Tuesday, February 28, 2017
THERMAL HISTORY OF CHONDRULE MELTS AND ENVIRONMENT IN THE CHONDRULE-FORMING REGIONS
9:00 a.m. Flett Theatre

This session discusses the thermal histories of chondrules during their formation.

Chairs: **Brigitte Zanda**
Dominik Hezel

9:00 a.m. Jones R. H. * Villeneuve J. Libourel G.
Thermal Histories of Chondrules: Petrologic Observations and Experimental Constraints **[#2029]**
We summarize petrologic properties of chondrules, and results of chondrule analogue experiments, that together place constraints on chondrule thermal histories.

9:30 a.m. Alexander C. M. O'D. * Ebel D. S. Libourel G.
Vapor-Melt Exchange - Constraints on Formation Conditions and Processes **[#2045]**
Here we review the evidence for vapor-chondrule interactions, the constraints that they place on formation conditions, and highlight some unanswered questions.

10:00 a.m. Libourel G. * Portail M.
Overlooked Chondrules: A High Resolution Cathodoluminscence Survey **[#2008]**
CL panchromatic images and hyperspectral analyses on different types of chondrules of various chondrites reveal overlooked olivine internal structures at a hitherto unprecedented detail. Implications of this finding on chondrule formation will be discussed.

10:15 a.m. Deng Z. * Chaussidon M. Moureau J. Moynier F.
Mg Isotope Constraints on the Origin of Mg-Rich Olivines and Mesostasis Phases from Allende Chondrules **[#2046]**
An *in-situ* Mg isotopic study has been conducted by LA-MC-ICP-MS to constrain the origin of Mg-rich olivines and mesostasis phases in Allende chondrules.

10:30 a.m. BREAK

11:00 a.m. Tenner T. J. * Ushikubo T. Nakashima D. Schrader D. L. Weisberg M. K. Kimura M. Kita N. T.
O-Isotope Features of Chondrules from Recent SIMS Studies **[#2030]**
We highlight results of recent chondrule O-isotope studies by SIMS: (1) primary and secondary features based on the level of isotope homogeneity, (2) comparing ranges of host and relict data among chondrites, (3) O-isotope vs. major element links.

11:30 a.m. Marrocchi Y. *
Redox Conditions During CV Chondrule Formation **[#2004]**
The presence in CV chondrules of fayalitc halos and previously unrecognized magnetites of magmatic origin implies the formation of these chondrules under impact-generated oxidizing conditions.

11:45 a.m. Metzler K. * Pack A. Hezel D. C.
Ordinary Chondrite Chondrules: Oxygen Isotope Variations **[#2042]**
Chondrules in some H and LL chondrites show positive/negative correlations between size and oxygen isotopic composition. This indicates that they exchanged oxygen with different oxygen reservoirs and cannot stem from a common chondrule population.

12:00 p.m. Fu R. R. * Weiss B. P. Kehayias P. Schrader D. L. Walsworth R. L.
Records of Magnetic Fields in the Chondrule Formation Environment **[#2043]**
Paleomagnetic measurements can potentially constrain the formation mechanism and location of chondrules. We will present results on LL and CR chondrites, which appear to have experienced strong and weak magnetic fields, respectively.

12:30 p.m. *Discussion on Thermal History*

1:00 p.m. LUNCH