

Monday, February 3, 2014
VESTA: IMPACTS LARGE AND SMALL
3:30 p.m. Lecture Hall

Chairs: David O'Brien
Debra Buczkowski

- 3:30 p.m. Schenk P. * O'Brien D. McSween H. Buczkowski D. Gaskell R. Otto K. Preusker F. Marchi S. Yingst A. Mest S. Raymond C. Russell C.
[*Megascale Impacts in Vesta's South Pole: The Morphologic Constraints*](#) [#2039]
 The 505-km-wide impact basin, Rheasilvia, on Vesta is the largest with respect to planet diameter observed to date. Here we present an overview of Dawn mission findings for large impacts and the constraints they place on impact models and HED's.
- 3:50 p.m. Jutzi M. * Ivanov B.
[*Modelling the Rheasilvia Impact*](#) [#2008]
 We present an overview of recent 2D and 3D modeling of the formation of the giant Rheasilvia basin. The various model approaches will be discussed in the context of the observations of Vesta by Dawn.
- 4:10 p.m. Otto K. A. * Jaumann R. Krohn K. Matz K.-D. Preusker F. Roatsch T. Schenk P. Scholten F. Stephan K. Raymond C. A. Russell C. T.
[*Mass-Wasting Features in Vesta's South Polar Region*](#) [#2010]
 We analysed mass-wasting features correlated with the Rheasilvia and Veneneia basins including intra-crater mass wasting, flow-like and creep-like features, slumping blocks, landslides, and curved ridges.
- 4:25 p.m. Mittlefehldt D. W. * Nathues A. Beck A. W. Hoffmann M. Schaefer M. Williams D. A.
[*Geological Structures in the Walls of Vestan Craters*](#) [#2041]
 We are examining geological structures in the walls of vestan craters using Dawn Framing Camera imagery. All appear to represent structures in the megaregolith. We have yet to find unequivocal evidence for primary crustal structures on Vesta.
- 4:40 p.m. Carsenty U. * Wagner R. Jaumann R. Schröder S. E. Raymond C. A. Russell C. T.
[*Boulders on the Surface of Vesta — The Southern Hemisphere*](#) [#2036]
 We conducted an exhaustive search for boulders and their corresponding craters in the southern hemisphere of Vesta. We identified 4644 boulders, associated with 72 craters. The craters vary in size between 1 and 37km.
- 4:55 p.m. Buczkowski D. L. * Wyrick D. Y. Kahn E. Barnouin O. Nathues A. Gaskell R. W. Roatsch T. Preusker F. Russell C. T.
[*The Tectonics of Vesta*](#) [#2037]
 Framing Camera images revealed the presence of multiple structural features at a variety of scales on Vesta. Analysis of these structures was performed to better understand their genesis and implications for the asteroid.
- 5:10 p.m. Bowling T. J. * Johnson B. C. Melosh H. J.
[*Formation of Equatorial Graben on 4 Vesta Following the Rheasilvia Basin Forming Impact*](#) [#2018]
 The equatorial graben on 4 Vesta were opened by a stress wave within 500 seconds of the Rheasilvia basin forming impact. The amount of extension expected is dependent on porosity, core strength, and damage to the body from previous impacts.
- 5:25 p.m. Stickle A. M. * Schultz P. H. Buczkowski D. L. Iyer K. A.
[*The Effects of Giant Impact into a Differentiated Vesta: Implications for Large-Scale Trough Formation*](#) [#2025]
 Dawn observed two sets of approximately linear faults on the surface of the asteroid 4 Vesta. Our experimental and numerical results show that this is a natural consequence of large, oblique impacts into a spherical, differentiated target.
- 5:40 p.m. DISCUSSION