Space, Planetary & Astronomical Sciences & Engineering (SPASE)

POST GRADUATE PROGRAM
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:

- GMRT
- ASTROSAT
- CHANDRAYAN
- TMT

The department is continuously looking for students, researchers and faculty who are passionate about learning and contributing to this cutting edge of human endeavors: 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. Planetary Science laboratory
3. Radio Astronomy laboratory
4. Data Analysis
FACULTY LIST

- Pankaj Jain, Head (Ph. D. Syracuse): Astrophysics and Cosmology, Radio Astronomy, Cosmic Rays, X-ray Astronomy
- Amitesh Omar (Ph.D. RRI Bangalore; JNU): Galaxy astrophysics, instrumentation, optical and radio astronomy
- Sharvari Nadkarni-Ghosh (Ph.D. Cornell): Theoretical Cosmology, planetary science, non-linear dynamics
- Prashant Pathak (Ph.D. SOKENDAI University): Characterization of Exoplanets: direct imaging, transmission spectroscopy, Adaptive optics and wavefront control techniques. Ground and space-based optical and infrared instrumentation
- Kartick C. Sarkar (Ph. D, Indian Institute of Science and Raman Research Institute): Galaxies formation and evolution, interstellar medium, astrophysical fluid dynamics, Galactic feedback, radiative transfer
- Deepak Dhingra (Ph. D. Brown): Planetary Remote Sensing and Geology
- J. S. Yadav (Ph. D. Kurukshetra University): X-Ray Astronomy, Space Detectors and Instrumentation, Cosmic Rays
BROAD RESEARCH AREAS

- Planetary Science and Technology
- Space and Astronomical Instrumentation
- Observational Astronomy
- Astronomy and Cosmology
- Space Technology

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

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

Neutral Hydrogen map of a galaxy group made using the GMRT

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

Rubber pile asteroid Bennu’s shape can be explained using granular physics.
SPACE SCIENCE &
ASTRONOMY DEPARTMENT

CONTACT

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