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 IIIF Iron Parent Body* [#2319]
Zinder, a pyx pallasite, has a metal composition linking it to the IIIF irons. Zinder silicates would be the first known IIIF 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.


*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 TC3) from the University of Khartoum Collection, Including a C2 Carbonaceous Chondrite

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

Partial melting experiments of various chondritic materials in the presence of graphite and CO provide mineralogical constraints on the origin of ureilites.

In Search of a Group for the Ungrouped Achondrites NWA 7680 and NWA 6962

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

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?

To order interpret the meteorite record effectively, its relationship to the contemporary and past asteroid populations needs to be fully evaluated.