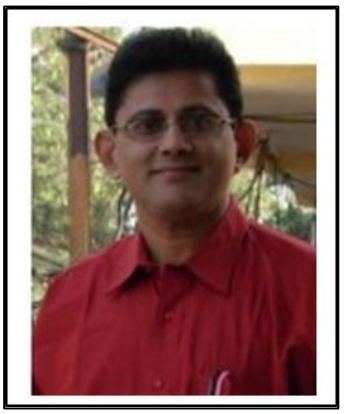
Faculty Development Programme on Advanced Antenna Technologies for Sensing and Imaging Applications

Director's Message:

Dr. K. L. Narayana, Director, IcfaiTech



IcfaiTech (Faculty of Science & Technology) is a constituent of the ICFAI Foundation for Higher Education (IFHE). By organizing this Faculty Development Program (FDP) on **Advanced Antenna Technologies for Sensing and Imaging Applications**, IcfaiTech aimed to equip faculty members and researchers with the latest advancements in antenna technology, nurturing a community of critical thinkers and innovators capable of addressing real-world challenges. This FDP has provided an excellent platform for participants to deepen their understanding of antenna design and its applications in cutting-edge fields like sensing and imaging. Through this program, our institution has strengthened the bridge between theoretical concepts and practical implementations, offering insights into how these technologies can be applied in various sectors, including telecommunications, healthcare, and defense. With this initiative, we have laid a strong foundation for future research and collaboration in advanced antenna technologies. I am confident that the knowledge gained during this program will enable our faculty and researchers to drive innovative projects that address critical issues and enhance the quality of education and research in this domain. As we continue to foster such scientific engagements, I believe this is just the beginning of a series of impactful events that will contribute to solving real-time technological challenges.

About Dept. of ECE:

The Department of ECE came into existence in 2002 and it offers Campus based full-time Program. The course objective is to nurture young minds towards learning the concepts of electronics and communication engineering and apply these concepts in real world applications ranging from 6G wireless networks, RF and Microwave Communications, VLSI Tech and IOT Applications. The department's ultimate goal is to educate and groom our students to be equipped to apply engineering concepts, methods, and systems to make notable contributions to the development of the real world. Significant efforts have been made to set up top-notch laboratories equipped with necessary hardware and simulation software in electronics, communication, digital signal processing, RF and microwave engineering, embedded systems, microcomputers, and VLSI design.

The department provides cross-cutting knowledge and learning systems for students to help them pursue their interests through interdisciplinary courses and projects. The curriculum includes new scientific and technical advancements through regular amendments that follow intensive brainstorming sessions with industry, alumni, and academic stakeholders. It is recommended for undergraduate students to work on a variety of research projects and gain experience in the industry. All faculty members of our department have outstanding academic backgrounds and are remarkably motivated to supervise the students to achieve noteworthy milestones. We have 13 faculty members, 2 technical staff, several research scholars, and many industry professors associated with our department. Several faculty members regularly review technical articles for journals and serve on the editorial boards of both national and international journals. We work hard to ensure that young brains are prepared to tackle any difficulty in the real world by following the trends in the market. To help with this, the department provides a wide range of electives and open elective courses, giving students plenty of alternatives to follow their interests.

The department has four main research groups— RF and Microwave Communication, Antenna Design, IOT, and VLSI Design Group—to prepare students for higher studies and research. With the use of innovative technologies, we earnestly hope to contribute to the advancement of society by offering solutions to significant societal issues. The department of ECE at IFHE Hyderabad has been approved as a Nodal Center by the Indian Institute of Remote Sensing (IIRS) Dehradun in association with the Indian Space Research Organization (ISRO) under the Outreach Programs that IIRS, ISRO, and Dehradun conduct. Being such a Nodal Centre, the department provides a strong platform for interested faculty and students to register for online courses offered by IIRS, ISRO, and Dehradun

About the Faculty Development Program:

