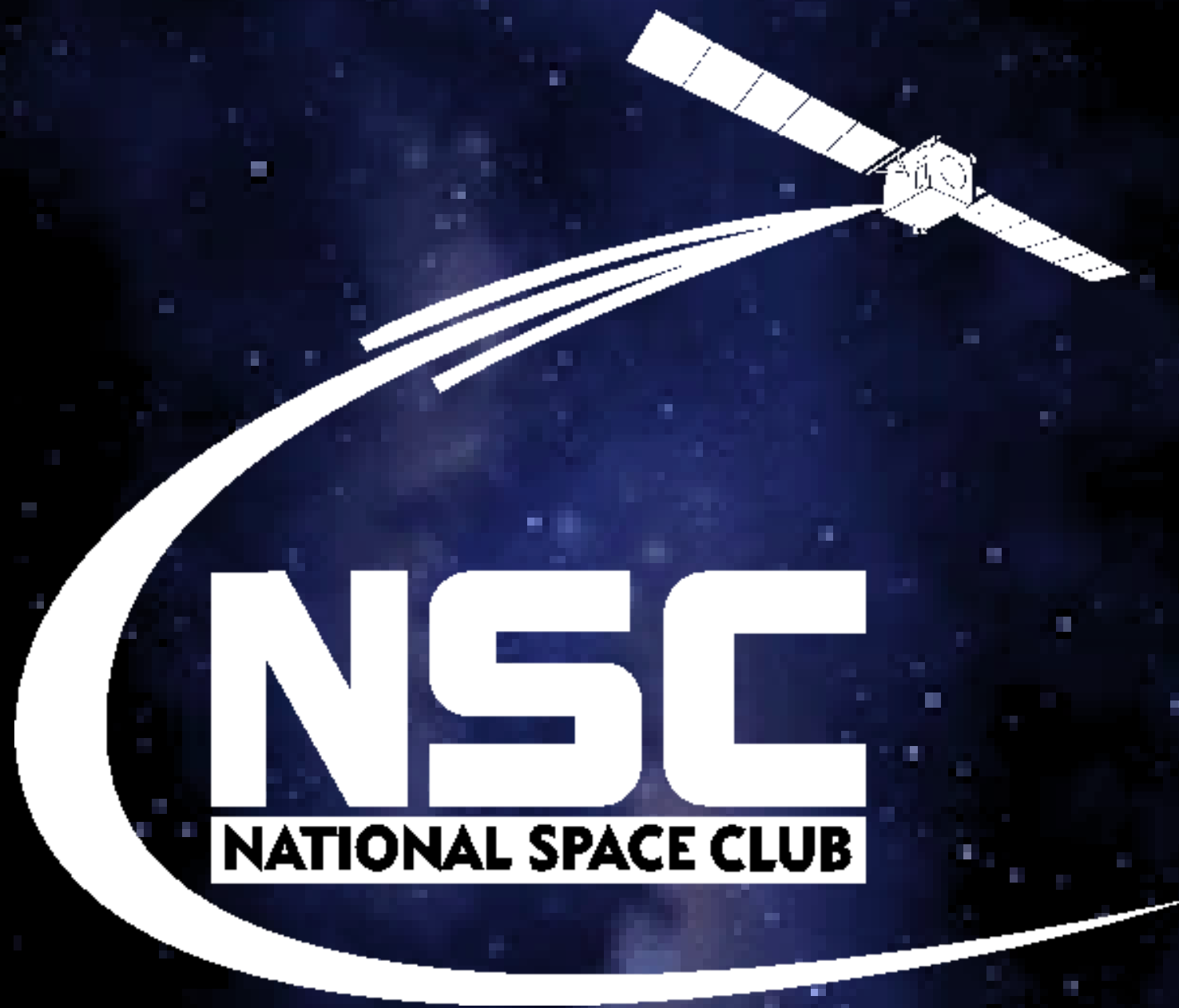




# National Space Club

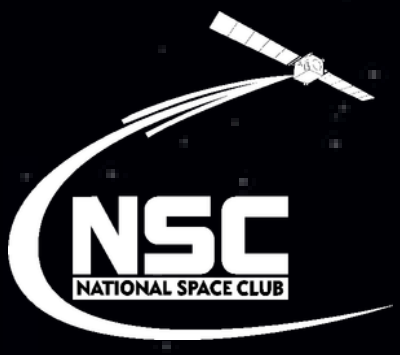
Under India Space Academy  
presents



## WORKSHOP ON SPACE CREW MODULE

Exploring Human Space flight and Future Space Technologies

6th June 2026



# ABOUT INDIA SPACE ACADEMY



**India Space Academy (ISA)** is an educational and scientific initiative dedicated to promoting awareness, innovation, and advanced learning in the fields of **Space Science, Astronomy, Aerospace Engineering, Robotics, and STEM Education**. The academy aims to inspire **students, researchers, educators, and young innovators** by connecting academic learning with real-world scientific and technological advancements.

