Tuesday, March 19, 2013
CHONDRITES: FORMATION AND ALTERATION
8:30 a.m.  Waterway Ballroom 5

Chairs:  Michael Weisberg
        Kieren Howard

8:30 a.m.  Weisberg M. K.  *  Ebel D. S.  Connolly H. C. Jr.
EL3 Chondrites:  Primitive Nebular Materials, not Products of Asteroidal Processing  [#2871]
EL3s consist of chondrules and metal nodules enclosing mixtures of silicates, FeNiP, troilite,
daubreelite, and graphite. Their origins are evaluated.

8:45 a.m.  Wang K.  *  Moynier F.  Paniello R. C.
Iron Isotopic Fractionation during Metal/Silicate Segregation in Enstatite Chondrite and Aubrite Parent Bodies  [#2254]
We report the Fe isotopes of 22 aubrites and enstatite chondrites as well as separated phases (magnetic and nonmagnetic) and discuss their origins.

9:00 a.m.  Gross J.  *  Treiman A. H.  Connolly H. C. Jr.
A New Subgroup of Amphibole-bearing R Chondrites:  Evidence from the New R-Chondrite MIL 11207  [#2212]
MIL 11207 is the second R chondrite that bears water-rich minerals like amphibole and biotite, suggesting a new subclass or grouplet of chondrites.

9:15 a.m.  Ruzicka A.  *  Hutson M.  Jamsja N.  Stout T.
Anhydrous and Hydrous R Chondrites:  Evidence from NWA 6491, 6492 and the Newly Discovered NWA 7514  [#1168]
Alteration effects in three R chondrites suggest that the dominant OH-bearing assemblages in some are produced by the alteration of sulfide.

9:30 a.m.  Le Guillou C.  *  Dohmen R.  Müller T.  Vollmer C.  Rogalla D.  et al.
Serpentinization of Amorphous Silicate in the Early Solar System:  A Nanoscale Experimental Study  [#1969]
Kinetics of hydration studied to constrain the nebular and asteroidal aqueous alteration scenarios. Fast reaction rate and similarities with CR3 are observed.

9:45 a.m.  Howard K. T.  *  Alexander C. M. O’D.
A New Classification Scheme for Aqueously Altered Carbonaceous Chondrites Based on Total Phyllosilicate Abundance  [#2598]
We demonstrate a new classification scheme for aqueously altered carbonaceous chondrites that is high resolution and applicable to samples from all groups.

10:00 a.m.  Sutton S.  *  Cloutis E. A.  Alexander C. M. O’D.
The Valence State of Fe and the Origin of Water in Chondrites  [#2357]
We explore the implications of bulk Fe valence state measurements of CM, CR, CI, and O chondrites for the origins of chondritic water.

10:15 a.m.  Stephant A.  *  Rémusat L.  Robert F.
Hydrogen Isotopic Compositions and Water Contents in Type I Chondrules of Paris CM Chondrite  [#1560]
Analyses of water contents and D/H ratios performed on Paris chondrules attest to the presence of a specific process responsible for large D/H heterogeneities.
10:30 a.m. Dyl K. A. * Cleverley J. S. Bland P. A. Ryan C. G. 
*Abundance, Spatial Variability, and Geochemistry of Transition Metals in Carbonaceous Chondrite Matrices [#2143]*

We show the quantified abundances of transition metals in samples of Vigarano, Murchison, Cold Bokkeveld, and Bells. Heterogeneity exists at the micrometer scale.

10:45 a.m. Leroux H. * Cuvillier P. Zanda B. Hewins R. H. 
*A TEM Investigation of the Fine-Grained Matrix of the Paris CM Chondrite [#1528]*

We present a TEM study on the weakly altered Paris CM chondrite to specify the first stages of evolution of the fine-grained components in a CM parent body.

11:00 a.m. Davidson J. * Nagashima K. Krot A. N. Lauretta D. S. 
*Oxygen Isotopic Compositions of Magnetite and Chondrule Olivine in CK3 Carbonaceous Chondrites: Links to the CV3 Chondrites [#2522]*

We present in situ O-isotope measurements of magnetite and associated chondrule olivine in the CK3s Asuka 881595 and Watson 002 to investigate CV3/CK links.

11:15 a.m. Scott E. R. D. * Krot T. V. Goldstein J. I. 
*Thermal and Impact Histories of Ordinary Chondrites and Their Parent Bodies: Constraints from Metallic Fe-Ni in Type 3 Chondrites [#1826]*

Metallographic cooling rates of H3 chondrites and cloudy taenite studies are incompatible with the onion-shell model and require impact mixing during cooling.

*PCA 02012: A Unique Thermally Metamorphosed Carbonaceous Chondrite [#2708]*

We report a unique thermally metamorphosed carbonaceous chondrite PCA 02012 suggesting a new insight into material evolution of CM chondrite group.