

Tuesday, July 24, 2018
ACTIVITY OF WATER IN CARBONACEOUS CHONDRITES
 1:30 p.m. Blue Room

Chairs: Martin Lee
Epifanio Vaccaro

- 1:30 p.m. Tsuchiyama A. * Miyake A. Kawano J.
[Nano-Sized CO₂-H₂O Fluid Inclusions in Calcite Grains of the Sutter's Mill CM Meteorite](#) [#6187]
 Early solar system fluid, which contains CO₂ as well as H₂O, was found in nano-sized inclusions in calcite grains of a CM chondrite using (S)TEM/EDS with a cryogenic holder.
- 1:45 p.m. Vaccaro E. * Matsumoto M. Nakato A. Uesugi K. Takeuchi A. Nakanishi T.
 J. Matsuno J. Takayama A. Tsuchiyama A. Russell S. S.
[Evidence of Heavily Aqueously-Altered Clast in Queen Alexandra Range 99177 Matrix Revealing Insights into Accretionary Processes](#) [#6057]
 QUE 99177 is a very pristine CR2 chondrite. However, a metamorphosed clast in the matrix of this meteorite has been previously reported. The clast described here shows clear evidence of heavy aqueous alteration, confirmed by TEM analyses.
- 2:00 p.m. Lee M. R. * King A. J. Cohen B. E. Mark D. F. Boyce A.
[Distinguishing mild Aqueous Alteration from Thermal Metamorphism in the Lewis Cliff \(LEW\) 85311 CM Carbonaceous Chondrite](#) [#6122]
 The CM carbonaceous chondrite LEW 85311 is one of the least aqueously and thermally altered yet described, and so can provide a unique window into materials that were accreted to form its parent body.
- 2:15 p.m. Daly L. * Lee M. R. Cairney J. Eder K. McCarroll I. Yang L.
[Atom Probe Tomography of Nanoscale Structures in Carbonates from the Queen Elizabeth Range \(QUE\) 93005 CM2 Carbonaceous Chondrite; Implications for the Evolution of Parent Body Fluids](#) [#6239]
 Through atom probe tomography of secondary carbonate assemblages in a CM2 meteorite we observed nanoscale structures that inform our understanding of the evolution of aqueous fluids on the CM parent body.
- 2:30 p.m. Panda D. K. * Ray D. Shukla A. D.
[Aqueous Alteration Characteristics of Mukundpura \(CM2\) Chondrite](#) [#6270]
 Hydrated minerals are commonly found in the carbonaceous chondrite due to high content of H₂O (upto 10 wt%). Present study focused on alteration characteristics of Mukundpura (CM2) meteorite to understand the aqueous histories of this new fall.
- 2:45 p.m. Zolotov M. Yu. * Zolotova N. B. Romaniello S. J.
[Water Extracts from Murchison CM2 Chondrite: Trace Metals and Major Ions](#) [#6340]
 The composition of water extracts informs about sulfate-carbonate-Na-Mg-Ca solutions and corresponding salts on the parent body CM2 carbonaceous chondrites. Abundant Mo and Re in leachates constrain redox conditions of the parent body solutions.