Friday, March 23, 2012
SPECIAL SESSION: DAWN OVER VESTA III: REGOLITH OF A TRANSITIONAL PLANET
1:30 p.m. Waterway Ballroom 5

Chairs: **Debra Buczkowski**
Harald Hiesinger

1:30 p.m. Denevi B. W. * Blewett D. T. Capaccioni F. De Sanctis M. C. Garry W. B. Li J. Y. Marchi S. McCoy T. J. Nathues A. Petro N. E. Raymond C. A. Russell C. T. Schenk P. Scully J. E. C. Sunshine J. M. Williams D. A. Yingst R. A.
Dawn Observations of Marcia Crater, Vesta **[#2308]**
We present observations of geologic features associated with Marcia, a young, irregularly shaped crater ~70 km in diameter on Vesta.

1:45 p.m. Capaccioni F. De Sanctis M. C. * Ammannito E. Li J. Y. Longobardo A. Mittlefehldt D. W. Palomba E. Pieters C. M. Schroeder S. E. Tosi F. Hiesinger H. Blewett D. T. Russell C. T. Raymond C. A.
Spectral Characterization of Bright Materials on Vesta **[#2217]**
The surface of Vesta displays large geological and mineralogical variability; dark and bright areas are very diverse and often associated with specific geologic features. We report on the spectral characterization of the "bright areas."

2:00 p.m. Schroder S. E. * Li J.-Y. Mittlefehldt D. W. Pieters C. M. De Sanctis M. C. Hiesinger H. Blewett D. T. Russell C. T. Raymond C. A. Keller H. U.
Visible Color and Photometry of Bright Materials on Vesta **[#2459]**
We report a detailed investigation of visible color and photometric properties of the bright materials found on Vesta.

2:15 p.m. Li J.-Y. * Mittlefehldt D. W. Pieters C. M. De Sanctis M. C. Schroder S. E. Hiesinger H. Blewett D. T. Russell C. T. Raymond C. A. Keller H. U.
Investigating the Origin of Bright Materials on Vesta: Synthesis, Conclusions, and Implications **[#2381]**
We report the synthesis analysis and preliminary results to investigate the origin of relatively bright areas on Vesta.

2:30 p.m. Jaumann R. * Krohn K. McCord T. B. Williams D. A. Raymond C. A. Blewett D. T. Hiesinger H. Yingst R. A. Garry W. B. McSween H. Y. Denevi B. W. Palomba E. Roatsch T. Stephan K. Russell C. T.
Investigating the Origin of Dark Material on Vesta: Locations and Geological Context **[#1807]**
Deposits of dark material (DM) appear on Vesta's surface as lower-albedo features in the visible wavelength. DM are distributed unevenly and are often associated with impact craters as outcrops in walls and mass-wasting deposits as well as ejecta.

2:45 p.m. Reddy V. * Le Corre L. Nathues A. Cloutis E. A. Gaffey M. J. Becker K. J. McCord T. B. Combe J.-Ph. Palomba E. Blewett D. T. McSween H. Y. Jr. Raymond C. A. Williams D.
Investigating the Origin of Dark Material on Vesta Using Dawn Framing Camera **[#1587]**
We report first results from the origin and nature of enigmatic dark material on Vesta as observed by the Dawn Framing Camera. Laboratory spectral analysis of meteorites is used to pinpoint the source of this dark material on Vesta.

3:00 p.m. Palomba E. * Combe J.-Ph. McCord T. B. De Sanctis M. C. Ammannito E. Longobardo A. Tosi F. Capaccioni F. Blewett D. T. Jaumann R. McSween H. Raymond C. A. Reddy V. Williams D. Russell C. T. Dawn Team
Composition and Mineralogy of Dark Material Deposits on Vesta **[#1930]**
Unusual regions of very low albedo (DMD) on Vesta's surface were discovered by the Dawn mission.We present a catalogue of DMD detected by combining visible and IR images taken by the VIR instrument. We discuss their spectral behavior and composition.

3:15 p.m. McCord T. B. * Combe J.-Ph. Jaumann R. Palomba E. Reddy V. Blewett D. T. McSween H. Y. Jr. Raymond C. A. Williams D. Dawn Team
Dark Material on Vesta: Synthesis and Interpretations from Dawn Observations **[#1352]**
Dark material on Vesta is interpreted to be one of only two endmember materials, when mixed in various proportions, that are needed to model most of Vesta's surface. The material is likely from infall of carbonaceous chondrite material and from impact melt.

3:30 p.m. De Sanctis M. C. Nathues A. * Ammannito E. Capaccioni F. Frigeri A. Le Corre L. Jauman R. Palomba E. Pieters C. M. Reddy V. Stephan K. Tosi F. Yingst A. Zambon F. Barucci M. A. Blewett D. T. Capria M. T. Combe J.-Ph. Denevi B. W. Keller H. U. Marchi S. McCord T. B. McFadden L A. McSween H. Raymond C. A. Russell C. T. Sunshine J. Toplis M. Li J. Y.
First Mineralogical Maps of 4 Vesta **[#1902]**
FC color ratio data from Survey with a resolution of 250 m/pixel and VIR hyperspectral images from Approach and Survey with resolutions of 1300 and 700 m/pixel,respectively, provided information on surface mineralogical and lithologic distributions.

3:45 p.m. Capria M. T. * Tosi F. Capaccioni F. De Sanctis M. C. Palomba E. Ammannito E. Titus T. N. Combe J.-Ph. Toplis M. Sunshine J. Russell C. T. Raymond C. A.
Thermal Inertia Variations on the Surface of Vesta from the Dawn Data **[#1863]**
Temperature information has been obtained from the VIR spectra. When combined with a thermophysical model, these temperatures can be used to derive surface thermal properties, thus leading to the characterization of surface and regolith properties.

4:00 p.m. Capaccioni F. * Li J. Y. De Sanctis M. C. Ammannito E. Capria M. T. Carraro F. Fonte S. Frigeri A. Magni G. Palomba E. Longobardo A. Tosi F. Zambon F. Buratti B. J. Schroeder S. E. Hicks M. D. Reddy V. Nathues A. Hoffman M. Denevi B. W. Jorda L. Mottola S. Pieters C. Raymond C. A. Sykes M. V. Palmer E. Russell C. T. Titus T. N. Roatsch T. Mastrodemos N.
Analysis of Photometric Properties of the Vesta Surface Materials **[#2091]**
Analysis of band depth as a function of the phase angle show a clear positive correlation. This result, although supported by similar data from the Framing Camera, is intriguing as it is contrary to the expectations from radiative transfer theories.

4:15 p.m. Pieters C. M. * Blewett D. T. Gaffey M. Mittlefehldt D. W. De Sanctis M. C. Reddy V. Nathues A. Denevi B. W. Li J. Y. McCord T. B. Marchi S. Palmer E. E. Sunshine J. M. Ammannito E. Raymond C. A. Russell C. T.
Space Weathering on 4 Vesta: Processes and Products **[#1254]**
The presence of space weathering processes are evident at Vesta, but the character and form are controlled by the unique environment and geologic history of this small body.

4:30 p.m. Cartwright J. A. * Mittlefehldt D. W. Quinn J. E. Ott U.
The Continuing Quest for "Regolithic" Howardites **[#1211]**
We report the latest results from our noble gas analysis of howardites, to better establish the regolithic nature of these meteorites. Of our samples, at least one contains clear evidence for both solar wind and mixing with a planetary component.