

Tuesday, July 28, 2015

**POSTER SESSION: ORGANICS IN METEORITES:
SOURCES, DISTRIBUTIONS, AND EVOLUTION****5:30 p.m. Hearst Memorial Mining Building (HMMB) Floor One**

Chan Q. H. S. Zolensky M. E. Tsuchiyama A. Martinez J. E.

[Magnetite Surface Provides Prebiotic Homochiral Selectivity](#) [#5179]

EBSD data show variations in crystal orientation across the stack of discs within a magnetite plaquette which provide a mechanism for a rotational relationship. We will discuss how magnetite may influence the formation of chiral organic molecules.

Sandford S. A. Nuevo M. Materese C. K.

[Search for Sugars and Related Compounds in Residues Produced from the UV Irradiation of Astrophysical Ice Analogs](#) [#5142]

We report on sugars and related compounds produced by the UV irradiation of astrophysical ice analogs and compare them to similar compounds seen in meteorites.

Giese C.-C. ten Kate I. L. Geisler T. King H. Lenting C. Plumper O. Tielens A. G. G. M.

[Experimentally Studying Aqueous Alteration of Polycyclic Aromatic Hydrocarbons in Meteorites — First Results](#) [#5199]

In this study we have investigated whether aqueous mineral alteration can result in polycyclic aromatic hydrocarbon alteration by simulating conditions in carbonaceous chondrites in several experiment series.

Chan Q. H. S. Zolensky M. E. Fries M.

[Organo-Carbonate Association in Carbonaceous Chondrites](#) [#5138]

With the use of micro-Raman spectroscopy we discuss the nucleation rate of carbonates in selected CMs, the evolution of organics as influenced by aqueous processing, and whether carbonate is an effective medium for concentration of organic matter.

Peeters Z. Liebig B. Lee T.

[Organic Matter Inclusions in CM2 Chondrite Murchison](#) [#5364]

Large (~10 µm) inclusions of pure organic carbon exist in carbonaceous chondrites. We extracted organic inclusions from Murchison, a CM2, and analyzed the sections using XANES, TEM, and nanoSIMS. The results are compared to previous results of CRs.

Yesiltas M. Kebukawa Y.

[Organic and Mineral Correlations in Tagish Lake via High Spatial Resolution Synchrotron-Based FTIR Microspectroscopy](#) [#5070]

We have investigated multiple Tagish Lake grains with synchrotron-based high spatial resolution FTIR microspectroscopy. This technique revealed i) 2D infrared maps, and ii) spatial relationships of organics and minerals in situ.

Fries M. Christou A. Archer D. Conrad P. Cooke W. Eigenbrode J. ten Kate I. L. Matney M. Niles P. Sykes M. Steele A. Treiman A.

[A Meteor Shower Origin for Martian Methane](#) [#5286]

We present and discuss the hypothesis that martian methane arises from a meteor shower source. Infall material produces methane by UV photolysis, generating localized plumes that occur after Mars/comet orbit interactions. This hypothesis is testable.

Britt D. T. Beltran E.

[A Cautionary Tale About Volatile-Rich Carbonaceous Chondrites](#) [#5198]

The organic component of volatile-rich carbonaceous chondrite meteorites are primarily in the form of polycyclic aromatic hydrocarbons (PAHs). While PAHs are common in the environment, many species of PAHs are either toxic or carcinogenic or both.