Monday, February 27, 2017
POSTER SESSION
5:00–7:00 p.m. Flett Atrium

Arakawa S. Nakamoto T.
Co-Aggregation of Chondrules and Nanometer-Sized Matrix Grains in the Solar Nebula: A New Scenario for Rocky Planetesimal Formation **[#2010]**
We propose a scenario in which rocky planetesimals are formed via co-aggregation of chondrules and nm-sized matrix grains. The critical velocity for collisional growth exceeds the maximum collision velocity when matrix grains are smaller than 10 nm.

Kadlag Y. Becker H.
Combined Study of Highly Siderophile Elements and Cr Isotopes in the Chondrules of Unequilibrated Chondrites **[#2027]**
We are presenting the highly siderophile element abundances and Re-Os isotope systematics and Cr isotope composition of bulk chondrule fractions from unequilibrated chondrites to understand the chondrule formation processes.

Bridges J. C. Hicks L. J.
Chondrules from the Outer Solar System: Results from Stardust **[#2039]**
Stardust samples of Comet Wild2 contain fragments similar to Type II FeMg and Al-rich chondrules from carbonaceous chondrites. They may be the result of radial drift from the inner solar system or, alternatively, formation in the outer solar system.

Ash R. D.
Recycling in the Early Solar System: Evidence from Oxygen and Magnesium Isotopes and Trace Element Abundances in CAIs and Chondrules **[#2044]**
Isotope ratios and trace element abundances indicate major recycling of CAI material into Allende chondrules, something not observed in those from OC and EC meteorites.

Quintana A. Segura A. Ostrooumov M.
The Carbon Participation in the Crystal-Chemistry Formation of the Porphyritic Chondrules **[#2047]**
In our experimental work we made a fusion with olivine Mg-rich or forsterite, anorthite, and graphite with a high degree of purity. The silicate minerals and graphite were subjected at ambient pressure (0 atm), using a CO_2 laser.

Rubin A. E.
Multiple Indicators for Multiple Melting of Chondrules **[#2006]**
Many workers maintain that most chondrules crystallized after a single melting event. However, petrographic features and experimental constraints show that most chondrules were melted multiple times.

Hellmann J. L. Kruijer T. S. Kleine T.
Tungsten Isotopic Evidence for Coeval Metal-Silicate Fractionation and Chondrule Formation in Ordinary Chondrites **[#2028]**
Hf-W systematics of ordinary H, L, and LL chondrites indicate a nebular metal-silicate fractionation at ~2–3 Ma after CAIs, implying chondrule formation and chondrite parent body accretion at that point in time.

Pape J. Mezger K. Bouvier A.-S. Baumgartner L. P.
In-Situ ^{26}Al-^{26}Mg Mineral Isochron Dating of Chondrules by SIMS: Samples, Measurement Procedure, and Data Correction **[#2014]**
Here we present and discuss the analytical set up, correction methods, and first results of *in-situ* Mg isotope measurements in chondrules for ^{26}Al-^{26}Mg mineral isochron dating.

Budde G. Kruijer T. S. Kleine T.
Hf-W Chronology of CR Chondrites **[#2023]**
Hf-W systematics of CR chondrites define an age of ~3.7 Ma after CAIs for CR chondrule formation. CR metal and silicates have complementary nucleosynthetic W and Mo isotope anomalies due to the uneven distribution of a presolar s-process carrier.

Barosch J. Hezel D. C.
Mineralogical Chondrule Zonation in Ordinary Chondrites **[#2017]**
The majority of chondrules in carbonaceous chondrites are mineralogically zoned. We examine the appearance, abundance, and distribution of mineralogical zonation in chondrules of several ordinary and enstatite chondrites.

Hernández-Reséndiz P. Cervantes-de la Cruz K. Segura A. U'Ren A. Cruz-Ramírez H.
Thermal Histories of Barred Chondrules from Melts Generated Experimentally **[#2020]**
We simulate the formation of chondrules by melting olivine grains with 50W CO_2 laser. We measure the temperature during and after the formation of the artificial chondrules. We will compare the melts characteristics with the natural chondrules.

Stockdale S. C. Franchi I. A. Anand M. Grady M. M.
Constraining the Cooling Rates of Chondrules **[#2037]**
The cooling rates of chondrules are an important constraint on chondrule formation. By measuring and modelling diffusion profiles between relict grain and overgrowth formed during cooling, we will calculate the cooling rate of the host chondrule.

Greenwood J. P. Herbst W.
Experimental Simulation of Chondrule Textures Using Symmetrical Heating and Cooling Rates: Testing the Radiative Model for Chondrule Formation **[#2038]**
As a test of the radiative model for chondrule formation, we report on experimental simulation of chondrule textures using symmetrical heating and cooling curves. We also report on how chondrule simulation experiments can help refine this model.

Kuzina D. M. Nurgaliev D. K. Gareev B. I. Batalin G. A. Silantev V. V. Statsenko E. O.
Preliminary Results on Studying of Meteorites from Geological Museum of Kazan University by X-Ray Fluorescence and Computed X-Ray Tomography **[#2019]**
Micro X-ray fluorescence and X-ray computed tomography used for studying meteorites (particularly chondrules and iron-nickel alloys) from Geological Museum (Kazan), their elemental composition, and distribution of these objects in the body of meteorite.

Berzin S. V. Stepanov S. Yu. Yakovlev G. A. Muftakhetdinova R. F. Grokhovsky V. I.
Unusual Xenoliths in Chelyabinsk LL5 Meteorite **[#2034]**
Description of some xenoliths, which were found in Chelyabinsk meteorite.

Montoya-Perez M. A. Cervantes-de la Cruz K. E. Ruvalcaba-Sil J. L.
Nondestructive Method for Bulk Chemical Characterization of Barred Olivine Chondrules **[#2048]**
This work develops a bulk chemical characterization of barred olivine chondrules based on the XRF analysis using a portable equipment at the National Research and Conservation Science Laboratory of Cultural Heritage (LANCIC-IF) in Mexico City.

Chan Q. H. S. Zolensky M. E. Bodnar R. J. Farley C. Cheung J. C. H.
The Distribution of Major Carbonaceous Components in Chondritic Materials **[#2015]**
With the use of Raman spectroscopy we present a study of the structure of the organic matter in the matrix and carbonate phases in five CM chondrites: Jbilet Winselwan, Murchison, Nogoya, Santa Cruz, and Wisconsin Range 91600.

Davison T. M. Collins G. S. Bland P. A.
Mesoscale Numerical Modelling of Impact Processing of Chondrule/Matrix Mixtures **[#2026]**
We present mesoscale simulations of the heterogeneous shock compaction of chondrite precursor materials. Our results provide an important link between meteoritic evidence and the thermal and compaction histories of meteorite parent bodies.

Gyollai I. Polgári M. Bérczi Sz. Veres M. Gucsik A. Pál-Molnár E.
Signs of Bioweathering in Ordinary Chondrites **[#2005]**
Our OM, FTIR, and micro-Raman data showed invasive terrestrial microbially mediated texture in L chondrites (obscured chondrules, contamination in microtexture, micromineralogy, embedded organic compounds). We offer new bioweathering interpretation.

Micca Longo G. Longo S.
Atmospheric Entry of Carbonate Micrometeoroids **[#2003]**
Micrometeoroids have similarities in chemistry and mineralogy to the CI, CM, and CR chondrites. A first study of carbonate micrometeoroids atmospheric entry is performed. A thermal decomposition model of initially pure magnesium carbonate is proposed.