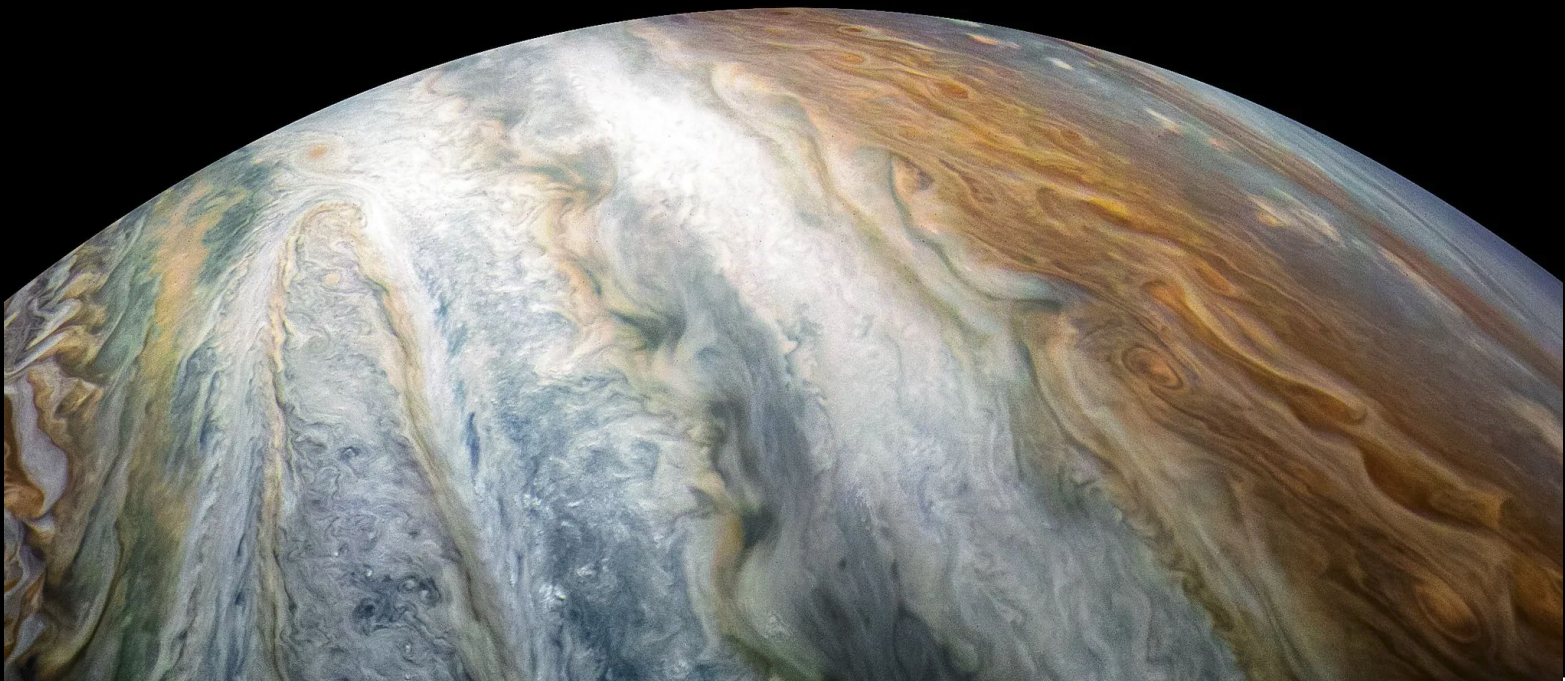




भारतीय प्रौद्योगिकी संस्थान कानपुर
Indian Institute of Technology Kanpur

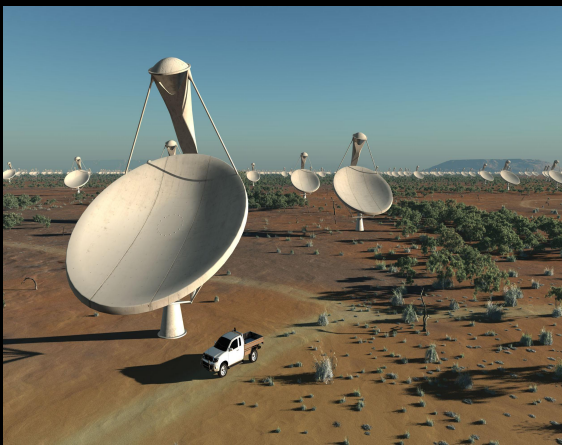
Space, Planetary & Astronomical Sciences & Engineering (SPASE)

