



Dr. M.G.R. EDUCATIONAL AND RESEARCH INSTITUTE (Deemed to be University)

Maduravoyal, Chennai - 600 095. Tamilnadu, India.

(An ISO 9001-2015 Certified Institution)



MGR ASSOCIATION FOR GREAT INNOVATIVE CREATORS

Department of Electronics and Communication Engineering

Event Title	Workshop on "HAM radio"		
Objective of Event	The workshop aimed to provide students with a comprehensive understanding of HAM radio and satellite communication technology. It sought to equip participants with practical skills in real-time satellite tracking, signal decoding, and the use of software-defined		
Chief Guest /Speaker Details	Mr.B.A.Subramani, Space Environmental Simulation Engineer, UR Radio Satellite Centre Bangalore		
Date	23/09/2024	Time	09.30 AM to 04.00 PM
Venue	Seminar Hall	No. of Participants	80

REPORT

TITLE

Workshop on "HAM radio"

CONTENT

We are greatly elated to inform that the Department of Electronics & Communication engineering organized a two day workshop on HAM Radio from the 23rd to 24th September 2024 in the Seminar Hall, Anna Block at our university main campus. The workshop was a full fledged two day session from morning 9.15 am to 5.00 pm where students enthusiastically participated in the hands-on training session. The workshop imparted students with basics & fundamental of satellite communication technology, tracking satellites & space objects in real time, various modes & frequencies on which they communicate with ground stations, receiving and decoding payload & telemetry signals in real time using simple antennas, software define radio (SDR) and various open source softwares, receiving real time weather images from earth observation satellites, live demonstration of various types of software based digital modes. All these knowledge sharing were from a highly experienced "Radio HAM" Shri. B.A. Subramani, a retired Space Environmental Simulation Engineer with U R Rao Satellite Centre, Bangalore who has been receiving these signals from space into his home since 1986 . He holds an Advanced grade Amateur Radio license. The trainer has over 38 years of experience, having involved in conducting space environmental simulation tests on all the spacecrafts, including Chandrayaan-1, Chandrayaan -2 and the latest Chandrayaan-3 .

On the first day students were introduced to artificial satellites , how to do real



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time tracking of satellites and the open source softwares that are available using which we could track celestial objects. The second day started with a live practical session on the open parking ground of our campus where of tracking of a low earth orbit commercial satellite "NOAA-19" which passed over India at 9.41 am. Students were able to receive and decode the signals received from the satellite. The tracking of satellite was accomplished using simple Yagi Uda antennas, a radio receiver, open source software and an SDR kit. It was an exciting moment as students could capture the real time images received from the satellite. Later, transmission and reception of various software based digital modes, live VHF & UHF HAM radio wireless communication demo was demonstrated by the speaker. The session completed with introduction to Amateur radio, a Q & A session where students had an opportunity to clarify their doubts . Finally certificates were issued to all the participants and event coordinators Dr. S.Deborah, Dr. G.Kavitha, Mr.K.Amuthanatham and Ms. P. Jegadeeswari. The Department extends its heartfelt gratitude to our Honorable President for his steadfast support in organizing the event. Special thanks to our Additional Registrar Dr.V.Cyril Raj, our HOD Dr.U.Jayalatsumi and to all the executives for their encouragement and guidance.



EVENT OUTCOME

The workshop engaged students in hands-on training, enabling them to decode signals from the NOAA-19 satellite and receive real-time images. Participants gained valuable insights into satellite communication fundamentals and practical technologies. The event concluded with certificates awarded to acknowledge their efforts, significantly enhancing their knowledge and skills in electronics and communication engineering.

PHOTOS



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Dr. B. Deborah