Report on

A Technical Talk

On

"Towards 6G Dual-Functional Radar & Communication"

Date: 24th April 2025, 11.30 to 1.30 PM

Organized by

Department of Electronics & Communication Engineering

In Association with

IETE Student Forum

Coordinator

Mr. Manjunath K
Assistant Professor
Dept. of ECE
ATMECE, Mysuru

Coordinator

Mrs. Juslin F
Assistant Professor
Dept. of ECE
ATMECE, Mysuru

Objective of the Technical Talk:

To introduce 6th Semester ECE students to 6G technologies with a focus on integrating RADAR and Communication systems for enhanced efficiency and functionality.

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College of Engineering

Dept. of Electronics & Communication Engineering
In association with IETE Student Forum (ISF)

सह वीर्यं करवावहै

jointly organizing a
Technical Talk on

"Towards 6G Dual-Functional Radar & Communication"

Date: 24th April 2025 | **Time:** 11:30 AM to 1:00PM
Participants:
6th sem students of Dept. of ECE, ATMECE
Venue: Room 401

Resource Person

Dr. Manoj B R
Assistant Professor,
EEE, IIT Guwahati

Principal

Dr. Basavaraj L
ATMECE, Mysuru

HoD & Convener

Dr. Prathibha M K
Assoc Prof & HoD, Dept. of ECE
ATMECE, Mysuru

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REPORT

Department of Electronics & Communication Engineering In association with IETE Student Forum (ISF) had organized a Technical Talk on "Towards 6G Dual-Functional Radar & Communication" at 401 Seminar hall on 24th April 2025 from 11.30 to 01.30 PM to the prefinal year Students. Dr. Manoj B R, Assistant Professor, Guwahati was the Resource Person. Dr. Prathiba M K, Coordinators Mr. Manjunath K and Mrs. Juslin F, & Ms. Anupama Shetter ISF coordinator along with staffs of ECE were present during Inaugural Event.

A day before the technical talk, pre-Assessment test on the topic was given to students Provide early insights to students regarding the topic.

Dr. Manoj B R Started a talk focusing on integrating radar sensing and wireless communication into a single system. He mentioned, with 6G, there is a strong need for spectrum efficiency, low latency, and intelligent environments. DFRC aims to reduce hardware costs, minimize spectrum congestion, and enable new applications like autonomous driving, smart cities, and immersive XR. It leverages technologies like massive MIMO, THz communication, AI-based beamforming, and reconfigurable intelligent surfaces (RIS). Key challenges include waveform design, resource allocation, interference management, and hardware impairments. DFRC systems must dynamically switch or simultaneously perform sensing and communication tasks. Security, privacy, and standardization also become critical issues. DFRC will be foundational to making 6G networks context-aware and environment-adaptive. Research is rapidly advancing through simulation platforms and real-world prototyping.

He concluded offering the Internship opportunities at IIT Guwahati and career growth advise post completion of internship.

Outcome of the Technical Talk:

The outcomes of the Technical Talk are:

- The students understood the basics of 6G and DFRC.
- The talk gave the insights into cutting-edge research and applications.
- Motivated to explore future technologies in wireless communication.


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