The FDP on "Advanced Antenna Technologies for Sensing and Imaging Applications" aims to equip participants with in-depth knowledge of modern antenna technologies used in sensing and imaging. The program covers key aspects like design, simulation, and practical applications of advanced antennas. Participants will learn to apply these technologies in various domains such as biomedical imaging and environmental monitoring, enhancing their research and teaching capabilities in this cutting-edge field

Objective of the FDP

- The objectives of the FDP are to equip participants with a deep understanding of both fundamental and advanced antenna design principles, focusing on their critical roles in modern sensing and imaging systems.
- This FDP will provide an opportunity to highlight cutting edge technologies and recent trends in the field of RF Microwave, and antenna design for Biomedical sensing technologies.
- It will further give impetus to the participants towards bringing out newer and efficient techniques.
- Expert invited speakers from both industry and academia with their vast research experience in various fields will arouse the participants for the development of communication engineering.

Key Components of the Program

1. **Design of Advanced Antennas:**
    - **Theory and Principles:** Participants have learned about the fundamental principles of antenna design, including key parameters such as frequency, radiation pattern, gain, and impedance matching.
    - **Innovative Techniques:** The program has covered modern design techniques and technologies used to develop advanced antennas, such as microstrip antennas, phased arrays, and metamaterials for the specified sensing and imaging applications.
2. **Practical Applications:**
    - **Biomedical Imaging:** Explore how advanced antenna technologies are applied in biomedical imaging, including techniques like microwave imaging and radar-based systems for medical diagnostics and treatment monitoring.
    - **Environmental Monitoring:** Understand the use of antennas in environmental monitoring applications such as remote sensing, weather radar, and pollution detection.
3. **Research and Teaching Enhancement:**
    - **Research Opportunities:** The FDP has highlight emerging research areas in antenna technologies and provide insights into ongoing advancements and challenges in the field.
    - **Teaching Integration:** Participants will gain knowledge on how to integrate these advanced topics into their teaching curriculum, thereby enriching their academic programs and preparing students for careers in this evolving field.

Benefits to Participants

- **Enhanced Knowledge:** Gain in-depth knowledge of the latest advancements in antenna technologies and their applications in sensing and imaging.
- **Practical Skills:** Develop practical skills in designing, simulating, and applying advanced antennas to real-world problems.
- **Research Advancement:** Improve research capabilities by understanding current trends and future directions in antenna technology.
- **Teaching Enrichment:** Upgrade teaching materials and methods by incorporating cutting-edge content into educational programs.

Overall, the FDP aims to equip participants with the skills and knowledge necessary to advance their research, contribute to the academic community, and effectively teach emerging technologies in the field of antenna systems for sensing and imaging applications.

Registration Process: for the Faculties

Link for Registration: https://tinyurl.com/5n8k5yf9

Registration Process: for the Industry Experts

Link for Registration: https://tinyurl.com/5n8k5yf9

Registration Process: for the Research Scholars

Link for Registration: https://tinyurl.com/5n8k5yf9

Registration Process: for the students

Link for Registration: https://tinyurl.com/5n8k5yf9

Registration fees: NIL

Faculty members in higher education institutions and research scholars with a passion for teaching and aspirations to pursue it as a career are invited to register. Registration is free, and initially, 100 seats are available on a first-come, first-served basis. Due to an enthusiastic response, the seat limit has been expanded to 200.

- ---IMPORTANT DATES: --

- REGISTRATION ENDS ON: 30/08/2024

- FINAL PARTICIPANTS ANNOUNCED: 31/08/2024

- FDP DAY 1: 02/09/2024

Selection Process:

The selection process for registration follows these steps:

1. Online Registration: Participants must complete the online registration form, providing necessary details.
2. First-Come, First-Served: Initially, 100 seats are allocated based on the order of registration. Early applicants are prioritized until this limit is reached.
3. Seat Expansion: Due to high demand, the total seat capacity is increased to 200. Additional seats will also follow the first-come, first-served rule for allocation.
4. Confirmation of Registration: Once registered, applicants will receive a confirmation email or notification indicating their selection status and further instructions.
5. Waitlist: If registrations exceed 200, subsequent applicants will be placed on a waitlist and notified if seats become available.

