Friday, March 14, 2008
TITAN
1:30 p.m. Marina Plaza Ballroom

Chairs: **S. D. Vance**
J. I. Lunine

1:30 p.m. Mitri G. * Bland M. Lopes R. M. C.
Mountain Building on Titan **[#1449]**
Cassini remote sensing observations on Titan yield evidence of features of relatively high topography interpreted as mountains. We show that compressional crustal deformation due to radial contraction of the satellite can produce topography on Titan.

1:45 p.m. Radebaugh J. * Lopes R. M. C. Stofan E. R. Valora P. Lunine J. I. Lorenz R. D. Cassini RADAR Team
Mountains on Titan as Evidence of Global Tectonism and Erosion **[#2206]**
Mountains on Titan as landforms integrate the two major processes tectonism (internal) and erosion (external).

2:00 p.m. Stofan E. R. * Elachi C. Lunine J. I. Lorenz R. D. Kirk R. L. Lopes R. M. C. Wood C. A. Radebaugh J. Wall S. D. Mitchell K. L. Soderblom L. A. Paillou P. Farr T. Stiles B. Callahan P. Cassini RADAR Team
Varied Geologic Terrains at Titan's South Pole: First Results from T39 **[#1491]**
The Cassini RADAR pass T39 of the south polar region reveals extremely varied and in some cases complex surface morphologies, indicating that a range of geologic processes have operated, and are operating, in the region.

2:15 p.m. Jaumann R. * Brown R. H. Stephan K. Soderblom L. A. Sotin C. Le Mouélic S. Rodriguez S. Clark R. N. Barnes J. Buratti B. J. McCord T. B. Baines K. H. Cruikshank D. P. Griffith C. Nicholson P. D. Wagner R. J. Langhans M.
Erosion on Titan **[#1257]**
To account for the estimated runoff production and widespread plain deposits of fine-grained material on Titan both frequent recurrence intervals and sudden release of area-dependent large fluid volumes are required.

2:30 p.m. Baugh N. F. * Brown R. H. Lunine J. I.
Channel Length, Stream Order and Channel Network Integration on Titan **[#1943]**
We measure channel length and count stream order for well-integrated channel networks seen in Cassini RADAR data on Titan.

2:45 p.m. Lunine J. I. * Mitri G. Elachi C. Stofan E. R. Lorenz R. D. Kirk R. L. Michell K. Lopes R. M. C. Wood C. A. Radebaugh J. Wall S. D. Soderblom L. A. Pallou Ph. Farr T. Stiles B. Callahan P. Cassini RADAR Team
Lack of South Polar Methane Lakes on Titan **[#1637]**
The T39 Cassini radar pass over the south pole of Titan revealed few lakes, in contrast to the north. A plausible hypothesis is that methane lakes were present in southern spring but have evaporated. This leads to lake depth estimates of ten's of meters.

3:00 p.m. Bourgeois O. * Lopez T. Le Mouélic S. Fleurant C. Tobie G. Le Corre L. Le Deit L. Sotin C. Bodeur Y.
A Surface Dissolution/Precipitation Model for the Development of Lakes on Titan, Based on an Arid Terrestrial Analogue: The Pans and Calcretes of Etosha (Namibia) **[#1733]**
Morphological comparisons between Titan, Namibia, and a geometrical model suggest that the lakes of Titan develop by radial growth and coalescence of circular seeds, controlled by dissolution of a superficial porous layer in an arid environment.

3:15 p.m. Wood C. A. * Lunine J. I. Stofan E. R. Lorenz R. D. Lopes R. M. C. Radebaugh J. Wall S. D. Paillou Ph. Farr T.
Degraded Impact Craters on Titan **[#1990]**
We have identified only 70 possible degraded impact craters on Titan; dynamic processes have destroyed most of the early history and continue to modify the surface. The existence of possible impact craters >20 km is vexing.

3:30 p.m. Lorenz R. D. * Anderson Y. Z. Stiles B. Wall S. D. Zebker H. A. Wye L. C. Kirk R. L. Lunine J. I.
Latest Cassini RADAR Results from T41 Titan Flyby, February 2008: Huygens Landing Site and Hotei Arcus **[#1839]**
We summarize new topography results on the Huygens landing site, and display the latest imagery from T41 just before the meeting, including high-resolution landing site coverage, and the possibly cryovolcanic Hotei Arcusfeature.

3:45 p.m. Le Corre L. * Le Mouélic S. Sotin C. Barnes J. W. Brown R. H. Baines K. H. Buratti B. J. Clark R. N. Nicholson P. D.
CASSINI/VIMS Observations of Cryo-Volcanic Features on Titan **[#1932]**
We report on features of Titan's surface that have been observed by the VIMS onboard Cassini and that are interpreted as cryo-volcanic features. Implications for the amount of methane in the atmosphere are derived.

4:00 p.m. Hayne P. * McCord T. B. Combe J.-Ph. Barnes J. W. Hansen G. B.
Titan: Observational Constraints on Cryovolcanism **[#2010]**
We identify three anomalous features on Titan's surface, which we hypothesize are recently active cryovolcanic constructs. This hypothesis is evaluated using previous analyses of data from the Cassini mission, as well as geophysical models of magmatism on icy satellites.

4:15 p.m. Choukroun M. * Grasset O. Sotin C. Tobie G.
Cryovolcanic Release of Methane on Titan: Experimental Constraints from the Experimental Study of Methane Clathrates in Presence of Ammonia **[#1837]**
We present new high-pressure experimental results on the stability of methane clathrates. From these new data, a new model for cryovolcanic release of methane and its influence on Titan's atmospheric methane's replenishment is proposed.

4:30 p.m. Vance S. D. * Brown J. M. Sotin C.
Laboratory Simulations of Titan's Internal Ocean **[#2136]**
We describe the importance of equation-of-state measurements in aqueous ammonia (et al.) under Titan ocean pressures, possible applications to Titan's interior, and a proven method for making such measurements.