Friday, March 21, 2014 **[F501]**
LUNAR REGOLITH PROCESSES: WET, DRY, AND SWIRLY
8:30 a.m. Waterway Ballroom 1

Chairs: **Annemarie Pickersgill**
Wu Yunzhao

8:30 a.m. Elsila J. E. * Callahan M. P. Glavin D. P. Dworkin J. P. Noble S. K. et al.
Distribution of Amino Acids in Lunar Regolith **[#1127]**
Amino acids were detected in lunar regoliths. Contamination is possible, but the presence of an acid-hydrolyzable extraterrestrial precursor is suggested.

8:45 a.m. Pieters C. M. * Moriarty D. P. III Garrick-Bethell I.
Atypical Regolith Processes Hold the Key to Enigmatic Lunar Swirls **[#1408]**
Instead of low space weathering for swirls, we propose local collapse of regolith fairy castle and minor redistribution of lunar dust by local electric fields.

9:00 a.m. Hemingway D. * Garrick-Bethell I.
Space Weathering at Lunar Swirls and at High Lunar Latitudes **[#1979]**
Space weathering effects are found to vary systematically with latitude in a way that resembles the unusual weathering trends observed at lunar swirls.

9:15 a.m. Denevi B. W. * Robinson M. S. Boyd A. K. Sato H. Hapke B. W. et al.
Crystalline, Shocked, and Melted Materials in the Lunar Highlands **[#2000]**
We investigate effects of space weathering at UV wavelengths, focusing on variability in the highlands indicative of differences in the degree of impact shock.

9:30 a.m. Pickersgill A. E. * Flemming R. L. Osinski G. R.
Streak Lengthening in Chi (°χ) from Micro-X-Ray Diffraction Patterns of Shocked Lunar and Terrestrial Plagioclase **[#2595]**
μXRD for the purpose of quantifying shock level is being applied for the first time to the feldspar group using both terrestrial impactites and Apollo samples.

9:45 a.m. Molaro J. L. * Byrne S.
Grain-Scale Thermoelastic Stresses on Airless Bodies and Implications for Rock Break-Down **[#1179]**
We model thermoelastic stresses generated near surfaces on the Moon and Vesta, and discuss implications for regolith production on these bodies.

10:00 a.m. Bandfield J. L. * Hayne P. O. Paige D. A.
What is the Surface Temperature of the Moon? **[#1519]**
Lunar surface temperatures separated by just a few centimeters can vary by nearly 200 K. No single "correct" temperature exists for retrieval of spectral properties.

10:15 a.m. Koeber S. D. * Robinson M. S. Speyerer E. J.
LROC Observations of Permanently Shadowed Regions on the Moon **[#2811]**
We will present preliminary analysis of NAC images of the permanently shadow regions of the Moon.

10:30 a.m. Patterson G. W. * Bussey D. B. J. Stickle A. M. Cahill J. T. S. Carter L. M. et al.
Mini-RF and the Curious Case of Cabeus Crater **[#2765]**
Bistatic radar observations of the crater Cabeus indicate anomalous scattering behavior associated with its floor (behavior not observed with monostatic data).

10:45 a.m. McClanahan T. P. * Mitrofanov I. G. Boynton W. V. Chin G. Evans L. G. et al.
Upper-Latitude Hydration of the Moon's Southern Poleward-Facing Slopes **[#2931]**
We illustrate evidence that a pervasive hydration of the Moon's poleward-facing slopes reaching to –60° latitude.

11:00 a.m. Eke V. R. * Bartram S. A. Lane D. A. Smith D. Teodoro L. F. A.
Lunar Polar Craters — Icy, Rough or just Sloping? **[#1853]**
What do circularly polarized radar data tell us about the possible presence of water ice deposits in permanently shaded lunar polar craters?

11:15 a.m. Peng W. X. * Wang H. Y. Cui Dr. Zhang C. M. Liang Dr. et al.
Active Particle-Induced X-Ray Spectrometer for Chang'e-3 YuTu Rover Mission and its First Results **[#1699]**
The Active Particle-induced X-ray Spectrometer onboard the Yutu rover of the Chang'e-3 mission got its first spectrum of lunar regolith around the landing site.

11:30 a.m. Lu Y. X. Y. * Basilevsky A. T. Abdrakhimov A. M.
Local Geology of Chang'e-3 Landing Site from Analysis of the CE-3 Descent Camera and LROC NAC Images **[#1116]**
Chang'e-3 landed on the rim of a young 450-m crater so the regolith there should be immature and its material originated from the depth down to 40–50 m.