Through **workshops, research-oriented programs, expert sessions, competitions, and collaborative projects**, ISA provides participants with opportunities to explore emerging technologies and develop future-ready scientific skills. The academy strongly focuses on practical learning, innovation, leadership, analytical thinking, and interdisciplinary education.

**India Space Academy** continuously works toward building a strong scientific community that encourages curiosity, creativity, and research culture among young minds while preparing them for future opportunities in the rapidly growing global space and technology sector.

As the global space and technology sector continues to grow rapidly, ISA aims to prepare the next generation for emerging opportunities in **space exploration, aerospace innovation, scientific research, advanced engineering, robotics**, and technology-driven careers. By fostering **passion for discovery and lifelong learning**, **India Space Academy** is contributing toward building a more knowledgeable, innovative, and scientifically empowered society.



**National Space Club (NSC)**, under India Space Academy, is a **student-driven** initiative established to create a **nationwide platform for space enthusiasts, students, researchers, and educators interested in Space Science and Technology**. The club aims to promote **scientific awareness, collaborative learning, innovation, and practical exposure in emerging areas related to space exploration** and advanced technology.

NSC organizes **workshops, discussions, expert lectures, STEM activities, competitions, and collaborative projects** that help members explore real-world applications of science and engineering. The club encourages students to develop **creativity, teamwork, leadership, problem-solving abilities, and research-oriented thinking through interactive learning experiences**.

By connecting young learners with experts from scientific and academic communities, NSC aims to inspire the next generation of **scientists, engineers, innovators, and future leaders in the field of Space Science and Aerospace Technology**.

- ◆ **Interactive Workshops & Training Programs**
- ◆ **Expert Sessions & Industry Exposure**
- ◆ **STEM Activities & Innovation Challenges**
- ◆ **Leadership & Skill Development**
- ◆ **National Scientific Community Network**



## Space Crew Module Workshop

This **workshop focuses on introducing members to the fascinating world of human space exploration, spacecraft systems, astronaut safety, and rocket science through interactive STEM learning.** The program highlights how modern crew modules are designed to safely transport astronauts during launch, orbit, and re-entry missions while also exploring the scientific principles behind rockets and space travel. Inspired by modern missions such as **Gaganyaan**, the workshop aims to connect classroom science with **real-world aerospace technology and future innovations in space exploration.** The **"Space Crew Module Workshop"** is designed to provide students with an engaging introduction to **astronaut missions, spacecraft systems,** and the physics behind space travel. Participants will explore how **crew modules** protect astronauts using **heat shields, life support systems, parachute recovery systems, and advanced safety mechanisms.** The workshop also introduces important scientific concepts such as Newton's Laws of Motion, thrust, gravity, escape velocity, and aerodynamics .

**The participants will develop creativity and scientific thinking,** while gaining insight into future careers in **Aerospace Engineering, Robotics, Space Research, and advanced technology industries.**



## Human Spaceflight Missions & Future Crew Exploration

Explore how astronauts travel to space through modern human spaceflight missions like ISRO's Gaganyaan and international lunar exploration programs. Students will learn about future space missions, deep-space travel, and the next generation of human exploration beyond Earth.



## Advanced Crew Module Design & Re-entry Technologies

Understand how crew modules are specially designed to safely carry astronauts during launch, space travel, and Earth re-entry. This topic covers heat shields, parachute recovery systems, capsule structure and advanced re-entry technologies used in modern spacecraft.



## Spacecraft Safety, Life Support & Astronaut Survival Systems

Learn how astronauts survive in the harsh environment of space using oxygen supply systems, temperature control, communication systems, and emergency safety mechanisms. Students will also discover how spacecraft are designed to protect astronauts during missions.





## Physics of Human Spaceflight: Thrust, G-Forces & Orbital Dynamics

Discover the science behind rocket launches and human spaceflight through concepts like thrust, Newton's laws, G-forces, gravity, and orbital motion. This session explains how rockets escape Earth's gravity and how spacecraft move in orbit around Earth.

