Tuesday, March 20, 2018
ORIGIN AND IGNEOUS EVOLUTION OF THE MOON
1:30 p.m.   Waterway Ballroom 6

Chairs:  Tabb Prissel
Edgar Steenstra

1:30 p.m.  Fischer R. A. *   Nimmo F.   O’Brien D. P.
The Origin of the Moon’s Earth-Like $^{182}$W Isotopic Composition [#2195]
Based on dynamic simulations plus core formation, Earth and Theia did not have the same W anomaly, so the Moon obtained its Earth-like $^{182}$W by another mechanism.

1:45 p.m.  Steenstra E. S. *   Fei Y.   Matveev S.   Berndt J.   Klemme S.   et al.
Assessment of a High-Energy Origin of the Moon from Metal-Silicate Partitioning of Siderophile Elements at High Temperatures [#1198]
We use new high-temperature metal-silicate partitioning data for siderophile elements obtained at up to 2873 K to assess a high-energy origin of the Moon.

2:00 p.m.  Pieters C. M. *   Hiroi T.   Milliken R. E.   Cheek L. C.
Abundance and Distribution of Lunar Primary Crust Anorthosite: The Featureless Plagioclase Challenge [#1698]
Primary anorthosite crust of the Moon is identified by diagnostic features; vast areas of featureless material should be related, but is undocumented by samples.

2:15 p.m.  Crites S. T. *   Lemelin M.   Lucey P. G.   Ohtake M.
Post-Magma Ocean Impact and Igneous Contributions to the Lunar Highlands Crust [#1819]
Typical anorthositic lunar highlands crust contains $>$10% mafic minerals. We revisit mixing models with new mineral maps to identify possible mafic contributors.

2:30 p.m.  Torcivia M. A. *   Neal C. R.
Ferroan Anorthosite 60025 — A Lunar Breccia [#1331]
A look at how a classic example of an LMO product may be more complicated than initially thought.

2:45 p.m.  Elardo S. M. *   Shearer C. K.   McCubbin F. M.
Asymmetric Early Crust-Building Magmatism on the Lunar Nearside Due to KREEP-Induced Melting Point Depression [#2344]
The KREEP reservoir on the lunar nearside reduces the melting temperature of Mg-suite source rocks, which could lead to asymmetric crust-building magmatism.

3:00 p.m.  Prissel T. C. *   Gross J.
Re-Examining the Petrogenesis of Lunar Troctolites [#2583]
Re-examining / The Petrogenesis of / Lunar Troctolites: We relax the Mg# problem, and conclude formation via equilibrium crystallization of komatiite-like melts.

3:15 p.m.  Robinson K. L. *   Kring D. A.
The Northwest Africa 5744 Group: A Glimpse into Schrödinger-Like Lithologies? [#1635]
We present new data from two spinel-bearing troctolitic lunar meteorites that may be petrologically similar to Mg-suite rocks observed in Schrödinger Basin.

3:30 p.m.  Pinet P. C. *   Chevrel S. D.   Daydou Y. H.
Characterization of the Olivine/Plagioclase Mineralogy at Copernicus Crater from MGM Deconvolution of M$^3$ Observations [#1899]
Advanced MGM deconvolution procedure is implemented on M$^3$ observations at Copernicus Crater to detect and map olivine and plagioclase-bearing minerals.
Where is the mantle? / Excavation by impact / May not expose it.

4:00 p.m. McCanta M. C. * Dyar M. D. Breitenfield L. Lanzirotti A. * "Mapping of Ferric Iron Variation in Lunar Glass Beads: Observing Changing Oxidation Conditions In Situ" [1073]
We have obtained the first maps of ferric iron concentration in lunar glass beads. Late-stage magma ascent and eruption conditions are considered.

4:15 p.m. Gawronska A. J. * Cronberger K. Neal C. R. * "Implications of Bimodal Olivine Compositions in VHK Basalts" [1821]
This study investigated the magma conditions that could have led to the stabilization of Fayalitic olivine in VHK basalts.

4:30 p.m. Christoffersen R. * Mouser M. D. Simon J. I. Ross D. K. * "Multiple Alkali-Enriched Feldspar Generations in Felsite-Containing Lunar Breccia 12013" [2204]
Feldspar-silica assemblages in lunar breccia 12013 are not limited to the granophyres, but include those generated by shock and perhaps fluid activity.