Thursday, July 26, 2018
WORKSHOP: EXPERIMENT AND MODELLING IN INVESTIGATION OF EXTRATERRESTRIAL MATERIAL
1:30 p.m. Blue Room

Chairs: **Guy Libourel**
Ruslan Mendybaev

1:30 p.m. Tachibana S. *
Laboratory Experiments on High- and Low-Temperature Processes in the Early Solar System **[#6341]**
Recent progresses in low-temperature experiments to understand molecular evolution in the interstellar medium and in high-temperature experiments to constrain the early evolution of the protosolar disk will be presented.

2:00 p.m. Robert F. * Gonzalez A. Duhamel R. Derenne S.
Nitrogen Isotopic Fractionation in Hydrocarbon Plasma **[#6366]**
Plasma discharge experiments have been performed with N-bearing organic gaseous compounds with or without N_2. In presence of N_2, variations up to 100‰ in the $^{15}N/^{14}N$ ratio have been measured with the NanoSims in the organic solid deposits.

2:15 p.m. Djouadi Z. * Maupin R. Brunetto R. d'Hendecourt L.
Links Between Silicates and Organics in IDPs: Laboratory Syntheses of Their Analogs **[#6133]**
By using mid-IR µ-spectroscopy, we found a link between the nature of silicates and the associated aliphatic carbon chain lengths in IDPs. We synthesized in the lab organic residues on mineral substrates we will discuss the obtained first results.

2:30 p.m. Mendybaaev R. A. *
Chemical and Isotopic Fractionations During Evaporation of CAI-Like Melts **[#6313]**
Experiments on evaporation of CAI-like melts under low-pressure conditions are reviewed.

2:45 p.m. Shornikov S. I. *
Thermodynamic Modelling of Evaporation Processes of Lunar and Meteoritic Substance **[#6134]**
It is shown the high accuracy of the developed model approach, which allows to calculate not only the thermodynamic properties of a multicomponent oxide melt, but also the changes in the melt composition during evaporation.

3:00 p.m. Yakovlev O. I. * Shornikov S. I.
Experimental Investigations of Meteoritic Substance by Knudsen Effusion Mass-Spectrometric Method **[#6018]**
We studied the evaporation process of the chondrite substances (Murchison CM, Krymka LL3, chondrules of Saratov chondrite L6, CAIs Type A of Efremovka chondrite CV) and minerals by the Knudsen effusion mass-spectrometric method at 1600–2600 K.

3:15 p.m. DISCUSSION

3:30 p.m. Righter K. *
Experimentation to Understand Planet and Proto-Planet Formation **[#6243]**
Although experimentation and modelling have made great advances, there still remain many areas were targeted experimentation will lead to better models.

4:00 p.m. Imae N. * Horie K. Isobe H.
Reproduction of Type I Chondrules and the Implications **[#6101]**
Type I chondrules were recently synthesized using a newly constructed H_2 gas mixing furnace controlled under medium vacuum. New analytical preliminary data on isotopes would be included.

4:15 p.m. Kita N. T. * Hertwig A. T. Defouilloy C. Chaumard N. Tenner T. J. Ushikubo T.
Efficient Oxygen Isotope Exchange Between Chondrule Melt and Ambient Gas in the Protoplanetary Disk **[#6326]**
SIMS oxygen isotope analyses of chondrules show internal homogeneity, which are not consistent with incomplete isotope exchange with ^{16}O-poor nebula gas. They represent isotope ratios of the mean solids in the formation region including ^{16}O-poor ice.

4:30 p.m. Libourel G. * Nakamura A. Beck P. Ganino C. Jacomet S. Michel P.
Hypervelocity Impact Experiments on Metallic Body **[#6128]**
Impact-induced chemical fractionation inferred from hypervelocity impact experiments with silicate projectiles and metallic targets.

4:45 p.m. Gerasimov M. V. * Yakovlev O. I. Dikov Yu. P.
Morphologies of Impact-Simulated Condensates and of Their Natural Analogs **[#6203]**
We have simulated experimentally several types of condensates which have twins among lunar impact-induced condensates.

5:00 p.m. Kopysov A. S. Petrova E. V. * Kokorin A. F.
Experimental Modelling of the Fusion Crust Formation by Heating in Plasmatron **[#6201]**
The aim of the study is to reproduce a shock heating of the meteoroid's surface during the meteorites fall. Fusion crust formation was performed for model samples and stony meteorites in the plasmatron with the high-speed flow of argon.

5:15 p.m. DISCUSSION