Wednesday, May 20, 2015
WHEN, WHAT, AND WHERE ON EARTH, MARS, AND MOON
1:15 p.m. E200 Auditorium

Chairs: **Michelle Kirchoff**
Edward Bierhaus

1:15 p.m. Daubar I. J. * McEwen A. S. Byrne S. Kreslavsky M. Saper L.
Kennedy M. R. Golombek M. P.
Current State of Knowledge of Modern Martian Cratering **[#9007]**
In the last decade, nearly 500 new, dated impact sites have been identified on Mars based on before and after imaging. The current cratering rate has been calculated using this data set; however, uncertainties still remain.

1:55 p.m. Berman D. C. * Crown D. A. Joseph E. C.
Categorized Crater Counts on Martian Lobate Debris Aprons **[#9014]**
We have developed a new approach for analyzing crater size-frequency distributions designed to interpret formation and modification ages from complex geologic surfaces, such as those of ice-rich debris aprons.

2:20 p.m. Landis M. E. * Byrne S. Daubar I. J. Herkenhoff K. E. Dundas C. M.
Impact Craters and Surface Age of the North Polar Layered Deposits, Mars **[#9040]**
We discuss the preservation state of craters on the NPLD as well as propose a new surface age for the unit based on a new production function for small martian craters (Daubar et. al, 2013).

2:45 p.m. Grier J. A. * Stickle A. M. Cahill J. T.
Past and Present Use of the Optical Maturity Parameter (OMAT) on the Moon — The Relative Age of Craters and Cratered Surfaces **[#9047]**
The OMAT parameter can help determine the relative ages of craters and cratered surfaces. Continued development of this method, and comparison with other methods and data sets will give insight into optical changes due to weathering of ejecta.

3:10 p.m. BREAK

3:20 p.m. Bronikowska M. * Artemieva N. A. Wünnemann K. Szczuciński W.
Modeling of the Morasko Strewn Field **[#9012]**
In this study we combine modeling of atmospheric disruption with impact crater modeling. The goal is to constrain the entry parameters of the Morasko meteoroid, and reconstruct its evolution in the atmosphere and the formation of individual craters.

3:35 p.m. Golder K. B. * Burr D. M.
Crater Count Ages as Constraints on Magma Source(s) of the Cerberus Plains Flood Lavas, Mars **[#9036]**
The three large late-Amazonian-aged channels in the Cerberus plains contain the youngest regional-scale flood lavas on Mars. Utilizing crater counting techniques on high-resolution data sets allows for refinement of absolute age estimates.

3:50 p.m. Peel S. E. * Burr D. M.
Crater Counting as a Tool to Derive the Timing of Paleo-Lakes in Central Pit Craters on Mars **[#9038]**
Some martian central pit craters have valley networks draining into them. Fifty-nine of these have been identified as prime areas for testing the hypothesis that some of the central pits once hosted lakes. Crater counting will be used to date these features.

4:05 p.m. Noe Dobrea E. Z. * Stoker C. R. McKay C. P. Davila A. F. Krčo M.
Crater Morphology in the Phoenix Landing Region: Insights into Net Erosion, Ice Table Depth, and Timing of Geological Processes **[#9035]**
We study the craters over a 4000 sq km area in the Phoenix landing region to better understand the nature and timing of geological processes at high latitudes.

4:20 p.m. Bruckman W. * Ruiz A. Ramos E.
Theoretical Determination of the Impact Crater-Size-Frequency Distribution with Applications to Mars and Earth **[#9013]**
A theoretical understanding of the impact crater-size frequency distribution is developed and applied to observed data from Mars and Earth. The analytical model derived gives the crater population as a function of the crater diameter and age.

4:35 p.m. DISCUSSION