J. *
Fabric Development, Shear Zone Formation, and the Possibility of Plate Tectonics on Earth and Venus [#2350]
The presence of plate tectonics on Earth and not Venus can be explained by the formation of ductile shear, which is possible as a consequence of layer development in a polyphase material on Earth, but not if all phases are dry.

8:45 a.m. McGovern P. J. * Watters T. R.
Interaction of Membrane Stresses and Magma Ascent at Large Impact Basins on Mars and Mercury [#1765]
We use a simple mathematical model of the broad-scale loading effects induced by impact basins to investigate how such loading may control magmatism within and around basins on Mars (Borealis, Utopia, and Hellas) and Mercury (Caloris).

9:00 a.m. Lee C.-T. A. * Luffi P. Dalton H. A.
Application of New Thermobarometers to Constraining the Origin of Magmas on Mars, Venus, Earth, the Moon, and the Eucrite Parent Body [#1467]
New thermobarometers are presented that can estimate T-P of magma generation on Earth, Mars and other planetary bodies, providing constraints on lithosphere thickness and planetary thermal state (emphasis will be on Mars).

9:15 a.m. Horodyskyj U. N. * Wyatt M. B.
Compositional Variations with Depth in Icelandic Cores: Applications to Integrated Mars Remote Sensing Data Sets [#2527]
To better constrain the regional effects and depth of alteration at high-latitudes on Mars, we are examining compositional variations with depth in Icelandic basaltic cores.

9:30 a.m. Nicoll K. * Chan M. A. Parker T. J. Jewell P. W. Komatsu G. Okubo C. H.
Bonneville Basin Analogues for Large Lake Processes and Chronologies of Geomorphic Development on Mars [#1962]
We present an inventory of geomorphic analogues for Lake Bonneville and Mars, with focus on potential standing-water features. The goal is to understand water as a geomorphic agent at a variety of temporal and spatial scales.

9:45 a.m. Halevy I. * Schrag D. P. Pierrehumbert R. T.
Radiative Transfer in the Early Atmospheres of Mars and Earth [#1029]
Small differences in the formulation of CO2 absorption in a line-by-line model result in large differences in the radiative forcing provided by 0.1–5 bars of CO2. This uncertainty pervades any modeling study of the early planetary climate.