

Tuesday, March 21, 2017

[T201]

## LOOKING AT THE DYNAMIC MOON: LUNAR REGOLITH EVOLUTION

8:30 a.m. Waterway Ballroom 1

**Chairs:** Carolyn van der Bogert  
Lynn Carter

- 8:30 a.m. McClanahan T. P. \* Mitrofanov I. G. Boynton W. V. Chin G. Livengood T. A. et al.  
[Inconsistent Regolith Thermal Control of Hydrogen Distributions at the Moon's South Pole](#) [#3036]  
Results show that maximum regolith temperature is an inconsistent control of H concentrations in the Moon's south polar PSR's.
- 8:45 a.m. Mandt K. E. \* Mazarico E. Greathouse T. K. Retherford K. D. Gladstone G. R. et al.  
[LRO-LAMP Observations of Illumination Conditions in the Lunar South Pole Permanently Shaded Regions](#) [#1982]  
LRO-LAMP observes scattered sunlight within the PSRs. We compare these observations with a model and other LRO datasets.
- 9:00 a.m. Siegler M. A. \* Feng J.  
[Microwave Remote Sensing of Lunar Subsurface Temperatures: Reconciling Chang'e MRM and LRO Diviner](#) [#1705]  
Chang'e MRM Microwave and LRO Diviner IR remote sensing measurements are combined to map temperatures as a function of depth on the Moon.
- 9:15 a.m. Watkins R. N. \* Jolliff B. L. Lawrence S. J. Hayne P. O. Ghent R. R.  
[Boulder Distributions at Legacy Landing Sites: Assessing Regolith Production Rates and Landing Site Hazards](#) [#1245]  
Boulders on the Moon / Are ejected from craters / Don't land on one please!
- 9:30 a.m. Mazrouei S. \* Ghent R. R.  
[Towards an Understanding of Initial Crater Rock Populations: Boulder Distribution Around Copernicus Crater](#) [#2507]  
Boulder distribution around Copernicus Crater, in pursuit of understanding boulder survival times based on crater size, age, and terrain.
- 9:45 a.m. Allen C. C. \* Bandfield J. Greenpagan B. Hayne P. Leader F. et al.  
[Do Bare Rocks Exist on the Moon?](#) [#1495]  
Bare rocks — and rocks with extremely thin dust coatings — do exist on the Moon. This presents a strong constraint on models of dust transport and deposition.
- 10:00 a.m. Hiesinger H. \* Roggon L. Hetzel R. Clark J. D. Hampel A. et al.  
[Lunar Thrust Faults: Length-Displacement Scaling and the Formation of Uphill-Facing Scarps](#) [#1163]  
The ratio of maximum displacement to fault length of lunar scarps is ~0.023. Formation of uphill-facing scarps requires less energy than do downhill-facing ones.
- 10:15 a.m. Costello E. S. \* Ghent R. R. Lucey P. G.  
[A Refreshed Model for the Mixing Rate of Lunar Regolith](#) [#1672]  
Informed by models and observations made since 1974, we revisit Gault et. al.'s Poisson probability based model to constrain the rate of impact-driven mixing.

- 10:30 a.m. Jordan A. P. \* Stubbs T. J. Wilson J. K. Hayne P. O. Schwadron N. A. et al.  
[How Dielectric Breakdown May Weather the Lunar Regolith and Contribute to the Lunar Exosphere](#) [#2332]  
Solar energetic particles may cause dielectric breakdown weathering in regolith on the Moon's nightside and temporarily add vapor to the Moon's exosphere.
- 10:45 a.m. Meyer H. M. \* Robinson M. S. Stopar J. D.  
[A New Look at Surveyor VII from the Lunar Reconnaissance Orbiter Camera](#) [#2631]  
New images from the Lunar Reconnaissance Orbiter Camera provide a detailed look at the Surveyor VII landing site.
- 11:00 a.m. Trang D. \* Lucey P. G.  
[Mapping the Submicroscopic Iron Particle Abundances Across the Lunar Surface Using a Radiative Transfer Model and Kaguya Multiband Imager Data](#) [#1042]  
We used the radiative transfer technique to estimate the reflectances of lunar soils as a function of FeO and to produce two submicroscopic iron abundance maps.
- 11:15 a.m. Domingue D. L. \* Palmer E. E. Gaskell R. Staid M. Pieters C. M.  
[Characterization of the Lunar Surface Within Tsiolkovsky Crater: The Photometric, Albedo, and Thermal Properties of the Regolith](#) [#2363]  
Rocket scientist / His farside namesake perused / Thermal properties.
- 11:30 a.m. Wirth A. A. \* Cahill J. T. S. Hendrix A. R. Mandt K. E. Liu Y. et al.  
[Discrete Lunar Nearside Anomalies in Nighttime Lyman- \$\alpha\$  Albedo Maps](#) [#2792]  
Swirls are one of the most enigmatic lunar regions, but recent data are identifying previously overlooked regions with interesting similarities and differences.