

*Posters will be on Display for the Entire Week.
Presenters are Requested to be Present at Their Poster the Last Half-Hour Break of the Evening.*

**POSTER SESSION: METEORITES, COMETS AND
THE FATE OF THEIR ORGANIC MATTER
Price Center Ballroom East**

Schulz R. Kissel J. Silen J.

[*The Composition of Comets – Overview of 30 Years of Investigations*](#) [#4050]

In the 30 years of comet composition investigations important progress was made in identifying the composition and chemistry of comets. An overview will be given of the most important milestones with special emphasis to organic material.

Zellner N. E. B. McCaffrey V. P. Butler J. Crake C. L.

[*Assessing the Abundances of Sugar Molecules on Comet Nuclei*](#) [#4182]

Simple sugars have been detected on comets and have been shown to survive and become more complex under impact conditions. We present estimates of the amounts that may have been delivered by comets and thus available for life as we know it.

Kobayashi K. Mita H. Kebukawa Y. Nakagawa K. Ishiyama K. Aoki R. Harada T.

Misawa S. Uchimura E. Sato T. Naito K. Minematsu S. Imai E. Yano H.

Hashimoto H. Yokobori S. Yamagishi A.

[*Stability of Amino Acid-Related Compounds in Space — Preliminary Results of the Tanpopo Organic Exposure Experiment*](#) [#4131]

The Tanpopo Mission is the space mission utilizing ISS, including collection of cosmic dusts and space exposure of amino acid-related compounds. Here we report the first analytical results of the organic exposure experiment in the Tanpopo mission.

Dworkin J. P. OSIRIS-REx Team

[*Status of the OSIRIS-REx Sample Return Mission*](#) [#4095]

Latest status and plans of NASA's OSIRIS-REx mission, which launched in 2016 and will return pristine regolith from near-Earth asteroid Bennu for organic and mineral analyses.

Lyons J. R. Gharib-Nezhad E. Ayres T. R.

[*The Initial C Isotope Ratio for the Solar System*](#) [#4186]

Using spectroscopic observations of CO in the solar photosphere, we have determined the $^{13}\text{C}/^{12}\text{C}$ ratio for the Sun, and therefore for the bulk initial solar system. The Sun is light in ^{13}C by 50 ‰ compared to bulk Earth and marine carbonates.

Heckman T. Pravdo S.

[*Fuller Clarke Sphere*](#) [#4154]

A Geodesic Sphere constructed around the planet for defense, scientific study, urban, commercial and industrial use analogous to a Dyson Sphere. Clarke Space Elevators are also implemented in the design located at the icosahedral vertex points.

Berger E. L. Burton A. S. Locke D.

[*Amino Acid Contents of Meteorite Mineral Separates*](#) [#4094]

We investigate the relationship between parent body conditions, mineralogy, and amino acid composition, by analyzing meteoric mineral separates using liquid chromatography-mass spectrometry, scanning electron microscopy, and x-ray diffraction.

Koga T. Naraoka H.

[*The Discovery of New Meteoritic Amino Acids in the Murchison Meteorite: Implication for New Formation Mechanisms of Meteoritic Amino Acids*](#) [#4003]

The ten new amino acids have been newly identified from the Murchison extract. The formose reaction with ammonia in the presence of minerals is an important formation pathway to produce meteoritic amino acids on the meteorite parent body.

Aponte J. C. Dworkin J. P. Elsila J. E.

[*Amines in Carbonaceous Meteorites*](#) [#4057]

Aliphatic amines in aqueous altered, thermally metamorphosed, and non-altered carbonaceous chondrites.

Naraoka H. Yamashita Y. Koga T.

[*Formose Reactions with Ammonia Prevailing for the Synthesis of Meteoritic Soluble Organic Matter*](#) [#4083]

Formose reactions with ammonia in the presence of minerals are an important process to produce meteoritic soluble organic matters through aqueous alteration on the meteorite parent body.

Cooper G.

[*Enantiomer Excesses in Carbonaceous Meteorites*](#) [#4210]

Enantiomer excesses in meteorites and laboratory attempts at duplication will be discussed.