## Career Opportunities in ISRO & Global Space Sector

Explore exciting career pathways in aerospace engineering, space science, robotics, astrophysics, and satellite technology. Participants will gain insights into opportunities available in ISRO and the growing global space industry.



## Interactive Q&A Session

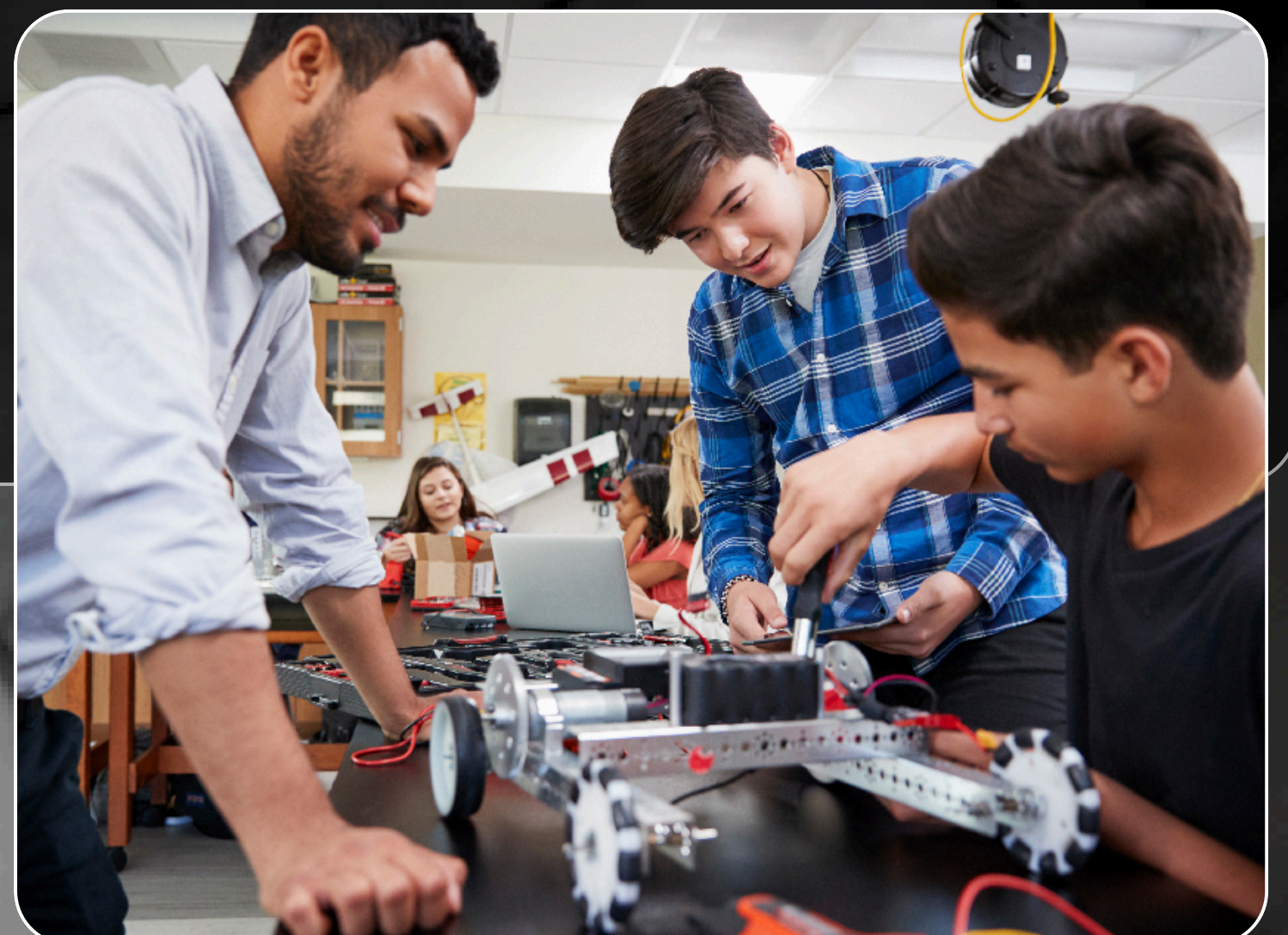
An engaging discussion session where students can ask questions related to astronauts, rockets, spacecraft technology, and careers in space science. This interactive segment encourages curiosity, critical thinking, and scientific exploration.

This workshop helps participants develop creativity, scientific thinking, problem-solving abilities, and curiosity about the future of space exploration while connecting classroom science with real-world aerospace technology.



