# nakshatra

19 August, 2025 Issue 08

Official Newsletter of IOAA 2025

18th IOAA MUMBAI, INDIA - 2025
International Olympiad on Astronomy and Astrophysics


Feature

## Today's Attraction

### Giant Metrewave Radio Telescope

Image Credit: NCRA-TIFR Website

The Giant Metrewave Radio Telescope (GMRT), situated near Pune, is among the most sensitive radio interferometric arrays for observing the universe at metre wavelengths. Established by the National Centre for Radio Astrophysics (NCRA–TIFR), it became operational in 2001. The array comprises 30 steerable antennas of diameter 45-meter each, spread across a 25 km region in a Y-shaped configuration. It provides high angular resolution and sensitivity in 120–1460 MHz band for a wide range of astronomical studies. GMRT is uniquely suited for investigating neutral hydrogen in distant galaxies, pulsars, supernova remnants, radio galaxies, solar wind phenomena and plays a key role in studying transients, such as Fast Radio Bursts (FRBs). The upgraded GMRT (uGMRT) features significantly improved bandwidth and dynamic range, enhancing its scientific relevance. India's expertise from GMRT has been foundational to its role in next-generation radio telescopes like the Square Kilometre Array (SKA) project. NCRA led the design of the Telescope Manager, which will serve as the central control system of SKA, and continues to contribute to its software and electronics infrastructure.

## Weather Forecast

Max:
**26°C / 78.8°F**

MIN:
**24°C / 75.2°F**

**Mumbai**

Generally cloudy sky with very heavy rain

Source: India Meteorological Department

*Subject to weather conditions

## Today's Programme

**Students**
06:00 hrs - 20:00 hrs
**Excursion to GMRT***

**Leaders**
09:00 hrs - 21:00 hrs
**Excursion to GMRT***

World Photography Day Special

## Astrophotography

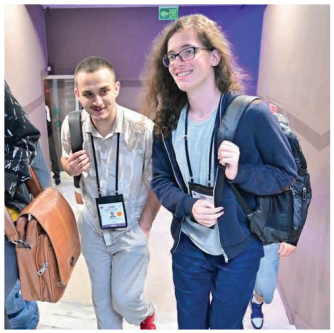
Astrophotography is taking photos of the night sky, including stars, planets, and galaxies. It blends science and art by using special cameras and telescopes to capture hidden details. Think of it as painting with light from the universe.

Photographs by : Dorje Angchuk

**Dorje Angchuk** is the Engineer-in-Charge at the Indian Astronomical Observatory (Hanle) and holds the position of Engineer F at the Indian Institute of Astrophysics. He is also an Honorary Member of the International Astronomical Union and is an amateur astrophotographer.

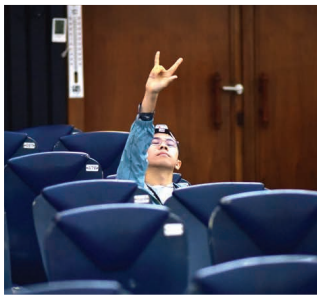
# Spotlight



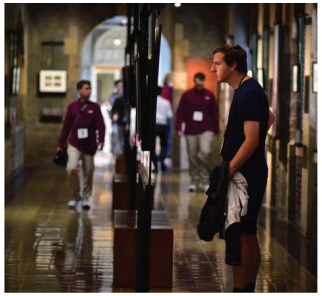










**Winners of our Giveaway**












## Cricket in India

It would not be an exaggeration to say that "the game" is akin to a religion in contemporary India. In every nook and corner of the country, one can find kids aspiring to be the next Sachin Tendulkar! The game has evolved into a unifying force—a source of camaraderie and national pride—promoting communal harmony and social mobility among a remarkably diverse population of over a billion! Though rooted in a colonial past, cricket in India has transformed from a foreign legacy into a powerful symbol of unity, pride, and resilience.

