

Astrophotography & Image Processing Workshop



INDIA SPACE ACADEMY

About

India Space Academy is an academic institution under the Department of Space Education of India Space Week. India Space Week is an autonomous body supported by the central and state governments. The role of India Space Week is to promote space education and employment among the students, teachers, and research scholars of schools, colleges, universities, and institutions. The academy develops workshops that spread awareness about the current requirements of the space industry. Additionally, it develops various programs to equip students with the necessary information, skills, practical experience, research exposure, and training to make them future-ready.

Mission

To bridge the gap between academic learning and industry demands by providing research-driven, hands-on education in space technologies. India Space Academy empowers students with practical skills, fosters innovation, and develops future-ready professionals for the global space sector.

Vision

To build a sustainable ecosystem where space science and innovation are accessible to all, empowering aspiring professionals with advanced skills to lead technological excellence and shape the future of space exploration.



National Space Club

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The National Space Club is an online initiative of India Space Academy aimed at promoting space science education among students. It provides a platform for young learners to explore astronomy, space technology, and innovation through structured programs, hands-on activities, expert sessions, and project-based learning in areas like rocketry, satellites, and astronomy. The club nurtures curiosity, teamwork, and leadership, preparing students for careers in space and STEM fields. The club focuses on developing scientific thinking, creativity, and future-ready skills.

OUR VISION

To create a dynamic ecosystem of space enthusiasts across the nation, making space exploration accessible to all, and inspiring a new generation of scientists, innovators, and visionaries to shape the future of space.

OUR MISSION

To connect space enthusiasts from every corner of India and provide opportunities to learn, explore, and collaborate to make India a global power in space industry under the guidance of the India Space Academy.



About the workshop

Discover the Universe Through Your Lens

Astrophotography is where science meets creativity, allowing you to capture the breathtaking beauty of the night sky. From the Moon's intricate craters and the colorful planets to the glowing Milky Way and distant deep-sky objects, every image tells a story of the cosmos.

The National Space Club presents a comprehensive Astrophotography & Image Processing Workshop designed to introduce participants to the fundamentals of capturing celestial objects and transforming raw astronomical images into stunning final photographs using professional image-processing techniques.

Whether you're a beginner or an astronomy enthusiast, this workshop will equip you with practical knowledge, essential techniques, and scientific insights to begin your journey into astrophotography.



Workshop Highlights



Introduction to Astrophotography

Basics of equipment, camera settings and image acquisition.



Capture RAW Images

Learn to capture the Moon, planets and deep sky objects.



Complete Image Processing Workflow

Step-by-step workflow from start to stunning final image.



Stacking & Calibration

Learn alignment, stacking, darks, flats and bias for clean astronomical images.



Moon Image Enhancement

Extract maximum detail and create high contrast, sharp moon images.



Planetary Image Processing

Sharpen, de-noise and enhance planetary images like a pro.



Deep Sky Image Processing

Basic processing of nebulae, galaxies and star clusters.



Noise Reduction & Final Touches

Color correction, noise reduction, sharpening and final adjustments.



RAW to Final Image Demonstration

Live demonstration of complete journey from RAW image to final masterpiece.

What Will You Learn

- **Explore the different branches of astrophotography**, including Moon, planetary, Milky Way, deep-sky, star trails, time-lapse, and solar photography

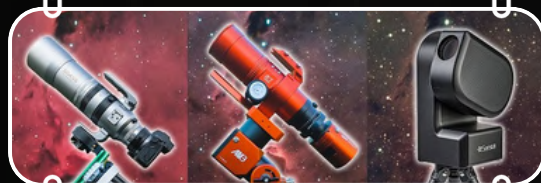
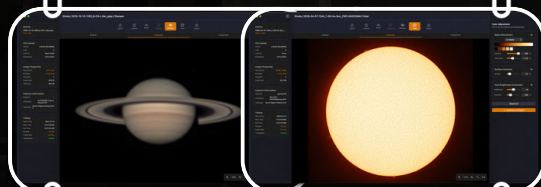
- **Master the fundamentals of celestial imaging**, including camera settings, telescope setup, long-exposure techniques, composition, and tracking.

