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INDIAN INSTITUTE OF SPACE SCIENCE AND TECHNOLOGY

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EVOLUTION OF ICE AND ORGANICS IN THE UNIVERSE: FROM INTERSTELLAR ICE GRAINS TO COMETARY NUCLEI

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Prof Gudipati actively involved in Europa Clipper Mission as a Co-I and Investigation Scientist. Most recently he was involved in Rosetta mission to comet 67P/Churyumov- Gerasimenko. He has been working on putting a cryogenic comet sample return mission concept to bring deeper parts of a comet's nucleus, which could hold the secrets of our early solar system.

Water is ubiquitous in the Universe and simple organics trapped in these ice coated on mineral silicate dust grains is how a new star is born in the interstellar medium. Through various stages of star-formation, water ice and organics undergo physical and chemical changes. Radiation causes chemistry in these ice grains forming complex organics, some of which are the building blocks of life. In order to understand how organic molecules evolve as the star and planets form and evolve, we need to investigate through space missions and laboratory models. This talk will go deeper into the physics and chemistry of organics in ice.

3.00 PM

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