



PUNE VIDYARTHI GRIHA'S COLLEGE OF ENGINEERING,
TECHNOLOGY AND MANAGEMENT
"Academic Year 2025-26 Activities' Report"



1. National Science Day: IISER & IUCAA Visit

Date: February 28, 2024

Objective: To provide students a direct look at India's frontline space projects and foster interaction with world-class scientists.

Execution & Highlights:

- **Technical Exhibition:** Students explored three major astronomical projects: **Aditya-L1** (India's first solar mission), **LIGO-India** (Gravitational-Wave Observatory), and the **Thirty Meter Telescope (TMT)**.
- **LIGO-India Insight:** Experts briefed the team on the upcoming detector in Hingoli, Maharashtra, making India the second country in Asia to host such advanced technology.
- **Q&A with Dr. Jayant Narlikar:** A major highlight was the interactive session with renowned scientist Dr. Jayant Narlikar. A question from VISHWAHI members Shravani Sovani and Dhanashri Katarkhatavkar regarding IUCAA's role in the **Gaganyaan mission** was selected for the panel.
- **Expert Guidance:** The team interacted with Dr. Anand, who provided guidance on research opportunities and career paths for engineering students in astronomy.





2. Technical Session: Supernova Analysis & Research Paper Methodology.

Date: March 20, 2025

Objective: To bridge the gap between conceptual astronomy and academic research through documentary analysis and synopsis drafting.

Key Discussion Points:

- **Supernova Classification:** The session utilized a documentary to explain how stars collapse under gravity, focusing on the distinction between **Type I** (hydrogen-deficient) and **Type II** supernovae.
- **The "Chameleon" Phenomenon:** Students studied **Supernova 2014c**, which challenged traditional classification by showing hydrogen only after its shockwave hit surrounding gas.
- **Cosmic Impact on Earth:** Discussion covered how ancient supernovae likely triggered our solar system's formation and influenced Earth's atmosphere via radioactive elements like **iron-60**.
- **Research Paper Fundamentals:** Joint-General Secretary Aditya Deshpande led a "crash course" on structuring a research synopsis, emphasizing the importance of literature reviews and formal academic formatting.
- **Collaborative Brainstorming:** Members formed small research groups based on self-selected topics to begin drafting potential review papers for publication.





3. AXSX Stargazing & Sky Viewing Event

Date: April 9, 2025

Participation: 2 students from our club were invited as stargazing information volunteers.

Collaboration: AXSX Organization

Technical Observations:

- **Advanced Instrumentation:** The event featured two distinct telescope setups: a **Reflector telescope** on an equatorial mount and a **Refractor telescope** on an azimuthal mount.
- **Lunar Details:** Observations focused on the waxing gibbous Moon, where students identified craters and **maria** (ancient lava flows), discussing their potential as future lunar base sites.
- **Planetary Observation:** Despite urban light pollution, students successfully viewed **Jupiter**, its faint red spot, and the four **Galilean moons** (Io, Europa, Ganymede, and Callisto).
- **Guided Celestial Tour:** Using green laser pointers, volunteers traced the V-shape of **Taurus** (featuring the red star Aldebaran) and **Orion**, identifying Betelgeuse and the Orion Nebula.
- **Operational Logistics:** To ensure hands-on time for all, the event was split into two slots, allowing first through fourth-year students to engage with the equipment without overcrowding.



4. Space-Tech Ideathon: Innovation for Modern Aerospace – Inter-Collegiate Event.

Date: August 26, 2025

Objective: To celebrate National Space Day by igniting innovative solutions for critical space science challenges.

Event Structure & Problem Statements:

- **Thematic Focus:** The competition targeted five major areas: **Satellite-Based Climate Monitoring, Cost-Effective Launch Technologies, Deep Space Communication, Space Debris Management, and Asteroid Impact Mitigation.**
- **Academic Rigor:** From 17 initial submissions, seven teams were shortlisted to deliver 10-minute technical presentations followed by a rigorous Q&A with the judges.
- **Expert Evaluation:** The judging panel featured **Mr. Kailas Belekar** (AXSX Founder) and Dr. Dipti Patil (Dean of Student Affairs, Cummins College, IN-SPACe), who evaluated ideas based on technical feasibility and scalability.
- **Winning Concept:** Team **SwarmLink** secured first place for their advanced deep-space communication system, combining technical depth with practical originality.
- **Collaborative Spirit:** The event concluded with feedback sessions that encouraged students to refine their ideas for real-world application in India's growing space sector.





5. Space Axpo 2025: State-Level Space-Science Exposition

Date: August 30, 2025

Overview: Pune's first-ever state-level space science exposition, organized to foster creativity and scientific temperament.

Key Highlights & Workshops:

- **CubeSat Workshop:** Led by Mr. Kailas Belekar and Mr. Ajinkya Kohokade, this session introduced participants to satellite subsystems (power, communication, payload) and Arduino-based mission design.
- **"Life Beyond" Workshop:** Explored **astrobiology**, linking Earth's extremophiles to potential extraterrestrial habitats on exoplanets through spectroscopy and observational techniques.
- **Telescope Making:** An exclusive workshop for school quiz winners led by Mr. Ashish Parmar, demonstrating the assembly of reflecting and refracting telescopes using accessible materials.
- **Expert Lecture:** Mr. Sudhir Phakatkar (GMRT) presented **"From Apollo to Gaganyaan,"** detailing the technological milestones of human spaceflight through authentic historic footage.
- **Astrophotography Exhibition:** A gallery of celestial phenomena, guided by Mr. Ekansh, allowed attendees to bridge the gap between captured images and the instruments used to see them.



