



MetMeSS-2021

Symposium

Meteoroids, Meteors and Meteorites: Messengers from Space



INVITED TALKS

MetMeSS-2021

Symposium

*Meteoroids, Meteors And
Meteorites: Messengers
From Space*



Keynote Speaker



Prof. Trevor Ireland,

University of Queensland

*“Oxygen isotopes and the
structure of the solar system”*

29th November ‘21, 10:20 to 10:50 (IST)

Abstract:

The solar system formed around 4567 million years ago. A giant molecular cloud collapsed, with its dust and gas raised to substantial temperatures causing fractionation of all elements. Oxygen is of particular interest because of its chemical behaviour and implications for oxidised and reduced mineral assemblages, but also because of the extreme oxygen isotope heterogeneity that has been found. This is not a small effect, the difference in ^{16}O abundance corresponds to a shift of 5% between what is seen in the Sun, and what is found here on Earth. This shift was originally interpreted as a nuclear effect, potentially from a nearby supernova, but is most likely related to a chemical memory of low temperature photodissociation in the molecular cloud. Such a scenario suggests a structure of the solar system with increasingly high temperature fractionations approaching the Sun with carbon monoxide, water ice, and silicate reservoirs being the main players. However, a new discovery that different meteorite groups may be reflecting the formation of Jupiter puts a different face on the solar system. So, in a story that has noticeably progressed over the last 20 years, there may still be some surprises in store for us.

“Meteorite Collection and Curation”

Prof. Sara Russell,

***Dept. of Earth Sciences, Natural
History Museum, London***



29th November '21, 18:10 to 18:35 (IST)



“Atmospheric Entry of Meteors: Effects and a Probing Tool”



***Dr. K. Rajeev
Director
Space Physics Laboratory,
VSSC, Trivandrum***

***30th November '21, 10:10 to
10:40(IST)***



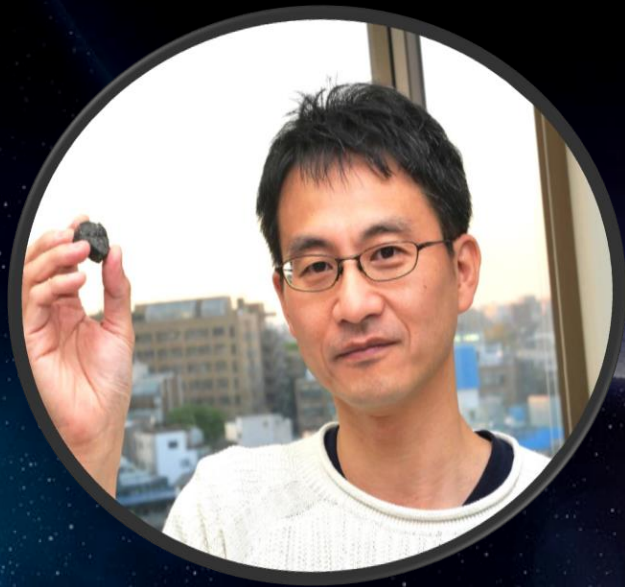
“To Bennu and Back: NASA’s OSIRIS-REx Mission”

***Prof. Dante Lauretta,
Lunar and Planetary
Laboratory University of
Arizona.***



***30th November ‘21, 09:30 to 10:00
(IST)***





***Prof. Shogo Tachibana,
Dept. of Earth & Planetary
Sciences, Univ. of Tokyo***

***“Black pebbles and sand
returned from C-type asteroid
Ryugu ”***

30th November ‘21, 10:0 to 10:30 (IST)

Abstract:

The JAXA's Hayabusa2 spacecraft returned surface sample from C-type near-Earth asteroid (162173) Ryugu in December 2020. The total amount of the samples collected two surface locations is ~5 grams, the largest ever from deep space. Detailed analysis of samples by the project is now being conducted. In this presentation, I will talk about the scientific rationale of the mission, results of the proximity operation, and the current status of sample analysis.