Online Talk of the resource persons was held on 02/09/2024 (Monday) via Google Meet platform with the following details:

List of Participants

1. Dr. Asisa Kumar Panigrahy, IcfaiTech, IFHE, Hyderabad
2. Dr. Asisa Kumar Panigrahy, IcfaiTech, IFHE, Hyderabad
3. Dr. Soumit Samadder Chaudhury, IcfaiTech, IFHE, Hyderabad
4. Mrs. Swarna Latha Dronamraju, IcfaiTech, IFHE, Hyderabad
5. Dr. M. Priyadharshini, IcfaiTech, IFHE, Hyderabad
6. Dr. SYED SHAKEEL HASHMI, IcfaiTech, IFHE, Hyderabad
7. Mr. Abhiram D
8. Ms. SHAIK RESHMA, VIT-AP University
9. Mrs. Neetu Chikyal, Vasavi College of Engineering Hyderabad
10. Mr. Karthikeyan T A, Karunya Institute of Technology and Sciences
11. Dr. Sivasubramanyam Medasani, KSSEM, Bangalore
12. Dr. K BHARGAVI
13. Dr. Ravi Sankar puppala, VRSEC, Vijayawada
14. Mrs. Aswani Lalitha , CIT, Guntur
15. Dr. D Naga Ravikiran , CIT, Guntur
16. Dr. C RAJU, SVCE, Tirupathi, Andhra Pradesh\
17. Mr. Yele Srikanth, IcfaiTech, IFHE, Hyderabad
18. Mr. NAVATH SHIVA SAI MANIKANTA, IcfaiTech, IFHE, Hyderabad
19. Dr. A. Rajesh, ACE Engineering college, Hyderabad

20. Mr. Rama Krishna Merugumalli, SRM Institute of Science and technology
21. Mr. Uday kiran, IcfaiTech, IFHE, HyderabadMs. K greeshma reddy, IcfaiTech, IFHE, Hyderabad
22. Dr. K. PRAHLADA RAO, SCETW, Hyderabad
23. Ms. Surabhi Lata, Maharaja Agrasen Institute of Technology, Delhi
24. Dr. Bappadittya Roy, VITAP
25. Dr. Dileep Kumar Murala , IcfaiTech, IFHE, Hyderabad
26. Mrs. SWATHI VEJENDLA, Sir CRR COLLEGE OF ENGINEERING,Eluru
27. Mr. Madaka Narendra Kumar, Sir CRR College of Engineering, Eluru
28. Mrs. Nallamothu Suneetha, Sir CRR College of Engineering, ELuru
29. Dr. K.Chanthirasekaran, Saveetha Engineering College, Chennai
30. Dr. K. J. Silva Lorraine, Sir CRR college of engineering, Eluru
31. Dr. IMRAN HUSSAIN S, Saveetha Engineering College, Chennai
32. Mr. Kasireddy Santhosh Ananthasai, IcfaiTech, IFHE, Hyderabad
33. Mrs. P. Mohana Sunthari, KSRIET
34. Mrs. V Kavita, JNTU
35. Mr. R Dhananjeyan, SRM Valliammai Engineering college
36. Dr. M.Paranthaman, KCET
37. Ms. Merlyn Sylvester, IEHE, Bhopal
38. Mr. J.Karthi, Rajalakshmi Engineering College
39. Mr. Dinesh Kumar Sain, Bikaner technical University, Bikaner
40. Mr. Venkatesh P, Ramco institute of technology
41. Dr. RAMESH S, SRM VALLIAMMAI ENGINEERING COLLEGE, CHENNAI
42. Mrs. JHANANI SHREE U, Rajalakshmi Engineering College
43. Ms. Brenda M, Rajalakshmi Engineering College
44. Dr. Rajesh G, New Horizon College of Engineering
45. Mr. NALLAM RAMAKUMAR, Aditya college of Engineering
46. Dr. V N KOTESWARA RAO DEVANA, Aditya University
47. Ms. Sathya R, Rajalakshmi Engineering College
48. Mr. IDRISH SHAIK, BAPATLA ENGINEERING COLLEGE BAPATLA
49. Mr. Trinadh Rajanala, Sir C.R.Reddy College of Engineering
50. Mr. L FRANKLIN TELFER, Rajalakshmi Institute of technology
51. Ms. Trishna Doloi, Dibrugarh University
52. Mr. P NAVEEN TRINADH, V.K.R., V.N.B. and A.G.K. College of Engineering
53. Dr. Ramesh Babu sadineni, RVRJC college of engineering
54. Ms. Janani K S, Panimalar Engineering College
55. Mr. Surendra Babu Velagaleti, Sir C R Reddy College of Engineering
56. Mr. Physics, Dibrugarh University
57. Dr. Zahid Ahmad Bhat, Higher Education Department
58. Mrs. ANITHA MARY M, RAJALAKSHMI ENGINEERING COLLEGE
59. Mr. Garaga sravan revanth, Bonam venkata chalamayya
60. Mr. Suyash Kumar Singh, IIIT ALLAHABAD
61. Ms. B Yamini Supriya, Koneru Lakshmaiah education foundation

