

Wednesday, March 22, 2017

[W403]

## DIFFERENTIATED METEORITES AND THEIR PARENT ASTEROIDS

8:30 a.m. Waterway Ballroom 5

**Chairs:** Timothy McCoy  
Edward Cloutis

- 8:30 a.m. Kiefer W. S. \* Mittlefehldt D. W.  
[Differentiation of Asteroid 4 Vesta: Core Formation by Iron Rain in a Silicate Magma Ocean](#) [#1798]  
Core formation on Vesta occurs by iron rain in a silicate magma ocean, explaining the moderately siderophile element concentrations in the eucrite meteorites.
- 8:45 a.m. Hesse M. A. \* Ghanbarzadeh S. Jordan J. S.  
[Timescales of Percolative Core Formation in Planetesimals](#) [#1584]  
We investigate the timescales of percolative core formation in planetesimals using numerical models and show that percolative core formation may require a few million years.
- 9:00 a.m. McCoy T. J. \* Corrigan C. M. Nagashima K. Reynolds V. S. Walker R. J. et al.  
[Milton and the South Byron Trio: An Oxidized Parent Body with an Outside-In Crystallizing Core](#) [#2241]  
Poetical rocks / Oxygen into core / Frozen out to in.
- 9:15 a.m. Boesenberg J. S. \* Humayun M. Van Niekerk D.  
[Zinder: The First Mantle Sample from the IIIIF Iron Parent Body](#) [#2319]  
Zinder, a pyx pallasite, has a metal composition linking it to the IIIIF irons. Zinder silicates would be the first known IIIIF parent body mantle sample.
- 9:30 a.m. Lunning N. G. \* Waters L. E. McCoy T. J. Corrigan C. M.  
[Experimental Melting of Allende at IW+1 at Pressures Relevant to the Interiors of Planetesimals](#) [#2639]  
Moderate pressures attenuate volatilization of sulfur, preserving core forming FeNiS liquids and dramatically influencing spinel-group mineral compositions.
- 9:45 a.m. Santos A. R. \* Agee C. B. Shearer C. K. Bell A. S. Burger P. V. et al.  
[Northwest Africa 8535: Sampling a New Portion of the Angrite Parent Body](#) [#2266]  
Angrite meteorite Northwest Africa 8535, the first angrite dunite, samples new angrite magmatic processes, but has many similarities to other angrites.
- 10:00 a.m. Hodges Z. V. \* Mittlefehldt D. W.  
[Petrology of Igneous Clasts in Regolithic Howardite EET 87503](#) [#1339]  
Differences between pyroxene Fe/Mn ratios in howardite EET 87503 and eucrite EET 87520 plausibly indicate small intrinsic variations in the parent body crust.
- 10:15 a.m. Sarafian A. R. \* Nielsen S. G. Marschall H. R. Gaetani G. A. Hauri E. H. et al.  
[Volatile Concentrations and H-Isotope Composition of Unequilibrated Eucrites](#) [#1436]  
Unequilibrated eucrite clasts were measured for major and volatile element concentration and D/H.
- 10:30 a.m. Boyle S. \* Goodrich C. A. Kita N. T. Treiman A. H. Gross J.  
[Calcic Plagioclase-Rich Clasts Resembling the NWA 7325 Ungrouped Achondrite in Polymict Ureilites](#) [#1219]  
The origin of Ca-Plagioclase clasts in polymict ureilites are similar to plagioclase in NWA 7325; may represent pieces of a previously unrecognized parent body?

- 10:45 a.m. Fioretti A. M. Goodrich C. A. \* Shaddad M. Jenniskens P. Zolensky M. et al.  
[\*A Report on 63 Newly Sampled Stones of the Almahata Sitta Fall \(Asteroid 2008 TC<sub>3</sub>\) from the University of Khartoum Collection, Including a C2 Carbonaceous Chondrite\*](#) [#1846]  
We sampled 63 new stones from Almahata Sitta. Ureilites dominate but new types of non-ureilites are emerging, including a C2 chondrite of uncertain affinities.
- 11:00 a.m. Collinet M. \* Grove T. L.  
[\*Melting of C-Rich Planetesimals and Implications for the Composition of the Ureilite Parent Body\*](#) [#2052]  
Partial melting experiments of various chondritic materials in the presence of graphite and CO provide mineralogical constraints on the origin of ureilites.
- 11:15 a.m. Hyde B. C. \* Moser D. E. Tait K. T. Darling J. R. Moreira H.  
[\*In Search of a Group for the Ungrouped Achondrites NWA 7680 and NWA 6962\*](#) [#2168]  
NWA 7680 and NWA 6962 are ungrouped achondrites. We suggest they are both from a unique achondrite parent body, or a carbonaceous chondrite(-like) parent body.
- 11:30 a.m. Yasutake M. \* Yamaguchi A.  
[\*Petrogenesis and History of Orthopyroxene-Rich Lodranite Y 983119\*](#) [#1821]  
We investigate anomalous lodranite Y 983119. The petrology and mineralogy indicate that Y 983119 is a possible cumulate lodranite.
- 11:45 a.m. Greenwood R. C. \* Burbine T. H. Franchi I. A.  
[\*Linking Meteorites to Asteroids: How Many Parent Bodies Do We Sample in Our Meteorite Collections?\*](#) [#2515]  
To order interpret the meteorite record effectively, its relationship to the contemporary and past asteroid populations needs to be fully evaluated.