



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	Subject Lecture on "Exploring Microwave Technologies in the Era of 5G"		
Objective of Event	To educate students on the significance of microwave technologies in the development of 5G communication systems and to introduce advanced concepts like millimeter-wave frequencies, beamforming, and antenna design, bridging academic knowledge with real-world		
Chief Guest / Speaker Details	Dr.F.Jerald, Associate professor, Dr. MGR educational and research institute		
Date	22/07/2025	Time	02.00 PM to 04.00 PM
Venue	VLSI LAB	No. of Participants	100

REPORT

TITLE

Subject Lecture on "Exploring Microwave Technologies in the Era of 5G"

CONTENT

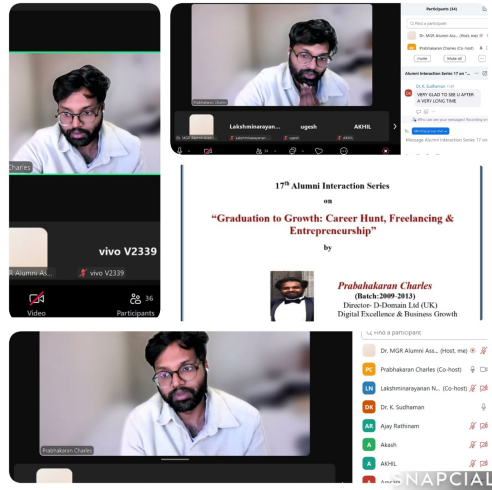
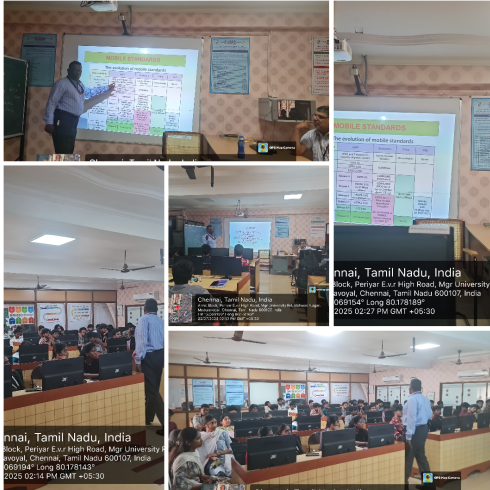
The Department of ECE, in association with the ECOMET Association, organized a subject lecture on "Exploring Microwave Technologies in the Era of 5G" on 22nd July 2025. Dr. F. Jerald, Associate Professor/CSE, highlighted the critical role of microwave and millimeter-wave frequencies in 5G communication. He discussed key components like power amplifiers, antennas, filters, and mixers, and explained advanced concepts such as Massive MIMO, beamforming, and phased array antennas. The session addressed challenges like signal attenuation, propagation loss, and hardware design complexity while introducing simulation tools like CST, HFSS, and ADS. Real-world applications in smart cities, autonomous vehicles, remote healthcare, and AR/VR environments were shared to bridge theory and practice. Students actively participated during the interactive Q&A session. The event, coordinated by Ms. C. Helen Prema, Dr. S. Elakkiya, and Mrs. R. Mathumitha, received positive feedback for its technical depth and relevance to industry advancements.



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EVENT OUTCOME

The lecture enhanced students' understanding of microwave technologies and their vital role in 5G communication systems. It inspired students to explore advanced topics like Massive MIMO, beamforming, and real-world applications through active engagement.

PHOTOS