- **Understand the complete image processing workflow**, from RAW image calibration and stacking to noise reduction, colour correction, stretching, and final editing.

- **Learn the science behind astrophotography**, including long exposures, image stacking, star colours, and why astronomical images require processing.

- **Identify and avoid common astrophotography mistakes** to improve image quality and achieve better results.

- **Explore opportunities in citizen science, astronomy competitions, and building your own astrophotography portfolio.**



Hands-on Demonstration

Experience the complete astrophotography workflow through live, step-by-step demonstrations.

Participants will observe:

- **Camera and telescope setup** for capturing celestial objects.
- **Practical imaging techniques** for the Moon, planets, and deep-sky objects, including video capture and long-exposure photography.
- **The complete image processing workflow**, from RAW image calibration and stacking to noise reduction, colour correction, stretching, and final enhancement.
- **Professional software demonstrations** using Siril, DeepSkyStacker, Lightroom, Photoshop, and Sequator.
- **A live transformation of a RAW astronomical image into a stunning final processed image**, showcasing the techniques used by astrophotographers.

Live Workflow

RAW Image → Calibration → Stacking → Processing → Final Astronomical Image

Watch every step of the astrophotography process in action and gain practical insights into creating breathtaking images of the night sky.

Who Can Join?

This workshop is designed for anyone passionate about astronomy and photography.

Ideal for:

SCHOOL STUDENTS



COLLEGE STUDENTS



EXPLORING THE NIGHT SKY TOGETHER

TEACHERS & EDUCATORS



SPACE ENTHUSIASTS



PHOTOGRAPHY ENTHUSIASTS



AMATEUR ASTRONOMERS



STEM LEARNERS



ANYONE CURIOUS



Why Join This Workshop?



1. Expert-Led Sessions

Learn from experienced astronomers, astrophotographers and image processing experts.



2. Hands-on Learning

Get practical experience with real astrophotography data and tools.



3. Live Demonstrations

Watch real-time capture and image processing workflows step-by-step.



4. Professional Techniques

Master industry-standard techniques used by professional astrophotographers.



5. Image Processing Skills

Learn to turn raw astronomical data into stunning, high-quality images.



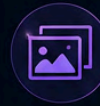
6. Scientific Insights

Understand the science behind the objects you capture in the night sky.



7. Beginner Friendly

Perfect for beginners! No prior experience required.



8. Portfolio Building

Create a collection of your best images and showcase your progress.



9. Citizen Science

Contribute to real astronomical research and be part of global citizen science projects.



10. E-Certificate

Receive an e-certificate of participation to recognize your learning.



11. NSC Community

Connect with a passionate community of astronomy and space enthusiasts.



12. Future Opportunities

Open doors to advanced workshops, collaborations and exciting opportunities.



Workshop Details

- **Mode:** Online (Zoom)
- **Language:** English
- **Start Date of Registration:** 21 July 2026
- **Last Date of Registration:** 08 August 2026
- **Workshop Date:** 09 August 2026
- **Session Length:** 2.5 Hours (Live Session + Hands-on Demonstration)
- **Timing:** 12:00 PM to 02:30 PM
- **Eligibility:** Open to school students (Class IX onwards), researchers, faculty members, and working professionals interested in Space Enthusiasts, Amateur Astronomers, Photography Enthusiasts, Beginners in Astronomy & Astrophotography
- **General Registration Fee (Non-Refundable):** ₹250/-
- **NSC Members Registration Fee (Non-Refundable):** ₹100/-
- **Certificate:** Digital Certificate will be provided to all registered participants upon successful completion of the workshop.
- **Registration Link:**
https://nsc.indiaspaceweek.org/workshop/astrophotography_and_image_processing/

Contact Information

"The Future of Space Starts With You"

Join • Learn • Innovate 

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