



Astronomy Photography Workshop



About us



India Space Academy is an academic institution under the Department of Space Education of India Space Week. India Space Week is an autonomous body with support from 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. Also, it develops various programs to equip the students with the right information, skills, practical exposure, research exposure, and training to make them future-ready.



S.T.A.R



S.T.A.R is an acronym which stands for Space, Technology, Astronomy & Research. In this program ISA conducts multiple workshops, Courses, Training, Internship, and project works on various topics related to space, technology, astronomy, with a research-based method. The aim of this program to promote space education with the required skills needed for research and development in the Space Industry.

About the workshop

Objective

The workshop is designed to help you capture stunning images of the night sky, whether you're using a smartphone or a professional DSLR camera. We'll explore the science behind photography and how cameras work, making complex ideas simple and easy to understand. You'll also learn about the specialized tools and devices that can help you photograph the cosmos, from telescopes to tracking mounts. Additionally, we'll cover various techniques for processing your images to extract important astronomical data, making the most out of every shot you take.





Workshop Overview



Introduction to Astrophotography



Principle of Astrophotography



Astrophotography Equipments



Planisphere or Stellarium



Astrophotography

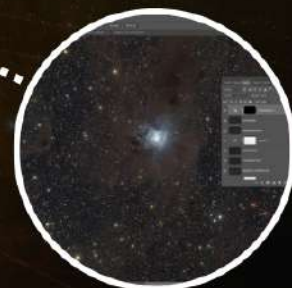


Image Processing



Capturing the night sky

Workshop Plan

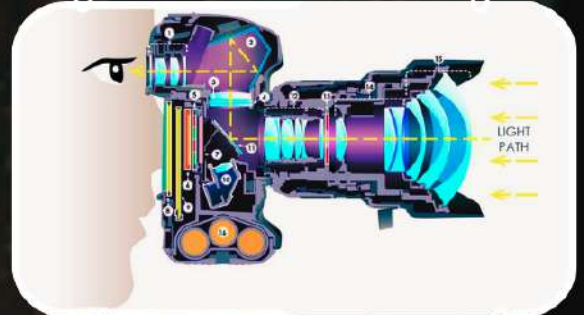
1. Introduction

- Overview of the workshop agenda.
- What is astronomy photography
- How astronomy photography started
- Where astronomy photography is used.



2. How do camera work?

- How human eye see its surrounding.
- Different parts of DSLR camera.
- Role and importance of camera sensor.



3. Principle of Photography?

- What is exposure?
- Exposure Triangle



4. Astronomy Photography Tools

- Telescopes and mount
- Camera and CCDs
- High tech equipment



5. Techniques to capture astronomy photography

- Prime focal astronomy photography
- A focal astronomy photography
- Different astro photographs



6. Image Processing

- Why image processing
- How to process image
- Different processing software
- Astronomy from the Image



7. Planning for Astronomy Photography

- Things to take care while planning for astronomy photography.
- How to use Stellarium and other resources for astronomy information



8. Future Scope in Astronomy Photography

- What are the future prospects of an astronomy photography career?

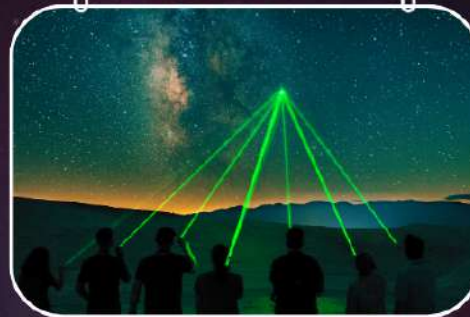


9. Q&A and Wrap-Up

- Open forum for participants to ask questions and clarify concepts.
- Recap of key takeaways and guidance on further resources for self-study.

Hands-On Activity

- **Objective:** Familiarize participants with the practical aspects of satellite subsystems.
- **Task:** Image processing using online tools.
- **Materials Needed:** Pre-installed software, practice image data



Live View

A live view of the Moon or other visible night sky object.

NOTE: The live view is subject to clearance of sky.



Learning Outcomes

By the end of these sessions, participants will:

- 1. Grasp the significance of satellites in addressing real-world challenges.
- 2. Understand the key subsystems of CubeSats and CanSats and their functions.
- 3. Acquire basic knowledge of satellite design, electronics, and communication.
- Apply theoretical concepts through a hands-on activity.



Other Details

Workshop Date: 20 April 2025

Workshop Price: 150/-

Workshop Venue: Zoom Platform

Certificates: After completion of the workshop





National Space Day Celebration

(astrophotography workshop)

Moon Through The Lens

A Basic Astrophotography Workshop

Logos: National Space Day, India Space Week, ISRO, India Space Lab, and an illustration of children with a telescope.

Planning for Astrophotography

Month	Feb	March	April	May
Best time to observe	10:00 PM - 11:00 PM	10:00 PM - 11:00 PM	10:00 PM - 11:00 PM	10:00 PM - 11:00 PM
Temp. (C)	10 C	20 C	30 C	30 C
Temp. (F)	50 F	68 F	86 F	86 F
Humidity	60%	60%	60%	60%

What Equipment Required?

How to control the light?

How to control the light?

Shutter Speed

Shutter speed determines how long your camera's shutter remains open when taking a photo.

It's measured in seconds (e.g., 1/100th of a second, 3 seconds, etc.).

How does a camera work?

When capturing a photo, light rays enter the camera through the lens. They pass through the camera body and hit the sensor at the back of the camera, where the image is formed. The sensor converts the incoming light into an electronic signal, then processed to create the final image you see.

The Moon

- ☑ The brightest object of the night sky.
- ☑ The only natural satellite of Earth
- ☑ Shows different phases through out the month



International Observe The Moon Night

**OBSERVE
the MOON**

14 September 2024
Time : 7.00pm to 8.00pm

Chandrayaan Programme

Chandrayaan 1 Chandrayaan 2 Chandrayaan 3

1. Luna 9	31 Oct 1966
2. Luna 13	24 Dec 1966
3. Luna 16	23 Sep 1970
4. Surveyor 1	11 Sep 1966
5. Surveyor 3	20 Apr 1967
6. Surveyor 7	7 Nov 1969
7. Surveyor 9	10 Jan 1971
8. Apollo 11	20 Jul 1969
9. Apollo 12	24 Nov 1969
10. Apollo 14	16 Feb 1969
11. Apollo 15	16 Jul 1969
12. Apollo 16	16 Dec 1969
13. Apollo 17	14 Dec 1972
14. Chang'e 3	14 Dec 2013
15. Chang'e 4 (far side)	3 Jan 2019
16. Chang'e 5	1 Dec 2020
17. Chandrayaan-3	

The Moon

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Registration Details

Registration Start Date: 06 March 2025

Registration End Date: 19 April 2025

Link : <https://workshop.indiaspaceweek.org/astrophotography>

Registration is Open for all Students , Faculties
and Space Enthusiasts

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