



# Seminar@ISM



**CNR**  
Istituto di Struttura  
della Materia

## When?

October 31, 2023  
11:00AM (CEST)

## Where?

@ Sala Conferenze  
Area di Ricerca -  
CNR Tor Vergata

# 31

Oct 2023



## Umesh R. Kadhane

Dept. of Physics,  
Indian Institute of Space Science and  
Technology

## Indian space endeavors and role of IIST

*Indian Institute of Space Science and Technology (IIST) is the first space university in Asia and was established in the year 2007. IIST has been providing a very well-trained workforce to the Indian space program. At the same time, IIST is actively involved in front-end research in space technology and sciences. In this endeavor, the Atomic and Molecular Physics (AMP), Electric Propulsion Diagnostics (EPDL) and Sensors and Payloads Labs (SPDL) play a key role. I will present a brief summary of the research and development activities pursued in these three labs and highlight the role and contribution of students. An interesting insight will be presented how an amateur bunch of students and faculty could accomplish two space missions with extremely advanced features at a fraction of the conventional cost. It will be shown how the students are contributing to the development of futuristic plasma engines and how a major effort is occurring at the AMP lab to search for the molecular seeds of life in space. The discovery of large organics in the interstellar medium created a fresh wave of enthusiasm in laboratory based investigations particularly on polycyclic organics. In the last decade the AMP lab contributed a lot to the field and I will present the journey of molecular interactions with high energy radiation from the laboratory setup to deep space.*



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