Thursday, March 23, 2017 **[R502]**
LUNAR PETROLOGY AND GEOCHEMISTRY: EXPERIMENTS AND SAMPLE STUDIES
10:15 a.m. Waterway Ballroom 1

Chairs: **Julia Hammer**
Amy Fagan

10:15 a.m. Jacobsen S. B. * Petaev M. I.
Testing Models of Lunar Origin: K Isotopes, Radiogenic Isotopes, and Volatile Elements **[#2302]**
Isotopes and volatile element estimates for a dry Moon are consistent with the recently proposed high-energy, high-angular-momentum giant impact model.

10:30 a.m. Kleine T. * Kruijer T. S.
Tungsten Isotopes and the Origin of the Moon **[#2987]**
We show that lunar samples exhibit a uniform ^{182}W excess and that this excess is a low probability outcome of the giant impact.

10:45 a.m. Kohl I. E. * Warren P. H. Schauble E. A. Young E. D.
Limitations on $\Delta'^{17}O$ as a Tracer of Provenance Revealed by Mineral Specific Values from Lunar and Terrestrial Anorthosites **[#2292]**
We present Δ^{17}O measurements of lunar and terrestrial anorthosites and plagioclase separates showing measurable depletions relative to their mafic counterparts.

11:00 a.m. Elardo S. M. * Shearer C. K. McCubbin F. M.
The Role of KREEP in the Production of Mg-Suite Magmas and Its Influence on the Extent of Mg-Suite Magmatism in the Lunar Crust **[#2450]**
Here we present high-temperature experiments aimed at determining whether KREEP is a necessary component of the lunar Mg-suite plutonic rocks.

11:15 a.m. Brown S. M. * Grove T. L.
Mixing of Melts of Compositionally Distinct Source Regions Can Explain the Within- and Between-Suite Compositionally Variability of the Lunar Ultramafic Glasses: Experiments and Models **[#2716]**
We combine new and previous experiments of lunar magma ocean cumulate remelting with the compositional variability of ultramafic glasses to constrain their origin.

11:30 a.m. Hammer J. E. * Shea T. Taylor G. J. Hellebrand E. Welsch B.
Magmatic Cooling History of Troctolite 76535 Constrained by Diffusion Modeling of Olivine and Plagioclase Compositional Zonation **[#1274]**
Rapid initial crystallization of 76535 is suggested by diffusion modeling of olivine compositional zonation.

11:45 a.m. Borg L. E. * Cassata W. Gaffney A. M.
Age Rrelationship Between Slowly Cooled lunar Crustal Troctolite Sample 76535 and Noritic Anorthosite Sample 60025 **[#1075]**
Lunar Mg-suite and ferroan anorthosite suite magmatism is demonstrated to have been contemporaneous.