

Thursday, July 26, 2018
DIFFERENTIATED METEORITES AND THEIR PARENT ASTEROIDS
1:30 p.m. Red Room

Chairs: Kuljeet Marhas
Qing-Zhu Yin

- 1:30 p.m. Amari S. * Kagi H.
[Carbonaceous Phases in Goalpara](#) [#6118]
 C-rich phases in Goalpara include organic matter, diamond, graphite and SiC. SiC grains formed in the ureilite parent body (UPB), indicating that the UPB experienced reducing conditions, and that SiC formation took place in the early solar system.
- 1:45 p.m. McCoy T. J. * Keil K.
[Acapulcoite-Lodranite Meteorites: Broadening Our View of a Partially-Differentiated Asteroid](#) [#6336]
 A growing set of acapulcoites and lodranites suggest peak temperatures across the body varied by ~600C, comparable to but higher than, that of ordinary chondrites.
- 2:00 p.m. Yin Q.-Z. * Dey S. Huyskens M. H. Sanborn M. E. Tarduno J. A. Nimmo F.
[Long-Lived Magmatism and Core Dynamo in Vesta](#) [#6097]
 Crystallization age of unique magnetized diogenite NWA 5480 is obtained to constrain the timing of core dynamo and mantle convection in asteroid 4 Vesta.
- 2:15 p.m. Luu T.-H. * Elliott T.
[Timing of Crystallization of the Magma Ocean on the HED Parent Body](#) [#6064]
 High precision bulk Mg isotopic compositions of three diogenites and six basaltic eucrites are combined with thermal evolution modelling to better constrain the timing of processes on the HED parent body.
- 2:30 p.m. Ono H. * Mikouchi T. Yamaguchi A.
[Various Silica Polymorphs in the Yamato-75011 Non-Cumulate Eucrite](#) [#6184]
 We analyzed silica polymorphs in some clasts of the Yamato-75011 polymict eucrite. Many kinds of silica combinations have been found such as monoclinic and orthorhombic tridymite, suggesting different cooling process before the brecciation.
- 2:45 p.m. Koike M. * Iizuka T. Mikouchi T. Ono H. Takahata N. Sano Y.
[Thermal and Impact History of Vesta: Estimate from In-Situ U-Pb Dating of Phosphate Minerals in Basaltic Eucrites](#) [#6250]
 We conducted in-situ U-Pb dating of phosphates in basaltic eucrites, to reveal thermal and impact history of Vesta. Phosphates in several brecciated eucrites recorded reheating at ca. 4.15 Ga, suggesting multiple impact events during this period.
- 3:00 p.m. Pang R. L. * Harries D. Pollok K. Zhang A. C. Langenhorst F.
[Formation and Implication of the Titanium-Rich Shock Melt Pockets in Eucrite Northwest Africa 8003](#) [#6228]
 We present a morphologically and chemically novel type of shock melt pocket (Ti-rich SMP) in eucrite NWA 8003. Friction heating due to shock reflections between ilmenite and its surrounding minerals is proposed to account for their formation.
- 3:15 p.m. Shissh T. * Pont S. Zanda B. Hewins R. Jacquet E.
[Secondary Alteration Features in Eucrites](#) [#6244]
 Many eucrites contain secondary alteration products and their origin is still not well known and understood. We aim to contribute to a better understanding of the origin of these features in eucrite and the complex evolution of the HED parent body.

- 3:30 p.m. Litasov K. D. * Ishikawa A. Kopylova A. G. Podgornykh N. M.
[Trace Element Composition and Classification of Ni-Rich Ataxite Onello](#) [#6176]
We provide new data on the unique iron meteorite Onello. Taenite matrix contains awaruite, schreibersite, nickelporphide and allabogdanite. Onello meteorite can be related to anomalous Ni-rich members of IAB group and crystallized at high pressures.
- 3:45 p.m. Vogt M. Hopp J. Schwarz W. H. Ott U. Trierloff M. *
[Solar Noble Gases in the Washington County Iron Meteorite: Solar Wind Irradiation of Early Formed Planetesimals and Implications for Solar Noble Gases in Earth's Core](#) [#6353]
He and Ne isotopic compositions in the Washington County iron meteorite indicate mixing between galactic cosmic ray and solar wind components. Solar type noble gases were likely incorporated early during metal-silicate fractionation.
- 4:00 p.m. Sharygin V. V. * Ripp G. S. Yakovlev G. A. Seryotkin Yu. V. Karmanov N. S.
Izbrodin I. A. Grokhovsky V. I. Khromova E. A.
[Uakitite VN, a New Nitride in Iron Meteorites](#) [#6252]
The chemical and structural data are considered for a new mineral, uakitite VN, which was found in iron meteorite Uakit (IAB). In addition, the brief information about mineralogy and finding of the Uakit meteorite is given.
- 4:15 p.m. Ali A. * Jabeen I. Nasir S. Banerjee N. R.
[Origin of the Main Group Pallasites from an Undifferentiated Chondritic Asteroid: What are the Potential Missing Links?](#) [#6043]
Oxygen isotope slope-1/2 trends of different meteorite types are compared with the primitive oxygen isotope reservoirs (slope-1). Emphasized on oxygen isotope compositions of the main group pallasites and hypothesized the potential missing links.
- 4:30 p.m. Marhas K. K. * Ray D.
[Corundum Within Silicate/Graphite Inclusions in Iron Meteorite](#) [#6307]
Mg isotopic composition in corundum grains within silicate inclusions from iron meteorite sets constraint on the formation scenario of type I AB iron meteorites.