SRI SAIRAM ENGINEERING COLLEGE

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Report on Guest Lecture

Title : Design and Challenges of Microwave Antenna for IoT and 5G mm wave Applications

Resource Person

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NIT,Tiruchirappalli

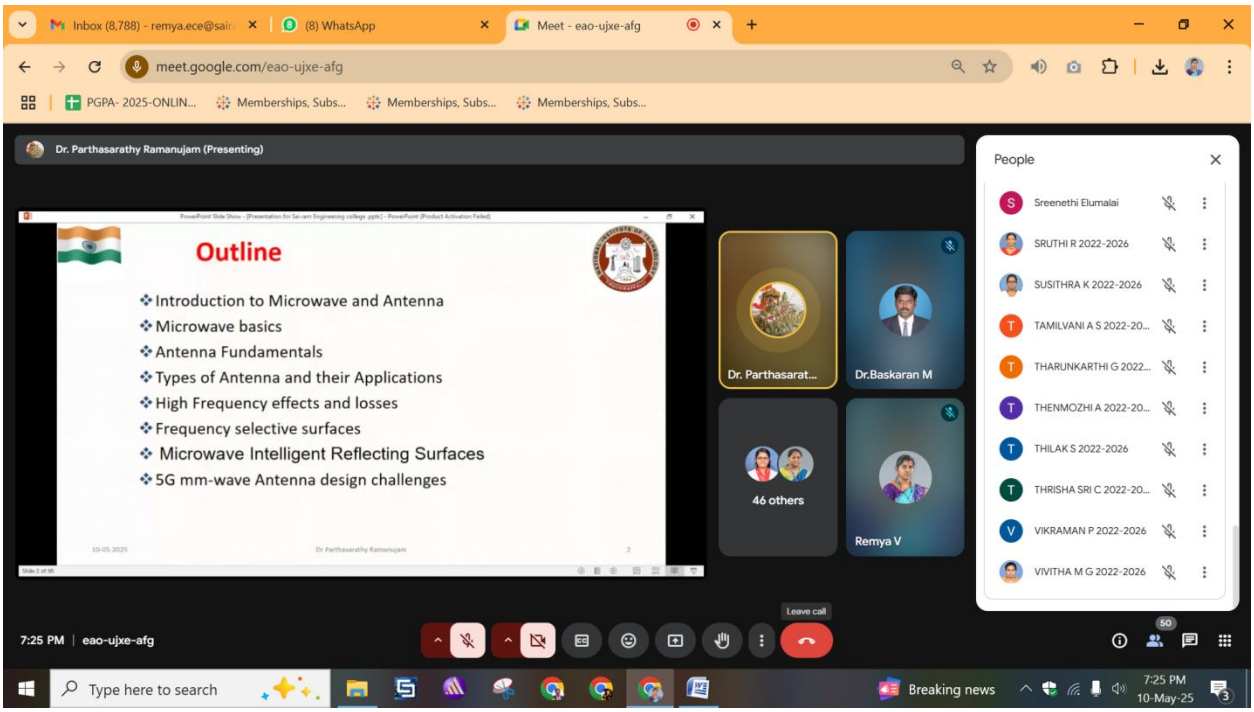
Event Coordinator

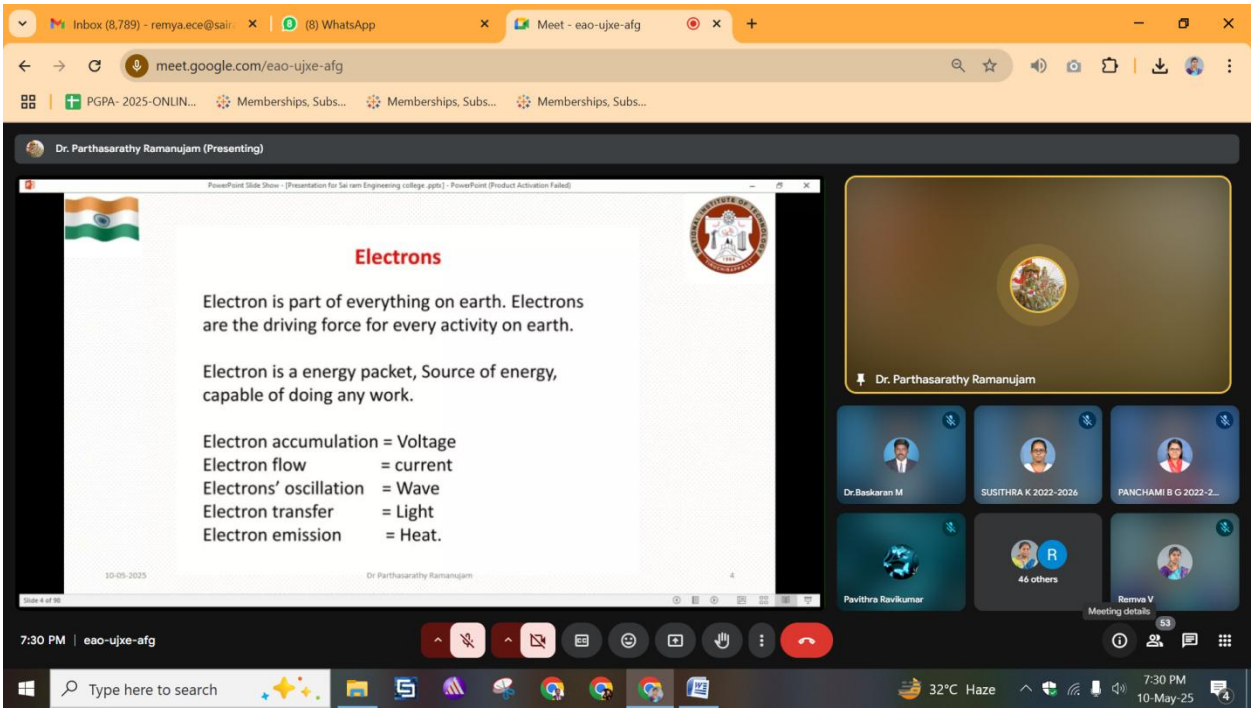
Ms Remya V /AP/ECE/SEC

Date :10.05.2025

Venue: Online

Objective of the event :The event is intended to shed some light on recent advances in antenna design for new emerging applications and identify further research areas in this exciting field of communications technologies.. It highlights the significance of millimeter-wave technology in addressing the increasing demands on wireless networks, emphasizing the potential for achieving unprecedented data rates, ultra-low latency, and enhanced spectral efficiency. The literature review explores the current state of research on mmWave technology, antenna array technology, and potential implications for mobile broadband applications, including 5G and future 6G networks. It presents insights into novel antenna designs, such as a single layer MIMO antenna and a multiple input multiple output dielectric resonator antenna, both aimed at supporting a wide range of frequencies and applications in the mm-wave spectrum. It discusses the challenges associated with mmWave antenna arrays, offering valuable insights into the current state of research in this domain.




