MVJ COLLEGE OF ENGINEERING
Since 1982
Engineering A Better Tomorrow

An Autonomous Institute
Approved by AICTE, New Delhi
Affiliated to VTU, Belagavi
Recognized by UGC under 2(f) & 12(B)
Accredited by NBA & NAAC

Industrial Visit to Vainu Bappu

Observatory Organized by Astronomy Club, MVJCE.

Industrial Visit to Vainu Bappu Observatory

The Astronomy Club and the Department of Aeronautical Engineering, MVJCE, organized an Industrial Visit to Vainu Bappu Observatory, from 2.00 pm to 8.00 pm, on 29th September, 2019.

Participants

55 participants from the Astronomy Club, MVJCE, embarked on this visit. Mr. Antony Samuel Prabu G (AP - AE, Astronomy Club Faculty Coordinator) organized the event, along with the Student Coordinator Mr. Shashi R Mistry (1MJ17AE054).

Introduction to Vainu Bappu Observatory

The Vainu Bappu Observatory is an astronomical observatory, owned and operated by the Indian Institute of Astrophysics. It is located at Kavalur in the Javadi hills, in the Indian state of Tamil Nadu. The Observatory is at an altitude of 725m above mean sea level (longitude 78° 49.6' E; latitude 12° 34.6' N). The Observatory is strategically located, closer to the earth's equator, for covering both northern and southern hemispheres with equal ease.

Lecture on Optical Telescope

Professor Anbu from Indian Institute of Astrophysics briefed about the Optical Telescope. Front-line research is being carried out at Vainu Bappu Observatory, with the help of optical telescopes, using several focal plane instrumentation facilities. The ongoing programmes include observations of stars, star-clusters, novae, supernovae, and blazers, galaxies, optical imaging of gamma rays burst fields, stellar populations, solar system objects and many others. The telescopes at the Observatory had started with relatively modest focal point instruments, and later on graduated to more sophisticated ones.

These include cameras for fast photography, photoelectric photometers, a single-channel photoelectric spectrum scanner, a medium resolution spectrograph, a quartz-prism calibration spectrograph, infrared photometer, image tube spectrograph, a Universal Astronomical Grating Spectrograph, high-resolution echelle spectrograph and a Polari meter. Photographic plates were the principal detectors, in the early days. Presently, charge-coupled devices (CCD) have replaced

photographic plates. Some micro-processor-controlled photon counting systems have been designed and fabricated, which have been used in a variety of observational projects. A fibre linked echelle spectrograph is under construction.

Highly advanced technical facilities like SUN workstations are available at the telescopes, for handling the CCD data, along with specialised data reduction packages such as IRAF, STSDAS and DAOPHOT. Communication facilities, like e-mail via VSAT satellite connection, are available for all users for the telescopes.

A programme of ultra-flow dispersion spectroscopy was successfully used to survey stars in the Large Magellanic Cloud (LMC). Out of the ten supernovae observed so far, SN1987A in LMC was observed in great detail using the 1m and the 75 cm telescopes, despite its low elevation in the southern sky, proving the aptness of the geographic location of Kavalur for the Observatory. In fact, the observations of the supernova were started within 48 hours of the discovery.

Sky watch

Prof. Anbu and his team demonstrated the working principle of the 40-inch telescope to the students. The sky watch was arranged for the students at 7 o' clock, with a 6-inch telescope. After this, they returned to MVJCE.

One-day Visit to Vainu Bappu Observatory, Organized by Astronomy Club, in Association with Dept of Aeronautical Engineering, MVJCE on 29th September 2019.Students Gathering at Vainu Bappu Observatory.

One-day Visit to Vainu Bappu Observatory, Organized by Astronomy Club, in Association with Dept of Aeronautical Engineering, MVJCE on 29th September 2019.Visualization of 93-inch Optical Telescope at Vainu Bappu Observatory.

One-day Visit to Vainu Bappu Observatory, Organized by Astronomy Club, in Association with Dept of Aeronautical Engineering, MVJCE on 29th September 2019. Students Visualizing the 93-inch Optical Telescope at Vainu Bappu Observatory.

One-day Visit to Vainu Bappu Observatory, Organized by Astronomy Club, in Association with Dept of Aeronautical Engineering, MVJCE on 29th September 2019.Students Visualizing the Sky at night with an 6-inch Optical Telescope in Vainu Bappu Observatory.

Outcome of the Industrial Visit

The students learned got an insight into the working principles of optical telescopes. They explored the universe through sky watch, which will surely lead them to innovative ideas. They eagerly imbibed the knowledge shared by Prof. Anbu regarding stars, star-clusters, novae, supernovae, blazers, galaxies, optical imaging of gamma rays burst fields, stellar populations, solar system objects and many others.