How Did Mesosiderites Form and Do They Come from Vesta or a Vesta-Like Body? [#2260]

Mesosiderites may have formed beneath HEDs on Vesta following early impact of a molten metallic body and were then cooled slowly through 3.8 Ga.

Oxygen Isotope Variations in Main Group Pallasites and HEDs [#2390]

High-precision O-isotope data of MG pallasites resolve them into two subgroups, high-$\Delta^{17}$O and low-$\Delta^{17}$O pallasites that have not been previously reported.

Component Chronology of Kapoeta: Ar-Ar Systematics [#1969]

Young $^{40}$Ar/$^{39}$Ar ages (0.63–1.25 Ga) of seven 3–10-µg feldspars from Kapoeta straddle a reported crater count age (~1 Ga) of Vesta’s Rheasilvia Basin.

Chronology of Differentiation and Magmatic Activity in 4-Vesta Using $^{26}$Al-$^{26}$Mg Model Age [#2597]

Al-Mg model ages were performed on eucrites and diogenites. The results show that differentiation of Vesta from a chondritic precursor occurred rapidly.

Petrology and Geochemistry of Unbrecciated Harzburgitic Diogenite MIL 07001: A Window into Vestan Geological Evolution [#1613]

MIL 07001 is an unusual unbrecciated, olivine-bearing diogenite. Our petrological and compositional studies aim to put it in vestan differentiation context.

Bunburra Rockhole: Exploring the Geology of a new Differentiated Basaltic Asteroid [#1650]

We present new O- and Cr-isotope and bulk chemistry for Bunburra Rockhole. It comes from a different parent than basaltic eucrites.

Ungrouped Achondrite NWA 7325: Titanium, Vanadium and Chromium XANES of Mafic Silicates Record Highly-Reduced Origin [#1275]

Titanium, V, and Cr XANES spectra of olivine and pyroxene in ungrouped achondrite NWA 7325 indicate a highly-reduced origin.

Oxygen Isotope Compositions of Mineral Separates from NWA 7325 Suggest a Planetary (Mercury?) Origin [#2215]

Precise triple O-isotope work on major minerals from NWA 7325 supports the evidence that this meteorite belongs to a larger planetary body, could be Mercury.
3:30 p.m. Weber I. Morlok A. * Bischoff A. Hiesinger H. Helbert J. 
*Mineralogical and Spectroscopic Studies on NWA 7325 as an Analog Sample for Rocks from Mercury [#1323]*
We investigated the petrology of the ungrouped achondrite NWA 7325 as an analog sample for rocks from Mercury with EMPA, SEM, FTIR, and Raman.

3:45 p.m. Kita N. T. * Sanborn M. E. Yin Q.-Z. Nakashima D. Goodrich C. A. 
*The NWA 7325 Ungrouped Achondrite — Possible Link to Ureilites? Oxygen and Chromium Isotopes and Trace Element Abundances [#1455]*
NWA 7325 might be derived from a previously unsampled asteroid, which might have undergone a similar differentiation processes to the ureilite parent body.

4:00 p.m. Sanders I. S. * Scott E. R. D. 
*Taking the Mystery out of Ureilites: Attributing Correlated Fe/Mg and Δ17O to Isotopically Heavy Ice in the Parent Body [#1877]*
Accretion of high Δ17O ice to the cold ureilite parent body may have led to the otherwise enigmatic correlation between Δ17O and Fe/Mg in ureilite olivine.

*A Carbon-Rich Region in Ureilite Miller Range 091004 [#2304]*
Recent Antarctic ureilite find Miller Range 091004 contains an incredible carbon-rich region, and has important implications for ureilite petrogenesis.

4:30 p.m. Goodrich C. A. * Wilson L. 
*Feldspathic Clast Populations in Polymict Ureilites: Determining the Compositions of Melts and the Mode of Melt Extraction on the Ureilite Parent Body [#1342]*
New data and modeling for feldspathic clasts in polymict ureilites constrain the compositions of melts and mode of melt extraction on the ureilite parent body.