Tuesday, March 20, 2012
POSTER SESSION I: LUNAR IMPACT CRATERS
6:00 p.m. Town Center Exhibit Area

Yokota Y. Gwinner K. Oberst J. Haruyama J. Matsunaga T. Morota T. Noda H. Araki H. Ohtake M. Yamamoto S.
Lunar Surface Roughness at Baseline 0.15–100 km and the Impact History of the Highlands **[#2843]**
We report roughness measurement results at the baseline scale from 0.15 to 100 km, using the digital topography data derived from the SELENE Laser Altimeter (LALT) and Terrain Camera (TC).

Jozwiak L. M. Head J. W. III Neumann G. A. Zuber M. T. Smith D. E.
Lunar Floor-Fractured Craters: Classification, Distribution, and Implications for Magmatism and Shallow Crustal Structure **[#1512]**
A study classifying and mapping the distribution of all lunar floor-fractured craters. We then use the crater distribution and morphology to investigate proposed formation mechanisms, favoring shallow magmatic intrusion over viscous relaxation.

Frey H. V. Meyer H. M. Romine G. C.
Improving the Inventory of Large Lunar Basins: Using LOLA Data to Test Previous Candidates and Search for New Ones **[#1848]**
LOLA topographic and LOLA-based crustal thickness data were used to eliminate 23 candidate basins previously suggested based on older data. The newer data also suggest there may be an additional 20 possible basins, for a working inventory of 95.

Ishihara Y. Morota T. Saruwatari Y. Sawada A. Hiramatsu Y.
A Determination of Characteristics of Impact Basins from "Kaguya" Geodetic Data **[#1723]**
We propose a new quantitative and objective procedure to measure the impact basin's characteristics based on a (localized) spherical function model, and show its application result for actual lunar data.

Kinoshita T. Honda C. Hirata N. Morota T. Demura H. Asada N.
Evaluation of Spatial Distribution of Craters on Lunar Surface for Detection of Secondary Craters **[#1829]**
For crater chronology, we should evaluate quantitatively the region that contains secondary craters. The clustered secondary craters could be evaluated non-random spatial distribution of craters quantitatively by our clustering analysis.

Thomson B. J. Bussey D. B. J. Cahill J. T. S. Neish C. D. Kirk R. Patterson G. W. Raney R. K. Spudis P. D.
Excess Numbers of Enhanced CPR Craters in the Lunar Polar Regions **[#2104]**
The abundance of craters with a polarization signature consistent with roughness or small ice fractions is greater at the poles vs. the equator by a ratio of ~1.6:1, suggesting roughness alone is not responsible for the polar crater observations.

Martin-Wells K. S. Campbell D. B. Campbell B. A. Carter L. M.
The Relationship Between Debris Flow and Enhanced Radar Circular Polarization Ratio Values in Lunar Secondary Crater Clusters **[#2272]**
Recent work has shown that lunar secondary craters are sometimes associated with streaks of enhanced radar circular polarization ratio (CPR) compared to surrounding terrains. We examine the origin of enhanced CPR in relation to secondary cratering.

Kramer G. Y. Ohman T. Nahm A. L. McGovern P. J.
Pre- and Post-Impact Influences on Schrödinger Basin's Structural Geology **[#1734]**
Schrodinger Basin hosts a series of fractures that exhibit complex cross-cutting relationships with each other and the basin floor materials. Some of these fractures are evidence of deep faulting, and some are associated with late-onset volcanism.

Xiao Z. Strom R. G. Chapman C. R. Head J. W.
New Comparisons Between Fresh Impact Craters on Mercury and the Moon **[#2130]**
Impact ejecta on Mercury and the Moon is affected by both surface gravity and impact velocity.

Miura Yas.
Formation of Moon-Type Rocks by Multiple Impacts with Porous, Crystals and Glassy Soils **[#1203]**
Lunar rocks are checked by two data of (a) density, porosity, and age; and (b) FeO, Ni, Co, and C contents and age. The results indicate that primordial FAN anorthosites are relatively brecciated on heterogeneous surface with multiple impact process.

Basilevsky A. T. Abdrakhimov A. M. Ivanov M. A. Zabalueva E. V. Karachevtseva I. P. Shingareva K. B. Gusakova E. N. Oberst J. Waehlisch M. Robinson M.
Identification and Measurements of Small Impact Craters in the Lunokhod 1 Study Area, Mare Imbrium **[#1481]**
Analyzing LROC NAC images and DTM for the Lunokhod 1 area, we consider a problem of craters identification on images taken at different solar elevations, measure crater D/H ratios, and make profiles through craters having different morphological prominence.

Herrick R. R.
Antoniadi is an Unusual Lunar Protobasin **[#2409]**
I examined several lunar craters around 150 km in diameter, where protobasins begin to form. Antoniadi is quite different from similar-sized craters and may provide some unique insights into peak ring formation and lunar subsurface properties.

Petro N. E.
Formation of South Pole-Aitken Basin as the Result of an Oblique Impact: Implications for Melt Volume and Source of Exposed Materials **[#2656]**
South Pole-Aitken (SPA) is the largest and oldest identified basin on the Moon. The source of impact melt and the effects of oblique impact on the depth of origin of melted material are investigated. Ultimately, a large volume of melt is produced and retained in SPA.

Dhingra D. Pieters C. M. Head J. W. Isaacson P. J.
Large Flow Feature at Copernicus Crater — Implications for Impact Melt Evolution and Emplacement Chronology **[#2339]**
Analysis of M^3 data for Copernicus Crater suggests the presence of a large impact melt flow extending from northern wall and terminating at the central peaks. The reasoning for this interpretation and implications for melt evolution are discussed.