Public Lecture at IISER Mohali

on

6:00pm, January 15, 2026

by

Professor Yashwant Gupta (NCRA-TIFR)

on

Revealing the secrets of the mysterious Universe with Radio Astronomy

Venue: Lecture Hall 7
Lecture Hall Complex
IISER Mohali

Abstract: Astronomy, amongst the oldest of the sciences, amazes us with what the creativity of the human mind can reveal about the mysteries of the Universe, ranging from our Solar system to the farthest reaches of the Cosmos. Starting with just the use of our eyes as detectors of light and the processing power of our brains, we have come a long way in our abilities to study the Cosmos, using the entire range of the electromagnetic spectrum.

We will explore the different aspects of how astronomy has grown and is practiced today, with special emphasis on radio astronomy and its growth in India. We will take a tour of our GMRT observatory which is one of the largest and most sensitive radio astronomy facilities in the world, and also look beyond that to see what the future has in store.

We will also talk about some of the fascinating constituents and structure of the Universe that has been revealed, especially by the use of radio astronomy, and discuss what further things may still be store for us to learn about the Cosmos.

About the Speaker: Professor Yashwant Gupta presently at the position of Distinguished Professor in the Tata Institute of Fundamental Research (TIFR) and heads TIFR's National Centre for Radio Astrophysics, located in Pune, as the Centre Director. He obtained his M.S. and Ph.D. in Radio Astronomy from the University of California, San Diego in 1990, after completing his Bachelor's degree in Electrical Engineering from IIT Kanpur in 1985.

Professor Gupta is known for his research on pulsars (which are very rapidly rotating, highly magnetised neutron stars) and the interstellar medium, as well as development of instrumentation and signal processing techniques for radio astronomy. In particular, he has contributed significantly to the building and running of the Giant Metrewave Radio Telescope (GMRT) observatory -- a world class facility located near Pune and operated by NCRA -- right from its conceptualisation to its recent upgrade. He also spearheads India's participation in the Square Kilometre Array (SKA) project -- an international collaborative project to design and build the next generation global radio astronomy facility.