Participants will explore exciting concepts related to rockets, astronauts, and spacecraft systems while understanding how modern space missions operate. The program inspires young minds to pursue opportunities in Aerospace Engineering, Robotics, Space Science, and advanced technology industries. STEM-based learning activities also improve confidence, leadership, and practical application of scientific concepts in everyday life.

- Develops creativity, innovation, and scientific thinking skills.
- Provides hands-on STEM learning through exciting space activities and simulations.
- Connects classroom science with real-world aerospace technology.
- Builds curiosity about rockets, astronauts, spacecraft, and future space missions.
- Inspires students toward careers in Aerospace Engineering, Robotics, and Space Science.
- Promotes practical application of STEM concepts through design challenges and interactive learning.
- Encourages innovation, imagination, and lifelong interest in space exploration.



This workshop introduces participants to the exciting world of human spaceflight, spacecraft systems, astronaut safety, and rocket science through engaging STEM-based learning. Participants will explore the basics of human space missions, spacecraft design, and missions like Gaganyaan.

The session will also explain key concepts such as Newton's Laws of Motion, thrust, gravity, orbital motion, and space travel principles in an interactive way.



Through this participants will develop creativity, and scientific thinking while exploring future opportunities in aerospace and space science.

By participating in this program, students will explore future opportunities in Aerospace Engineering, Robotics, Space Science, Satellite Technology, Artificial Intelligence, and advanced scientific research fields. The workshop aims to inspire curiosity, imagination, and a lifelong interest in science, technology, and space exploration while helping participants build future-ready skills required in modern STEM industries. The workshop highlights important missions such as Gaganyaan and explores the future of human space exploration, lunar missions, and deep-space travel.

### 1 INTRODUCTION TO HUMAN SPACEFLIGHT

- Understanding Crew Modules
- Astronaut missions & space exploration
- Orion & Gaganyaan spacecraft

### 2 SPACECRAFT SYSTEMS & DESIGN

- Heat Shield Technology
- Life Support Systems
- Docking Mechanisms
- Parachute Recovery Systems
- Crew Safety Features

### 3 ROCKET SCIENCE & SPACE PHYSICS

- Newton's Laws of Motion  $F = ma$
- Momentum & Rocket Thrust
- Escape Velocity
- Aerodynamics During Re-entry
- G-Forces on Astronauts

### 4 ASTRONAUT SAFETY & TRAINING

- Launch & Re-entry Safety
- Orbit Operations
- Emergency Simulations
- Astronaut Training Methods

### Q&A SESSION

# REGISTRATION DETAILS

## Registration Period



**22th May 2026 – 4th June 2026**

## Participation Fees



**General Participants –  
₹250/-**



**National Space Club  
(NSC) Members – ₹100/-**

**Note: The participation fees are non-refundable**

## WORKSHOP DETAILS



WORKSHOP NAME: SPACE CREW MODULE

WORKSHOP DATE: 6TH JUNE 2026 (SATURDAY)

WORKSHOP DURATION: 4 PM – 6 PM

MODE: ONLINE (ZOOM)

LANGUAGE: ENGLISH

JOINING REQUIREMENTS: LAPTOP/SMARTPHONE (WITH ZOOM APPLICATION) WITH GOOD INTERNET CONNECTION.

AUDIENCE:

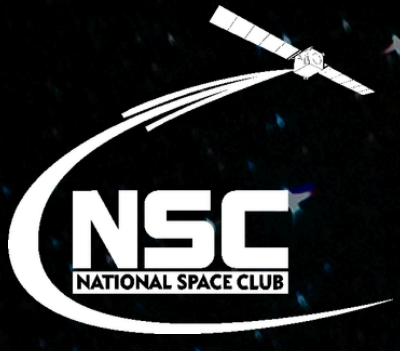
1. School & College Students
2. Researchers & Faculty Members
3. Aerospace & Engineering Enthusiasts
4. Space Science Learners & Professionals

REGISTRATION LINK:

[https://nsc.indiaspaceweek.org/workshop\\_registration\\_form/](https://nsc.indiaspaceweek.org/workshop_registration_form/)

TO JOIN NATIONAL SPACE CLUB

Link: [https://nsc.indiaspaceweek.org/membership\\_form/](https://nsc.indiaspaceweek.org/membership_form/)



# CONTACT DETAILS



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## NATIONAL SPACE CLUB

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Official Website: [www.nsc.indiaspaceweek.org](http://www.nsc.indiaspaceweek.org),