Image Credit: Wikimedia Commons/ DrRohithgurugubelli/ CC 4.0

## In Their Own Words

### What's one thing you really want adults to care more about in today's world?

*We came to the IOAA and saw such harmony among the nations that we wished it could be the same in the real world. We wish that countries would stop the disputes between them.*

**Osish Niraula and Pratyush Paudel**
(Contestants, Nepal)

*I believe that war is a bad thing, and this scenario needs to be changed. IOAA brings people together from different countries and form a lot of friendships here and that's really great.*

**Vadim Arhip**
(Contestant, Moldova)

*We believe that we should reduce light pollution in the world. Also, the adults should lessen the geopolitical tensions between the nations.*

**Contestants of the Malaysia Team**

*One of the biggest issues we face is climate change. Unfortunately, people in power don't make real changes, probably because they won't suffer its consequences. But young people will have to live in that world.*

**Fiorella Amatti Ameal**
(Contesant, Uruguay)

### What would you like to change about the world?

*I wish that more people would visit more countries, because each country has varied cultures and traditions, and it changes your perspective.*

**Stefan Ivanov**
(Leader, Bulgaria)

*I hope the world will be in peace.*

**Beshir Marzouk**
(Leader, Qatar)

*I wish that there would be enough food, basic necessities and medical help available to all on the world.*

**Stanislav Milosevic**
(Leader, Serbia)

*I wish people would be more responsible about their choices, their lifestyle because ultimately it is only us who can save our planet.*

**Vidas Dobrovolskas**
(Leader, Lithuania)

*I dream of a world where justice prevails, there is equality and fairness.*

**Sinan Alis**
(Leader, Türkiye)

## This Day, That Year

### 19 August, 1964:
### Launch of Syncom 3

Syncom 3, the first geosynchronous satellite launched by the USA, was used to broadcast television coverage of the 1964 Tokyo Olympic Games. Orbiting at 22,236 miles (35,785 km) above the rotating Earth, such satellites have an orbital period equal to a sidereal day, allowing them to appear fixed above a specific point on the planet.

## "Love" in your language

## Feature

# Opening the Skies: Empowering Every Voice in Astronomy

Image Credit: AI Generated

Astronomy is a field that inspires curiosity, but not everyone has had equal chances to be part of it, especially women. While more girls are studying science and joining astronomy programmes today, many still face challenges later in their careers. Women are less likely to be promoted, are often paid less, and take on more family responsibilities, which can slow their academic progress. Recognising these ongoing issues in astronomy and other scientific fields, organisations around the world are working to change it by creating more responsive hiring practices, encouraging equal participation, and supporting young researchers. For example, to reduce bias in astronomy, places like the Space Telescope Science Institute have adopted dual-anonymous reviews for telescope time. This means reviewers assess only the science proposal without knowing the applicant's name or institution. The Astronomical Society of Australia created the Pleiades Award, which recognises institutes that actively support gender equality and diversity. The International Astronomical Union (IAU) and other science groups conducted a global gender-focused survey with over 30000 responses, data that is now helping shape better policies. While this article focuses on binary gender, true diversity includes people of all cultures, ethnicities, religions, socioeconomic statuses, abilities, and LGBTQIA+ identities. Making astronomy more inclusive leads to more ideas, discoveries, and a brighter future for all who dream of the stars.

## Cryptic

**Hmmm.. but why 7 digits?**

We hope you have been scanning issues 2–8 for cryptic clues—7 in total. Tomorrow, we will share the link to enter the 7-digit passcode. *Be among the fastest to win a prize for you and your team!*

In case you missed the earlier issues, you can access them by scanning this QR code:

https://ioaa2025.in/ioaa-newsletter/

## Planetary Friends

Five newly discovered planets are given the following names: Harry Potter (HP), Rocky (RO), Jean Grey (JG), Galadriel (GA), and Darth Vader (DV).

Here are some features about each planet: One is blue, one has rings, one is the hottest, one has two moons, and one is the smallest.

### Objective

- Match each feature with the planet using the clues below.
- Order the planets left to right based on the clues below.

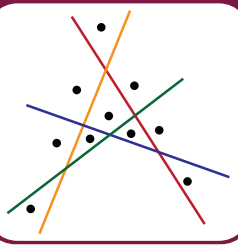
### Clues

- The planet with the rings is immediately to the right of the blue planet.
- Planet Harry Potter is not at either end of the line.
- The smallest planet is to the left of the planet with two moons.
- Darth Vader is the hottest planet.
- The blue planet is Galadriel.
- All planets are bigger than Rocky.
- The planet with two moons is Harry Potter.
- The hottest planet is not next to the blue planet, the planet with 2 moons or the planet with rings.

## Hot Takes for a Hotter Earth

There is no 'away' when we throw anything away.

## Answer to yesterday's Line Across the Stars




The galaxy threw a party—but it was mostly just a bunch of stars hanging out.

Image by: Dev Verma

## Answer to Starry Anagrams

ARC(S), ARM, ATOM, CART(S), COMA, MACRO, SCAR, SOLAR, STAR, RAM, MARS, ALCOR, CASTOR, ROAM, SOAR, ASTRO etc.

Can you think of some more words?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