Tuesday, March 20, 2012
POSTER SESSION I: LUNAR REMOTE SENSING: DIVERSE VIEWS OF BASALTS
6:00 p.m. Town Center Exhibit Area

Jawin E. R. Kiefer W. S. Bussey D. B. J. Cahill J. T. S. Dyar M. D. Fassett C. I. Spudis P. D.
Analyzing the Evolution of Surface Roughness of Lunar Mare **[#1343]**
We studied the relationship between surface roughness and age of lunar mare in relation to regolith development. To do this we compared CPR and various measurements from LOLA data. This allows us to analyze roughness on a range of length scales.

Jawin E. R. Kiefer W. S. Bussey D. B. J. Cahill J. T. S. Dyar M. D. Fassett C. I.
Lawrence S. Spudis P. D.
The Relationship Between Radar Scattering and Surface Roughness of Lunar Volcanic Domes **[#1333]**
We explore the relationship between surface roughness and radar signatures of various lunar geologic features. In order to quantify this relationship, we compared radar CPR values with topographic variation attained from LOLA data.

Kumamoto A. Ono T. Kobayashi T.
A Study of the Lunar Subsurface Echo Intensity for Evaluation of the Maximum Detection Depth of the Kaguya Lunar Radar Sounder **[#1465]**
The lunar subsurface echo power was estimated based on the reflectance at the buried regolith layers and attenuation rate in the basalt lava flow layers. The maximum detection depth of Kaguya/LRS was also evaluated based on it.

Bando Y. Kumamoto A. Nakamura N. Nagahama H.
Subsurface Magnetized Source Layers Underneath the Mare Crisium Observed by Lunar Radar Sounder **[#1380]**
We evaluated subsurface stratification and its thickness as magnetized source layers by using Lunar Radar Sounder data. Our results imply lunar core dynamo had been driven at least during 3.47 Ga to 3.67 Ga.

Meyer J. A. Hurtado J. M.
Detecting Subsurface Lunar Lava Tubes Using Thermal Inertia **[#1636]**
In this study we create a thermal inertia map over a known lunar lava tube candidate in northern Oceanus Procellarum, demonstrating a thermal inertia low created by the subsurface void space.

Roberts C. E. Gregg T. K. P.
Quantitative Comparisons of Lunar Sinuous Rilles in the Marius Hills and Aristarchus Plateau Regions: Insights into Formation and Evolution **[#1685]**
Morphometric analyses of lunar sinuous rilles in the Marius Hills and Aristarchus Plateau regions provided insight into possible controls on rille morphometry and emplacement.

Feng D. C. Ye C. Huang Y. Xiang S. M. Yuan Y. F. Zhang J. B. Huang D. H.
Yang R. Y. Zhu P. M.
The Characteristic of Lunar Rilles Around Mare Imbrium **[#1419]**
Lunar rilles were caused by a combination of both volcanism and tectonism. The different proportion of volcanism and tectonism both for forming the different morphology. The superposition and transection relations of the rilles may be identify its age.

Whitten J. L. Head J. W. III Neumann G. A. Zuber M. T. Smith D. E.
Volcanic Flooding Experiments in Impact Basins and Heavily Cratered Terrain Using LOLA Data: Patterns of Resurfacing and Crater Loss **[#1470]**
We use models to flood lunar topography to understand the thicknesses and volumes required to form mare-like deposits. Information gleaned from the experiments is applied to partially filled lunar basins to understand their early volcanic histories.

Gaddis L. Hawke B. R. Giguere T. Klem S. Gustafson J. O. Lawrence S. J. Stopar J. D.
Volcanism Within Floor-Fractured Atlas Crater **[#2787]**
Recent observations of the crater Atlas by imaging instruments on the LRO and SELENE missions allow us to examine in detail two small pyroclastic volcanic deposits in the crater floor.

Arimoto T. Ohtake M. Haruyama J. Iwata T.
Composition of Dark Mantle Deposit on the Aristarchus Plateau **[#1572]**
It is important to know the lunar mantle composition. In this study, by using MI spectral data of SELENE, we estimated the composition and crystallinity of dark mantle deposits on the Aristarchus Plateau, which originated in magma from deeper mantle.

Hawke B. R. Giguere T. A. Gaddis L. R. Gustafson O. Lawrence S. J. Stopar J. D. Peterson C. A. Bell J. F. III Robinson M. S. LROC Science Team
Localized Pyroclastic Deposits in the Grimaldi Region of the Moon **[#1749]**
LRO Camera WAC and NAC images were used to identify and characterize previously unknown localized pyroclastic deposits in the Grimaldi region. Some are among the smallest pyroclastic deposits yet identified on the lunar surface.

Hawke B. R. Giguere T. A. Lawrence S. J. Glotch T. D. Greenhagen B. T. Hagerty J. J. Braden S. E. Gaddis L. R. Jolliff B. L. Lucey P. G. Stopar J. D. Peterson C. A. Paige D. A. Robinson M. S. LROC Science Team
The Geology and Composition of Hansteen Alpha **[#1754]**
LROC images, LRO Diviner data, and Clementine UVVIS images were used to investigate the geology and composition of Hansteen α, a Th-rich, spectral anomaly on the Moon.

Accardo N. J. Jolliff B. L. Lawrence S. J.
Boulder Densities at the Compton-Belkovich Volcanic Complex **[#1656]**
We measure boulder densities at three volcanic mounds in the Compton-Belkovich Volcanic Complex (CBVC) to better understand the rock properties of boulders, to distinguish the style of eruption, and to understand the properties of the CBVC materials.

Stooke P. J.
Lunar Meniscus Hollows **[#1011]**
The famous Ina or D-Caldera is not alone on the Moon. A few other examples were noted by Schultz in 1976. Now LROC images reveal these features in many places, usually near volcanic centers. Twenty-seven locations are identified and illustrated.

Garcia J. H. Hurtado J. M. Jr.
Phreatomagmatic Activity on the Moon: Possibility of Pseudocraters on Mare Frigoris **[#1390]**
Pseudocraters are volcanic features that form as a result of steam explosions from the interaction between lava and water. On the Moon the mechanism of formation could be triggered by the interaction between mare lava flows and ice in the regolith.

Lawrence S. J. Stopar J. D. Hawke B. R. Jolliff B. L. Robinson M. S. Spudis P. D. Giguere T. A.
Characterizing Volcanic Cones in the Marius Hills Region **[#2432]**
We present a comprehensive survey of volcanic cones in the Marius Hills complex using Lunar Reconnaissance Orbiter Camera data, including a detailed morphological classification scheme, and discuss implications for volcanism in the region.