

Thursday, July 26, 2018
ISOTOPIC, CHEMICAL, AND EXPERIMENTAL STUDIES OF METEORITES
9:00 a.m. Blue Room

Chairs: Yogita Kadlag
Mattias Ek

- 9:00 a.m. Verchovsky A. B. * Anand M.
[Origin of Isotopically Light Nitrogen in CV3 Carbonaceous Chondrites](#) [#6308]
 We analysed a suite of bulk CV3 carbonaceous chondrites for N and ³⁶Ar by stepped combustion and found isotopically light N component, which is rather associated with Q than with nanodiamonds.
- 9:15 a.m. Visser R. * John T. Patzek M. Bischoff A. Whitehouse M.
[Sulfur Isotope Composition of Sulfides in Carbonaceous Chondrites and Volatile-Rich, CI- and CM-Like Clasts from Various Chondrites and Achondrites](#) [#6190]
 Sulfides show that similarities in sulfur isotopes can be found between CM chondrites and CM-like clasts. The seemingly similar CI-chondrites and CI-like volatile-rich clasts however, show significantly different sulfur isotopic compositions.
- 9:30 a.m. Patzek M. * Pack A. Bischoff A. Visser R. John T.
[O-Isotope Composition of CI- and CM-Like Clasts in Ureilites, HEDs, and CR Chondrites](#) [#6254]
 Oxygen isotopes of CM-like clasts from HEDs links them to CM chondrites. However, CI-like clasts in polymict ureilites plot on the extension of the CCAM, apart from CI chondrites and therefore represent so far unknown material.
- 9:45 a.m. Ebert S. * Patzek M. Bischoff A.
[Xenolithic Fragment in the CM Chondrite Mukundpura: Greetings from the Tucson Parent Body?](#) [#6246]
 Achondritic fragment with distinct exsolution lamellae in the CM chondrite Mukundpura. Investigation is based on major and trace element concentrations and O-isotope data. Possible connection to the Tucson iron meteorite.
- 10:00 a.m. Rufenacht M. * Fehr M. A. Lai Y.-J. Haba M. K. Schönbächler M.
[Genetic Relationships of Solar System Bodies Based on Their Nucleosynthetic Titanium Isotope Compositions](#) [#6264]
 Nucleosynthetic Ti isotope compositions are presented for terrestrial materials, martian meteorites, mesosiderites, an acapulcoite, an IAB silicate inclusion, and a winonaite in order to better understand the genetic relationships among them.
- 10:15 a.m. Burkhardt C. * Dauphas N. Hans U. Bourdon B. Kleine T.
[Isotope Anomalies in Chondrite Components as Tracers of Nebular Material Processing and Disk Dynamics](#) [#6289]
 Using isotope anomaly data of nebular and planetary materials we will discuss the main drivers for the generation of planetary-scale isotopic anomalies and implications for genetics and disk dynamics.
- 10:30 a.m. Ek M. * Hunt A. C. Schönbächler M.
[Dust Formation Around AGB Stars and the Origin of Nucleosynthetic Variations in the Solar Nebula](#) [#6236]
 We propose that the slope of the Zr-Mo-Ru-Pd correlation reflects incomplete condensation of dust around AGB stars and that the nucleosynthetic variation in the solar system is due to selective processing of ISM grown dust, relative to stardust.
- 10:45 a.m. Kadlag Y. * Tatzel M. Frick D. A. Becker H.
[Silicon Isotope Constraints on the Formation of Silicates and Metal in EH Chondrites](#) [#6154]
 To constrain the origin and evolution of enstatite chondrites, we analysed for the first time in situ Si-isotope ratios simultaneously with major- and trace element abundances in silicate and metal phases of Sahara 97072 (EH3) and Indarch (EH4).

- 11:00 a.m. Hellmann J. L. * Kruijer T. S. Van Orman J. A. Metzler K. Kleine T.
[*Thermal and Impact History of Ordinary Chondrite Parent Bodies Inferred from Hf-W Chronometry*](#) [#6245]
Precise internal Hf-W isochrons for equilibrated H, L, and LL chondrites constrain the initial structure and high-temperature cooling histories of ordinary chondrite parent bodies.
- 11:15 a.m. Florin G. * Luais B. Rushmer T. Alard O.
[*Germanium Isotopic Distribution in Ordinary Chondrites: Inference on Oxidation State of Parent Bodies*](#) [#6131]
In order to precise thermodynamic conditions of formation, as well as nebular versus parent bodies processes, we have investigated germanium elemental and isotopic variations of metal, silicate and sulfide phases in H, L and LL ordinary chondrites.
- 11:30 a.m. Korochantseva E. V. * Hopp J. Lorenz C. A. Korochantsev A. V. Trieloff M.
[*Northwest Africa 6486 and Tsarev: New Insights into the Catastrophic Event on the L-Chondrite Parent Body*](#) [#6312]
We performed high-resolution ^{40}Ar - ^{39}Ar stepwise heating analyses on two L chondrites: NWA 6486 and Tsarev. Both meteorites recorded the time of asteroid breakup event at 470 Ma.
- 11:45 a.m. Haba M. K. * Nagao K. Wotzlaw J. F. Yamaguchi A.
[*Multi-Chronology of Meteoritic Zircon and the Initial Abundance of Plutonium-244 in the Solar System*](#) [#6189]
High-precision U-Pb dating and trace element and noble gas analyses were performed on the zircons separated from Northwest Africa 8741 to obtain a cosmic-ray exposure age, (U-Th)/He and Pb-Pb ages, and initial $^{244}\text{Pu}/^{238}\text{U}$ ratio of the solar system.