Wednesday, March 21, 2018 [W452]
SPACE WEATHERING IS RUINING PERFECTLY GOOD PLANETARY SURFACES ACROSS THE SOLAR SYSTEM
1:30 p.m. Waterway Ballroom 4

Chairs: **Heather Kaluna**
Ujjwal Raut

1:30 p.m. Grumpe A. Wohlfarth K. S. * Wöhler C.
Simulation of Space Weathering Based on Mie Theory **[#2533]**
We directly simulate space weathering effects in the NIR and TIR range based on Mie theory.

1:45 p.m. Legett C. IV * Glotch T. D. Lucey P. G.
Modeling the VNIR Reflectance of Geometrically Complex Space Weathered Grains with the Multiple Sphere T-Matrix Model **[#2665]**
Space weathered moon dust / Geometrically complex / Models improving.

2:00 p.m. Wang X. * Hood N. Carroll A. Mike R. Hsu H.-W. et al.
The Role of Electrostatic Dust Transport in the Surface Evolution of Airless Planetary Bodies **[#1737]**
We show lab results of the effects and efficiency of electrostatic dust transport processes on the surface physical properties of airless planetary bodies.

2:15 p.m. Tsuchiyama A. * Ogawa M. Matsuno J. Uesugi K. Okumura S. et al.
Abrasion Experiments of Mineral and Meteorite Grains; Application to Shape Evolution of Regolith Particles on Airless Bodies **[#1844]**
The experiments suggest that Itokawa and lunar regolith particles were abraded by gradual wearing with mild grain motion and chipping due to impact cratering.

2:30 p.m. Daly L. * Lee M. R. Hallis L. J. Bland P. A. Reddy S. M. et al.
Atomic Scale Depth Profile of Space Weathering in an Itokawa Olivine Grain **[#1495]**
Evidence of solar wind implanted water found by applying atom probe microscopy to a space weathered rim of an Itokawa olivine grain.

2:45 p.m. Tatsumi E. * Sugita S.
Itokawa's Orbital Transition from Main Belt to Near-Earth Orbit as Derived from Spectral Ages of Quasi-Circular Depressions on Itokawa **[#1945]**
The spectral dating method based on the degree of space weathering is demonstrated. We evaluated the exposure ages of possible impact craters on Itokawa.

3:00 p.m. Goodrich C. A. * Gillis-Davis J. Cloutis E. Applin D. Takir D. et al.
Effects of Space Weathering on Reflectance Spectra of Ureilites: First Studies **[#1579]**
First studies suggest that while fresh ureilitic regolith resembles C-complex asteroids, space weathered ureilitic regolith may resemble D, T, or X asteroids.

3:15 p.m. Gillis-Davis J. J. * Gobi S. Bradley J. P. Cheng Z. Ishii H. A. et al.
Laser and Electron Weathering Experiments on Murchison (CM2) Meteorite **[#2051]**
Electron and laser irradiation experimental results evidence how space weathering can serve as a preserver or destroyer of volatiles within Murchison meteorite.

3:30 p.m. Kaluna H. M. * Bradley J. P. Ishii H. A. Gillis-Davis J. J.
Spectral and Morphological Variations Resulting from Space Weathering Experiments on Pristine Lunar Soils **[#2421]**
Spectral and TEM analyses of pristine lunar soils that have been irradiated by a pulsed-laser.

3:45 p.m. Poppe A. R. * Farrell W. M. Halekas J. S.
Formation Timescales of Amorphous Rims on Lunar Grains Derived from ARTEMIS Observations **[#1108]**
ARTEMIS ion observations and SRIM simulations are used to calculate amorphous rim formation timescales for olivinic grains on the lunar surface.

4:00 p.m. Sim C. K. * Kim S. S.
Characterizing the Maturity Trend of Impact Craters on the Moon **[#1838]**
Maturity trends of lunar craters can be described by its length, the angle from the horizontal line, and the statistical skewness along its principal axis.

4:15 p.m. Matiella Novak M. A. * Patterson G. W. Greenhagen B. T. Stickle A. M.
Characterizing Regolith Breakdown on the Moon Using LRO Observations of Young, Fresh Crater Ejecta **[#2915]**
Comparisons of Mini-RF CPR roughness values, collected in the current bistatic mode, to Diviner and LROC data for a fresh crater south of Anaxagoras Crater.

4:30 p.m. Yamamoto S. * Watanabe S. Matsunaga T.
Spectral Similarity Between Space-Weathered Anorthosite and D-Type Spectra on the Martian Satellites **[#1775]**
We demonstrate how the spectra of lunar anorthosites affected by space weathering resemble D-type spectra on Phobos and Deimos, and discuss its implications.