

# NCRA TO HOST INTERNATIONAL PULSAR TIMING ARRAY MEET

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A young girl looking at a model of Giant Metrowave Radio Telescope. File

The city-based National Centre for Radio Astrophysics (NCRA) is all set to host the five-day annual International Pulsar Timing Array (IPTA) meet from June 17 to 21. The meet is a collaboration of radio astronomers from a dozen countries across the globe.

“India has been an associate member of the IPTA since the last four years. But this is the first time that we will be hosting the annual meeting,” Dr. J.K.Solanki, head of administration, NCRA, said.

The IPTA is a collaboration of radio astronomers from a dozen countries across the globe. It uses more than 12 radio telescopes all over the world with an aim to detect ultra-low frequency gravitational waves. More than 40 expert international astronomers and 30 international students are expected to participate in the event, besides several Indian participants.

“The upgrade of the Giant Metrowave Radio Telescope (GMRT) in Pune and the Ooty Radio Telescope (ORT) has helped us meet the parameters for being a full member of the IPTA. We hope to achieve this status by the conclusion of the upcoming meeting. We are expecting eighty international members apart from the twenty persons who will be representing our country,” informed Dr. Solanki.

The current status of the quest for ultra-low frequency Gravitational Waves and the roadmap for future technical and scientific challenges is to be the main focus of the meeting.

“These waves are wrinkles in space-time produced by two massive black holes, each revolving around the other. Such black holes, which weigh billion times more than our Sun, are found in the centres of colliding galaxies. These waves affect radio pulses from 10km size stars called radio pulsars by changing ever so slightly the period of radio pulsation of these stars,” said Prof. Yashwant Gupta, centre director, NCRA.

He said that measuring these periods to a precision of 10 seconds of a nano-second may help the IPTA experiment to discover Gravitational Waves with a period of about a billionth of a second.

“We are extremely proud and happy that our facilities like the GMRT and the ORT are at a stage where they can meaningfully contribute to this global experiment. The highlight is the international community’s interest in partnering with us as a result of our upgraded telescopes,” Prof. Gupta said.

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The detailed project report on setting up a space station will be submitted to the government after the Gaganyaan mission.

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