POST GRADUATE PROGRAM



Space, Planetary & Astronomical Sciences & Engineering (SPASE)

The department pursues excellence in research and teaching in all branches of Space Science and Engineering . It nurtures expertise in observations, instrumentation, data analysis and theoretical modelling. The department aims to have a strong participation in major national and international projects in this field that include:



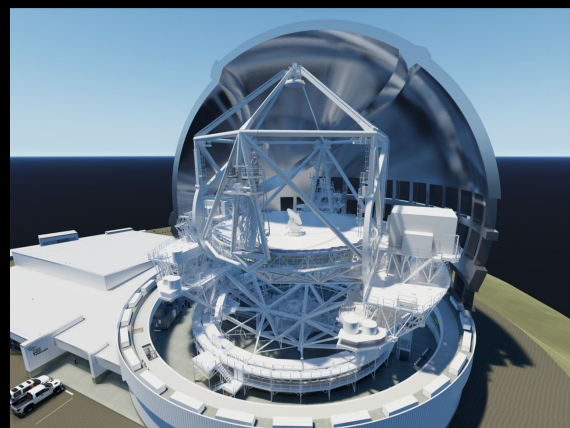
SQUARE KILOMETER
ARRAY



ASTROSAT



CHANDRAYAAN



TMT

The department is continuously looking for students, researchers and faculty who are passionate about learning and contributing to this cutting edge of human endeavours: Space Exploration !

POST-GRADUATE PROGRAMMES OFFERED

The department currently offers M.Tech and Ph.D . In the near future, it plans to also offer a B. Tech. degree in Space Science & Engineering and an M.Sc. Degree in Astronomy and Astrophysics. All programmes will train students in various aspects of observations, instrumentation and theoretical and computational modelling.

LABS/ FACILITIES

The following four laboratories are being currently developed:

1. Space Instrumentation laboratory
2. Optical Instrumentation laboratory
3. Planetary Science laboratory
4. Radio Astronomy laboratory
5. Data Analysis laboratory



FACULTY

Amitesh Omar, HOD (Ph.D. RRI Bangalore; JNU) : Galaxy astrophysics, instrumentation, optical and radio astronomy.

Pankaj Jain (Ph. D. Syracuse; Emeritus) : Astrophysics and Cosmology, Radio Astronomy, Cosmic Rays, X-ray Astronomy.

Soumyabrata Chakrabarty (Ph.D., Indian Institute of Technology Kharagpur) : Space Weather interaction of Spacecrafts, Computational Electromagnetics, Design and development of Antennas for Radio Telescopes and Microwave Sensors.