Inbox (8,789) - remya.ece@sair
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Dr. Parthasarathy Ramanujam (Presenting)
Electrons
Electron is part of everything on earth. Electrons are the driving force for every activity on earth.
Electron is a energy packet, Source of energy, capable of doing any work.
Electron accumulation = Voltage
Electron flow = current
Electrons' oscillation = Wave
Electron transfer = Light
Electron emission = Heat.
Dr. Parthasarathy Ramanujam
Dr.Baskaran M
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Pavithra Ravikumar
46 others
Remya V
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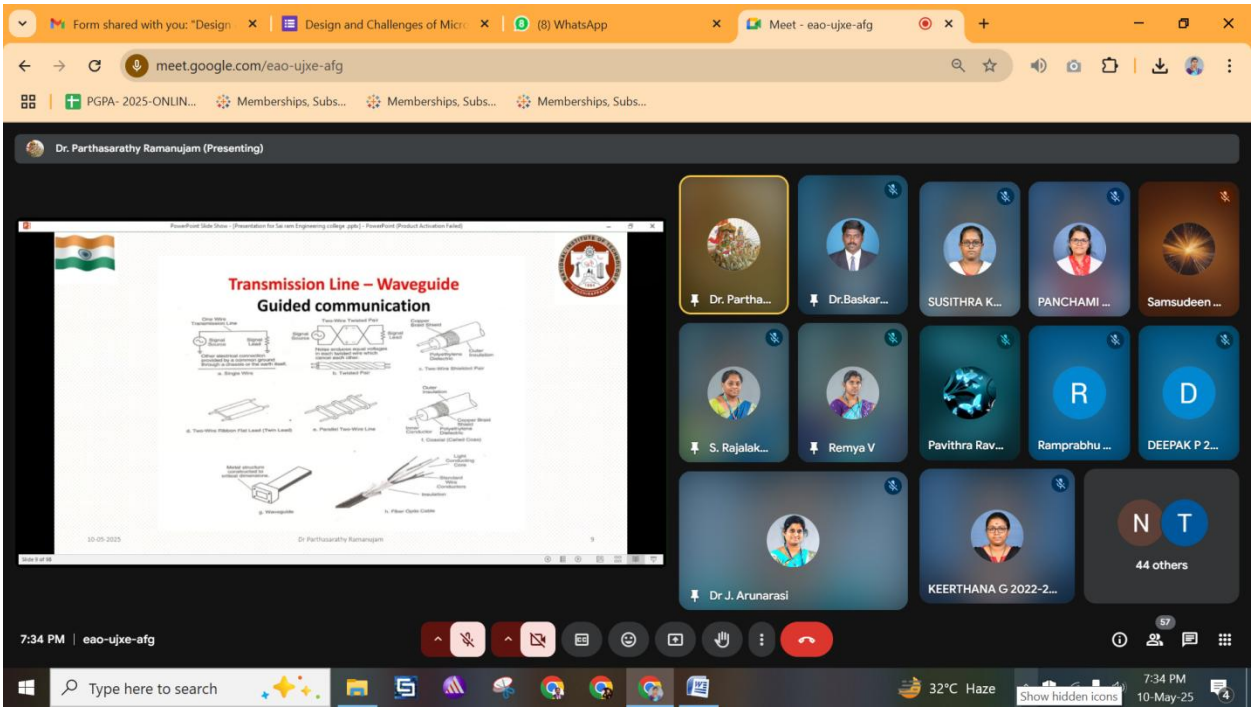
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Dr. Parthasarathy Ramanujam (Presenting)
Transmission Line – Waveguide
Guided communication
Dr. Partha...
Dr.Baskar...
SUSITHRA K...
PANCHAMI ...
Samsudeen ...
S. Rajalak...
Remya V
Pavithra Rav...
Ramprabhu ...
DEEPAK P 2...
Dr J. Arunarasi
KEERTHANA G 2022-2...
