CO is Chemically Active in the Solar Nebula: CO Self-Shielding is Invalid

For self-shielding to work, un-photolyzed C16O must remain sequestered from subsequent reactions, yet CO is reactive on surfaces over a wide temperature range.

Mineral Formation and Growth with Anomalous Oxygen Isotopic Composition on Siliceous Dust Surfaces

Study of new mineral formation and growth on siliceous dust surface analogs. SEM, EDX, and oxygen isotopic analysis to characterize the new particles.

Beryllium-Boron Systematics of 26Al-Poor CAIs: Implications for the Relationship Between FUN and Non-FUN CAIs

10-beryllium / Large range in FUN and / Non-FUN CAIs.

Molybdenum Isotopic Evidence for a Distal Formation of Refractory Inclusions

Mo isotope signatures of unmelted CAIs share a genetic heritage with samples that formed in the outer solar system. Perhaps that is where CAIs formed?

Early Solar System Dynamics Inferred from Molybdenum Isotope Anomalies in Meteorites

Mo isotope dichotomy between CC and NC meteorites holds for all groups. Earth’s mantle shows evidence for addition of CC material toward end of accretion.

Chondrite Origins in Nebular Fiefdoms of the Early Solar System

We propose the existence of long-lasting distinct domains (“fiefdoms”) in the protoplanetary nebula to explain the variety and nature of chondrites.

Nebula Scale Mixing Between Non-Carbonaceous and Carbonaceous Chondrite Reservoirs: Testing the Grand Tack Model with Almahata Sitta Stones

A case for large scale mixing between inner terrestrial planet forming region and outer planet region is evidenced with important implication for Jupiter’s role.

An Experimental Investigation of the Planetary Embryo Bow Shock Model as a Chondrule Formation Mechanism

Making chondrules rocks / To test embryo bow shocks / Through their cooling rates.

Evidence for Planetary Migration in the Early Solar System from Meteorite Paleomagnetism

We present evidence for early planetary migrations and constrain the rate of chondrule and CAI transport using the paleomagnetism of the Tagish Lake meteorite.
10:45 a.m. Desch S. J. * Kalyaan A. Alexander C. M. O’D. 
* Solution of the CAI Storage Problem, and the Time and Place of Formation of Meteorite Parent Bodies [#2335] 
Carbonaceous chondrites formed in pressure maximum beyond Jupiter, where CAIs were trapped. We assign a time and place for the formation of most meteorites.

11:00 a.m. Umurhan O. M. * Estrada P. R. Cuzzi J. N. Hartlep T. 
* Streaming Instability in Turbulent Protoplanetary Disks: Theoretical Predictions [#2832] 
The streaming instability, is a turbulent possibility. If the stirring is too strong and the particles too small, it is hard to make planetesimals grow at all.

11:15 a.m. Arnold J. A. * Weinberger A. J. Videen G. Zubko E. 
* Radiation Pressure Forces and Blow-Out Sizes for Particles in Debris Disks [#2711] 
It scatters starlight / Yet is by starlight blown. Dust: / Will you stay or go?

11:30 a.m. Castillo-Rogez J. C. * Walsh K. J. Vernazza P. Takir D. 
* Genetic Relationships Among Small Body Reservoirs from Geophysical Constraints [#1709] 
The heat budget of midsize planetesimals across the solar system derived from available physical data yields constraints on accretional environments.