Wednesday, March 25, 2009
MERCURY: EVOLUTION AND TECTONICS
1:30 p.m. Waterway Ballroom 4

Chairs: **Thomas Watters**

1:30 p.m. Robuchon G. * Tobie G. Choblet G. Cadek O. Mocquet A.
Thermal Evolution of Mercury: Implication for Despinning and Contraction **[#1866]**
Mercury's surface exhibits specific features, lobate scarps, that suggest that Mercury has experienced a change of shape during its history. We perform 3D simulations to evaluate: evolution of the temperature, despinning, shape and stress field.

1:45 p.m. Watters T. R. * Murchie S. L. Robinson M. S. Head J. W. Chapman C. R. Solomon S. C. Denevi B. W. André S. L. Fassett C. I. MESSENGER Team
A Newly Discovered Impact Basin on Mercury Revealed by MESSENGER **[#1817]**
Images obtained from the second MESSENGER flyby of Mercury in October 2008 have revealed a large, previously unrecognized impact basin in the southern hemisphere.

2:00 p.m. Freed A. M. * Solomon S. C. Watters T. R. Phillips R. J. Zuber M. T.
Could Pantheon Fossae be the Result of the Apollodorus Crater-forming Impact within the Caloris Basin, Mercury? **[#1362]**
We use finite element models to explore the idea that the Apollodorus crater-forming impact induced the formation of the radially oriented graben of the Pantheon Fossae complex near the center of the Caloris basin, Mercury.

2:15 p.m. Klimczak C. * Nahm A. L. Schultz R. A.
Evaluation of the Origin Hypotheses of Pantheon Fossae, Mercury **[#1251]**
By means of a detailed study of the graben pattern on MESSENGER image PIA10397, a strain analysis along five concentric traverses, and an analysis of the loading of the mercurian lithosphere, different origin hypotheses of the Pantheon Fossae structure are evaluated.

2:30 p.m. Rothery D. A. * Massironi M.
Beagle Rupes — Evidence for a Basal Decollement of Regional Extent in Mercury's Lithosphere **[#1702]**
Beagle Rupes is a thrust bounded by transpressive lateral ramps. To remain in the elastic lithosphere, the dip of the fault must become shallower at depth. This is evidence for thin-skinned tectonics, with out-of-sequence thrusts, on Mercury.