

IIT Indore is a founding member of the SKA-India Consortium (SKAIC), formed on 17 February 2015. IIT Indore, with the other SKAIC founding members, will lead the development of the Square Kilometre Array, a \$5 billion international radio telescope project.

The Square Kilometre Array (SKA) is the most ambitious radio telescope project ever conceived and undertaken. On 16 and 17 February, 2015, India finally became one of the leaders in the international SKA consortium by forming the SKA-India Consortium (SKAIC).

The Square Kilometre Array is a planned radio telescope; it gets its name from the total collecting area of all its dishes combined, which will be one square kilometer, or one million square metres (10 million square feet).

Fifteen organizations, including NCRA-TIFR (National Centre for Radio Astrophysics, which constructed and now operates the Giant Metrewave Radio Telescope, GMRT) and IIT Indore (the only IIT to have a single-dish radio telescope constructed and commissioned by undergraduates as well as a dedicated Centre of Astronomy which was founded in December 2014), formed the SKAIC during a workshop on "Indian Participation in the SKA" on February 16, 2015. India is one of eleven member nations in the SKA Organization and Indian scientists are participating in three of the ten design work packages, and have a leading role in one of them.

IIT Indore, which was established in 2009, has quickly positioned itself as the leading new IIT in both research and undergraduate and postgraduate teaching and mentorship. With the highest number and impact of publications by its faculty members amongst the new IITs, IIT Indore also underwent a thorough overhaul of its curriculum, specifically for enabling and research by undergraduates. The intense focus on research, and its dedication for excellence in research and innovation is very visible at IIT Indore, in the form of three interdisciplinary research centres / departments: Biosciences, Material Science & Engineering and Astronomy.

To this end, a program aimed at promoting research and innovation amongst undergraduate students (named PRIUS) was initiated, after some undergraduates demonstrated the ability to do cutting-edge research by constructing a 4.5 metre dish for radio astronomy at IIT Indore. This has now borne fruit – a large fraction of the undergraduates are playing an increasingly crucial role in the institute's research.

With such a history – short, but with a huge impact – IIT Indore is set to play a significant role in this most ambitious of radio telescope projects. While this is an important membership, it is just the start of what NCRA and IIT Indore hope would be the revival of radio astronomy in India.

This revival is critical for technological self-reliance for India, particularly in the Communications sector. It is very often not realized that the technology being invented for astronomy – particularly radio astronomy – has already led to a communications revolution (most notably through cell phones), and is very likely to lead to applications yet unheard and unimagined. THIS is the critical role that science plays in our lives – it brings out the best innovators and causes numerous applications that are crucial for improving the quality of life. Most of IIT Indore's interdisciplinary research has this focus.