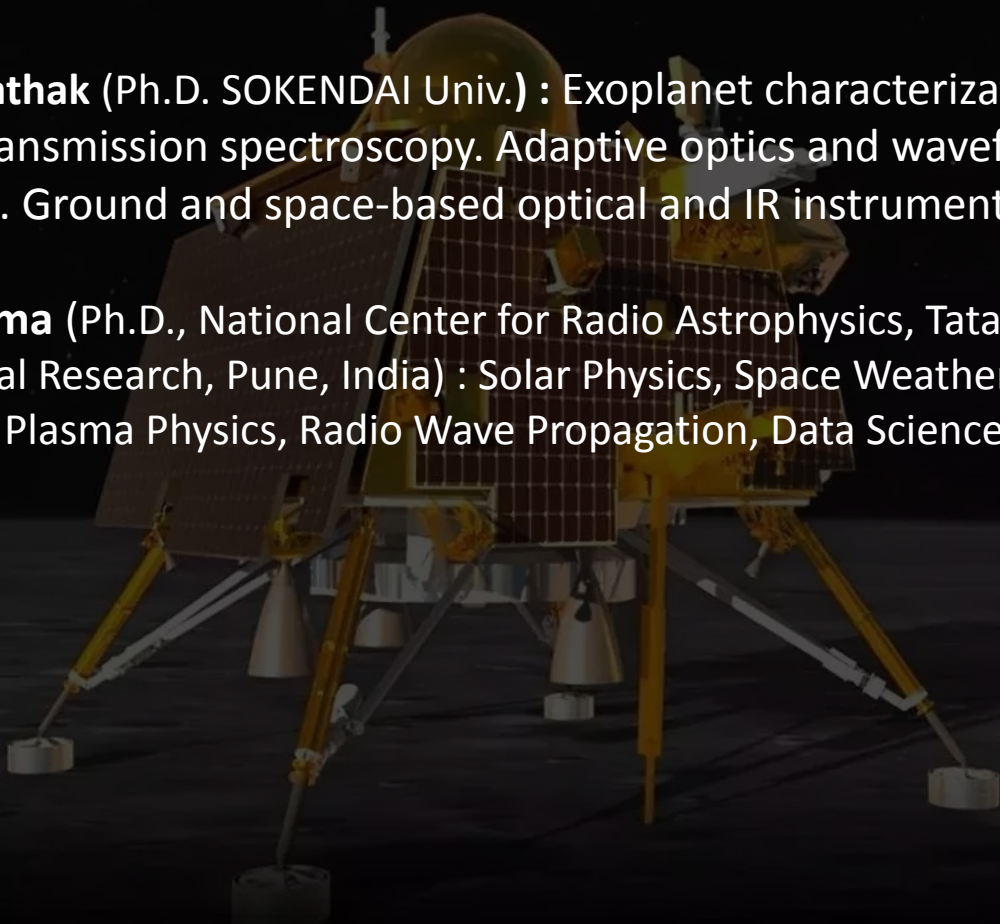
Ishan Sharma (Ph. D. Cornell University) : Planetary Science, Granular Minor Planets; Mechanics, Applied Mathematics.

Sharvari Nadkarni-Ghosh (Ph.D. Cornell) Theoretical Cosmology, planetary science, non-linear dynamics.

Kunal P. Mooley (Ph.D., Caltech, NRAO) : Transients ,Jets, Compact objects, Galactic center, Life in the Universe, Space Instrumentation.

Prashant Pathak (Ph.D. SOKENDAI Univ.) : Exoplanet characterization: direct imaging, transmission spectroscopy. Adaptive optics and wavefront control techniques. Ground and space-based optical and IR instrumentation.

Rohit Sharma (Ph.D., National Center for Radio Astrophysics, Tata Institute of Fundamental Research, Pune, India) : Solar Physics, Space Weather, Radio Astronomy, Plasma Physics, Radio Wave Propagation, Data Science, Imaging Algorithms.



FACULTY (DISTINGUISHED/VISITING)

J. S. Yadav (Ph. D. Kurukshetra University) : X-Ray Astronomy, Space Detectors and Instrumentation, Cosmic Rays.

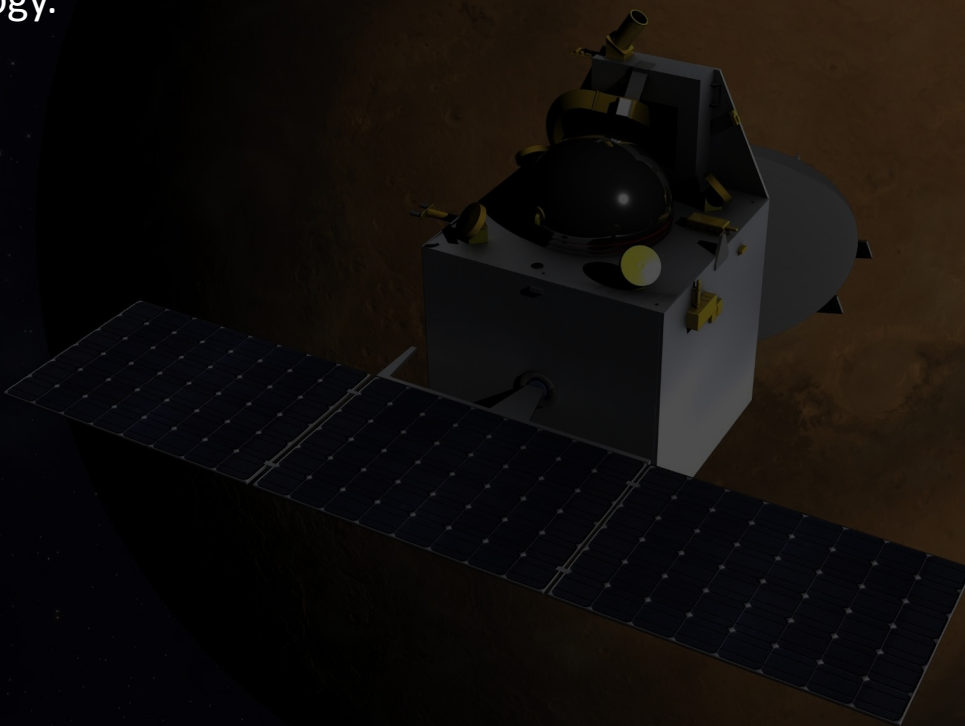
Avinash Deshpande (Ph. D. IIT Bombay/RRI) : Radio Astronomy, Pulsars, Radio Transients, Interstellar Medium, Instrumentation and Signal Processing.