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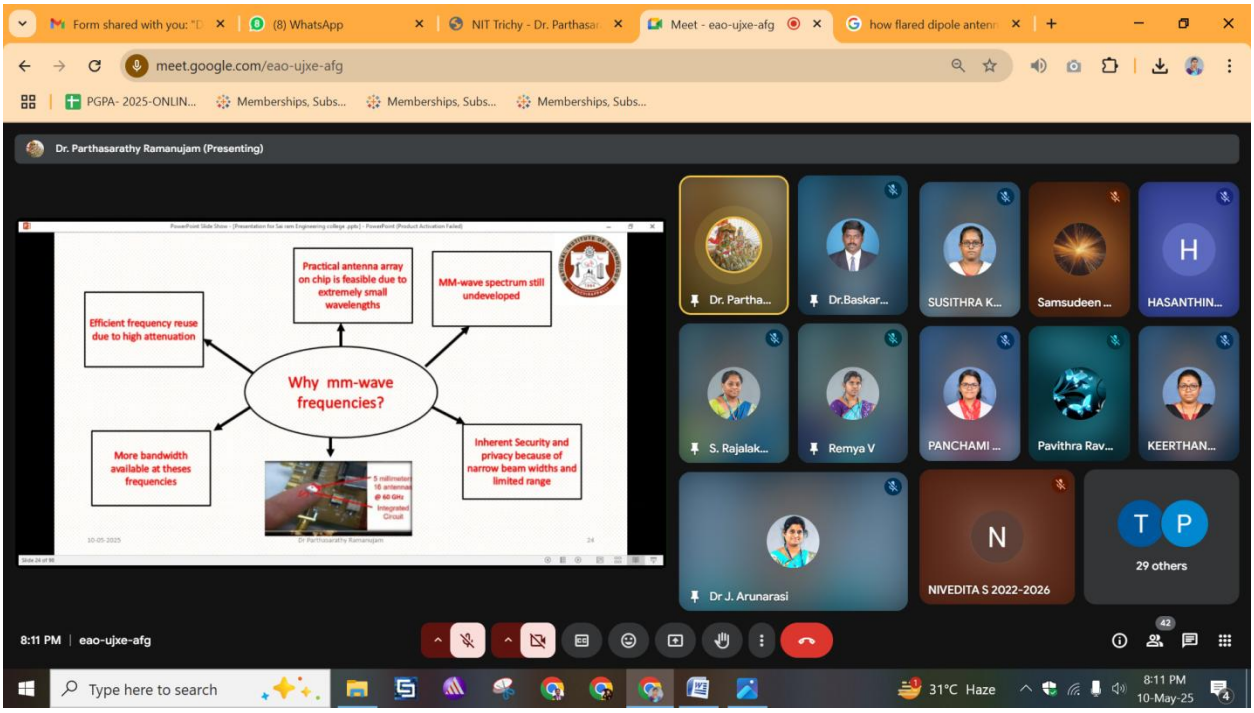
Dr. Parthasarathy Ramanujam (Presenting)
Why mm-wave frequencies?
Practical antenna array on chip is feasible due to extremely small wavelengths
MM-wave spectrum still undeveloped
Efficient frequency reuse due to high attenuation
More bandwidth available at theses frequencies
Inherent Security and privacy because of narrow beam widths and limited range
Dr. Partha...
Dr.Baskar...
SUSITHRA K...
Samsudeen ...
HASANTHIN...
S. Rajalak...
Remya V
PANCHAMI ...
Pavithra Rav...
KEERTHAN...
Dr J. Arunarasi
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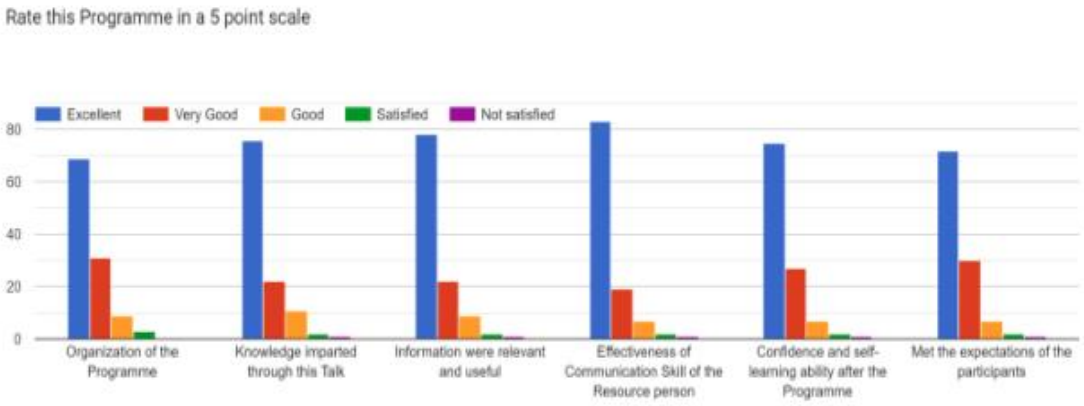
Rate this Programme in a 5 point scale
Excellent
Very Good
Good
Satisfied
Not satisfied
80
60
40
20
0
Organization of the Programme
Knowledge imparted through this Talk
Information were relevant and useful
Effectiveness of Communication Skill of the Resource person
Confidence and self-learning ability after the Programme
Met the expectations of the participants