

Indian Links to Cutting Edge Radio Telescope

The \$51 million radio telescope became operational this July

by Papiya Bhattacharya

Bangalore: Imagine having access to the beginnings of the universe and the ability to predict space weather and image stars!

The facility to book a slot on the two-month-old Murchison Widefield Array (MWA) radio telescope for free gets one a step closer to deciphering secrets of outer space. The \$51 million MWA radio telescope became operational this July. It was made and funded by India, New Zealand, Australia and the USA.

The Indian connection comprises three women engineers from Raman Research Institute (RRI) here—Sri Vani K S, Kamini P A and Madhavi S—and other scientists at RRI who worked from the concept until the implementation of MWA.

Astronomy Lessons

A scientist in the Depart-



Sri Vani K S, Kamini P A and Madhavi S, engineers at Raman Research Institute, who were involved in building the Murchison Widefield Array Radio Telescope | EXPRESS PHOTO

ment of Electronics, RRI, Dr T Prabhu said, “Anyone who is interested in getting some data from the telescope can apply for a time slot. A committee of experts will review the request and allot a specific time. Experts will then ask those questions of the telescope and the student can download the data from his computer. Scientists will even help him understand

the information.”

Radio telescopes are different from normal telescopes in that only computers can interpret and produce images from a part of the light spectra that is not visible to the human eye.

Professor Uday Shankar from the department of astronomy and astrophysics, RRI, said, “Murchisonshire is a place in the deserts of

Australia and is a Radio Quiet Zone (RQZ) and has no interference from man-made signals. This is where the MWA is located and it is named after the place.”

Scope of Telescope

“One can see properties of stars and the signals they emit when they were first created through the MWA. The images will be three di-

mensional and they will also show what happened back in time. We will be able to predict space weather, which is of great interest to communities that wish to launch satellites. MWA can also track space debris as well as solar flares and other conditions of the sun,” said Uday Shankar and Prabhu.

The Murchison Widefield Array (MWA) radio tele-

WOMEN ON TOP

Three women engineers from Raman Research Institute (RRI), Sri Vani K S, Kamini P A and Madhavi S worked with other scientists at RRI from the concept to implementation stage of the MWA

scope is a forerunner of the Square Kilometer Array (SKA), the world’s largest radio telescope project.

Progress at Home

The same trio of engineers and some scientists set up another Giant Meter Wave Radio Telescope (GMRT) in Pune about 10 years ago. It studies the sun and pulsars. Pulsars are stars that have condensed to tiny balls of matter that weigh the same, but rotate very fast and send radio waves that look like flashes every few milliseconds as they rotate.

They also installed a radio telescope, named GBD, in Gauribidanur about 20 years ago.

This is the lowest frequency telescope operational till now across the world.