Thursday, March 20, 2014 **[R702]**
POSTER SESSION: AIRLESS BODY REGOLITH PROCESSES AND PRODUCTS
6:00 p.m. Town Center Exhibit Area

Miller K. A. de Ruette N. Harlow G. E. Domingue D. L. Savin D. W. ***POSTER LOCATION #26***
Proposed Investigations into the Connection Between Meteorites and Their Asteroid Parent Bodies Through Laboratory Simulations of Space Weathering by Solar Wind Ions **[#2619]**
We describe proposed studies into the connection between meteorites and asteroids through laboratory simulations of space weathering by solar wind ions.

Kohout T. Cuda J. Filip J. Britt D. Bradley T. et al. ***POSTER LOCATION #27***
Evolution of the Space Weathering — Laboratory Simulations **[#1977]**
Most of the spectral changes related to space weathering and presence of iron nanoparticles evolve logarithmically with time.

Hijazi H. Bannister M. E. Meyer H. M. III
Rouleau C. M. Barghouty A. F. et al. ***POSTER LOCATION #28***
Solar Wind Sputtering of Lunar Soil Analogs: The Effect of Ionic Charge and Mass **[#1186]**
We report total and mass resolved sputtering for H^{+} and Ar^{+q} (q=1–9) ions incident on anorthite at 311 km/s, with enhanced O sputtering for Ar^{+9} compared to Ar^{+}.

Dropmann M. Laufer R. Herdrich G. Matthews L. S. Hyde T. W. ***POSTER LOCATION #29***
Lunar Swirls and Plasma Magnetic Field Interaction in the Laboratory **[#1742]**
A GEC cell has been used to investigate the interaction of plasma with a magnet. The results shall be used to help to understand the formation of lunar swirls.

Liu D. Li L. ***POSTER LOCATION #30***
The Formation of Lunar Swirls: Results from Hapke's Radiative Transfer Modeling **[#1654]**
Lunar swirls are demonstrated to be depleted in smaller and larger SMFe, and the solar wind deflection model is preferred to explain the formation of lunar swirls.

Reedy R. C. ***POSTER LOCATION #31***
Solar-Proton Fluxes Recently Near the Earth **[#2324]**
Solar-proton fluxes for 2009–13 were compiled and compared with earlier data. They are relative low, consistent with low recent solar activities.

Curran N. M. Joy K. H. Burgess R. ***POSTER LOCATION #32***
Determining the Regolith Histories of Lunar Meteorites **[#1467]**
Determining the regolith history of lunar meteorites to see if they show a similar link between their formation age and their maturity, as Apollo samples do.

Schelling P. K. Britt D. T. Bradley T. Consolmagno G. J. ***POSTER LOCATION #33***
Space Weathering on Mercury and Vesta **[#2179]**
A general theory of space weathering is developed, and applied to provide potential explanations for unique space weathering observed on Mercury and Vesta.

Thompson M. S. Zega T. J. ***POSTER LOCATION #34***
Determining the Oxidation State of Iron Nanoparticles in Mature Lunar Soil Through Electron Energy-Loss Spectroscopy **[#2834]**
An analysis of the oxidation states of individual iron nanoparticles in rims and agglutinates of a mature lunar soil through electron energy-loss spectroscopy.

Durga Prasad K. Murty S. V. S. ***POSTER LOCATION #35***
Effect of Grain Size and Porosity on Surface Heat Influx on the Moon **[#1236]**
Laboratory experiments carried out in a simulated lunar environment to understand the effect of grain size and porosity on lunar surface heat flow is reported.

Christoffersen R. Noble S. K. Keller L. P. ***POSTER LOCATION #36***
Nanoscale Compositional Relations in Lunar Rock Patina: Deciphering Sources for Patina Components on an Apollo 17 Station 6 Boulder **[#1939]**
Sources for rock patina components on an Apollo 17 Station 6 boulder have been investigated based on analytical TEM compositional measurements.

Forman L. V. Bland P. A. Dyl K. A. Daly L. Ryan C. G. et al. ***POSTER LOCATION #37***
Constraining the Compositional Variety of Impactors at 1AU Over the Last ~3.5 Ga: In Situ Identification and Analysis of >200 Meteoritic Grains in a Lunar Soil **[#2680]**
Extralunar grains are identified, characterised and analyzed in situ within an Apollo 14 sample, using a range of microanalytical techniques.

Frushour A. M. Noble S. K. Christoffersen R. Keller L. P. ***POSTER LOCATION #38***
Alteration of Lunar Rock Surfaces Through Interaction with the Space Environment **[#2115]**
Six lunar rock thin sections with patina are identified, described, and classified from petrographic microscope and SEM observations.

Meng Z. G. Xu Y. Xu A. A. Zheng Y. C. Tang Z. S. et al. ***POSTER LOCATION #39***
Inversion of Lunar Regolith Layer Thickness with CELMS Data using BPNN Method **[#1942]**
The regolith layer thickness over the lunar surface is inversed using the BPNN method with CELMS data, surface roughness, slope, and ($FeO+TiO_2$) abundance.

Thomas-Keprta K. L. Keprta N. T. Clemett S. J.
Berger E. L. Rahman Z. et al. ***POSTER LOCATION #40***
Unusual Microtopography on an Apollo 12 Soil Grain **[#2681]**
We have observed the presence of a previously undescribed microtopography on the surface of a lunar grain from Apollo regolith sample 12070,29.

Lee J.-K. Lee H.-J. Baek S.-M. Kim K.-H. Jin H. et al. ***POSTER LOCATION #41***
Investigation of Magnetic Anomaly and Optical Maturity at Mare Crisium **[#1763]**
Mare Crisium contains magnetic anomalies and uncertain high albedo. We investigate their characteristics to identify any evidence swirl-like features.

Hogan J. D. Plescia J. Ramesh K. T. ***POSTER LOCATION #42***
Failure and Fragmentation of Meteorites and Basalt: Understanding Lunar Regolith Generation **[#2426]**
Microstructure-dependent fragmentation mechanisms occurring during the compressive failure of meteorite (GRO 85209) and basalt are explored.