Arun Mishra (Prof. McGill University, Canada) : Satellite dynamics and control, space robotics, and dynamics of aerospace structures.

Renu Malhotra (Prof. University of Arizona, U.S.A) : Planetary Science, Orbital Dynamics.

Hiroaki Katsuragi (Prof. Osaka university, Japan) : Granular Matter, Soft Impact Dynamics, Planetary Cratering.

Yamini Jangir (Ph.D., University of Southern California) : Astrobiology, Space Biology, Life in Extreme Environments, Microbe-Mineral Interaction, Microbial Ecology.

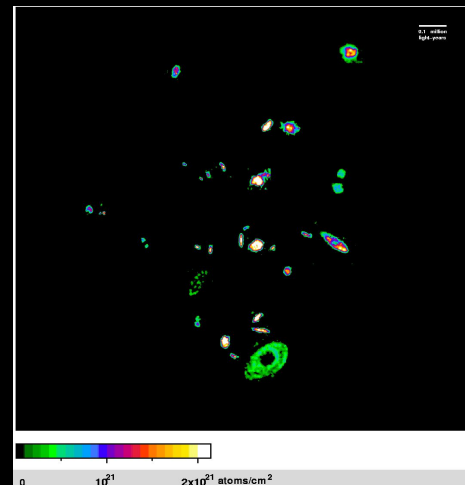


BROAD RESEARCH AREAS

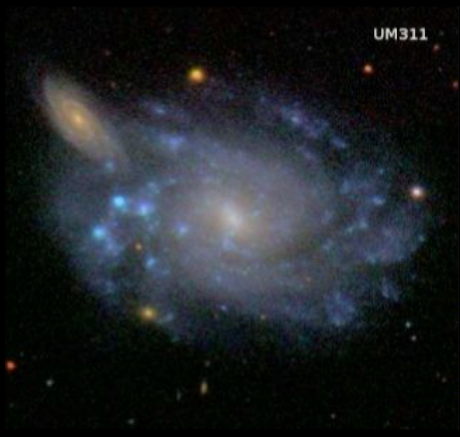
- ❖ Space Instrumentation, Space Technology & Space Manufacturing
- ❖ Planetary Science
- ❖ Astronomy, Astrophysics & Cosmology
- ❖ Instrumentation for Astronomy
- ❖ Solar Physics
- ❖ Spacecraft Mechanics
- ❖ Astrobiology



Crab Nebula imaged
Using the 3.6 m Devasthal
Optical Telescope (DOT)



Neutral Hydrogen map of a galaxy
group made using the GMRT



Nearby Galaxy imaged by
the Sloan Digital Sky
Survey (SDSS)



Rubber-pile asteroid Bennu's
shape can be explained using
granular physics.



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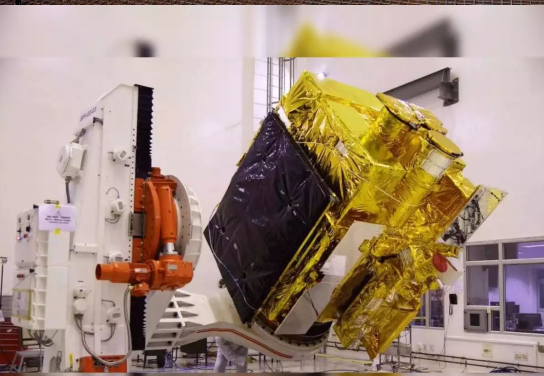
Space, Planetary & Astronomical Sciences & Engineering (SPASE)

CONTACT

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Webpage: www.iitk.ac.in/space



Devasthal Optical Telescope, Nainital

