**Study of Soluble Organic Compounds from Martian Regolith Breccia NWA 7533 by Orbitrap Mass Spectrometry [#2564]**  
We measured the mass distribution of soluble organic compounds found in NWA 7533. We discuss their chondritic origin and their evolution on the surface of Mars.

8:45 a.m. Thomas-Keprta K. L. * Clemett S. J. McKay D. S. Gibson E. K. Wentworth S. J.  
**Indigenous Carbonaceous Matter and Boron Associated with Halite Crystals in Nakhla [#2770]**  
We report here the observation of indigenous organic matter spatially associated with halite crystals located in alteration veins in the Nakhla Mars meteorite.

9:00 a.m. Fries M. D. * Steele A. Hynek B. M.  
**Halite as a Methane Sequestration Host: A Possible Explanation for Periodic Methane Release on Mars, and a Surface-Accessible Source of Ancient Martian Carbon [#3017]**  
We present the hypothesis that methane sequestered in halite may play a role in observation of methane on Mars.

**Martian Chlorobenzene Identified by Curiosity in Yellowknife Bay: Evidence for the Preservation of Organics in a Mudstone on Mars [#1178]**  
Martian chlorobenzene was identified by Curiosity in an ancient Yellowknife Bay mudstone indicating that organics can be preserved in the martian near-surface.

9:30 a.m. Carrier B. L. * Kounaves S. P. Oberlin E. A.  
**Martian Perchlorate Chemistry: Perchlorate Formation and Effects on Organics [#2997]**  
Perchlorate formation under current Mars ambient conditions and possible effects on organic molecules.

9:45 a.m. Hynek B. M. * Osterloo M. K. Kierein-Young K. S.  
**Late Stage Formation of Martian Chloride Salts Through Ponding and Evaporation [#1045]**  
We provide the first definitive formation mechanism and age of martian chloride deposits near Meridiani. Spoiler alert: formed in a “young” not-too-salty lake.

10:00 a.m. Maltsev O. V. * Ziegler K. Sharp Z. D. Agee C. B.  
**Water in Martian Meteorites: Oxygen Isotope Compositions [#2268]**  
We present the results of δ¹⁷O oxygen isotope analysis of water extracted from the shergottite Tissint by stepwise heating between temperatures of 20° and 1000°C.

**Improved Resolution Maps of Hydrogen at Tharsis [#2036]**  
We find regions with enhanced hydrogen that are coincident with proposed tropical mountain glaciers, using improved spatial resolution MONS maps.

**Hydration of the Martian Surface: What We Can Learn from Orbit [#1373]**  
The martian regolith is hydrated. We perform a global study of the first µm hydration using orbital NIR spectrometer and review the implications.
*Apatite and Merrillite Petrogenesis in the New Enriched Lherzolitic Shergottite NWA 7755* [#1425]
Variable volatile concentrations are measured in apatites, which are spatially related to shock melts, as observed in Cl-X maps of apatite grains.

11:00 a.m.  Adcock C. T. *  Hausrath E. M.  Tschauner O.  Udry A.
*Investigations of Shock Effects on Phosphate Minerals in Extraterrestrial Materials* [#2288]
Synthesis, shock, and synchrotron studies of natural and synthetic extraterrestrially-relevant phosphate-bearing minerals.

11:15 a.m.  Elwood Madden M. E. *  Dixon E. M.  Elwood Madden A. S.  Pritchett B. R.  Hausrath E. M.
*Low Temperature Anhydrite Precipitation in Flowing Brines: Implications for Calcium Sulfate Phases Observed on Mars* [#1505]
Anhydrite precipitated from low-temperature flowing brines in jarosite dissolution experiments. Fluid flow rate had little impact on jarosite dissolution rates.

11:30 a.m.  Craig P. I. *  Ming D. W.  Rampe E. B.  Morris R. V.
*Sulfate Mineral Formation from Acid-Weathered Phyllosilicates: Implications for the Aqueous History of Mars* [#2857]
Acid sulfate-weathered phyllosilicates may explain observations of sulfates and phyllosilicates in close proximity to each other on Mars.