62. Ms. Priyanka Devi S, Rajalakshmi engineering college
63. Mrs. Nivedaa Ganesan, SRM TRP Engineering College
64. Dr. Ranjith Kumar Painam, KHIT, Guntur
65. Ms. Tamilarasi M, Rajalakshmi Engineering College
66. Mr. LAVURI SANKAR, WEST GODAVARI INSTITUTE OF SCIENCE AND ENGINEERING
67. Mr. Asokan V, Rajalakshmi Engineering college
68. Dr. Sathish M, Rajalakshmi Engineering College
69. Mr. Vinod Babu Pusuluri, RGUKT Nuzvid
70. Mr. Ganesamoorthy R, Rajalakshmi Engineering College
71. Mr. CH. M. V. SIVA PRASAD, Saveetha Institute of Medical and Technical Sciences
72. Dr. ANITHA G, Saveetha School of Engineering
73. Dr. Kandasamy K, Anna University Regional Campus Coimbatore
74. Dr. N. Subhashini, SRM VALLIAMMAI ENGINEERING COLLEGE
75. Mrs. Vijayluxmi, Jaipur National University,Jjaipur
76. Ms. BLESSY SHARON GEM. J, PANIMALAR ENGINEERING COLLEGE
77. Mr. Partha Sarathi Padhy, Roland Institute of Technology Berhampur
78. Dr. Swapnil Lahudkar , JSPMs Imperial College of Engineering and Research
79. Mr. Sandeep Rana, G.B. Pant Institute of Engineering and Technology, Uttarakhand
80. Mr. Aarakanti Prakash, Apollo computing laboratories pvt Ltd
81. Ms. Meenakshi Aishwarya R, Rajalakshmi Engineering College
82. Mrs. Jasmine christina Xavier, Saveetha school of engineering
83. Mr. K Rohan Uma Shankar, VNR VJIET
84. Mrs. Swapna Kumari Budarapu, Gurunanak Institute of Technology
85. Ms. Logapriya S, Rajalakshmi Engineering College
86. Dr. Gayatri Tangirala, Joginpally B.R. Engineering College
87. Dr. Srinivasu Garikipati, Joginpally B.R. Engineering College
88. Mr. R.Arivarasu, MITS
89. Mrs. SATHIYA M J, Saveetha school of engineering
90. Mr. BOOPATHI RAJA G, Velalar College of Engineering and Technology
91. Dr. Rahul Krishnan, SRM Institute of Science and Technology
92. Mr. Kakumanu Naga Raju, Bapatla Engineering College
93. Mr. Venkataramanaiah G, NBKR Institute of Sciencde and Technology
94. Mr. N DILIP KUMAR, Annamacharya Institute of Technology and Sciences
95. Dr. Sajeed Sirajuddin M, Dnyanshree Institute of Engineering and Technology
96. Dr. Ch V Ravi Sankar, Aditya University
97. Mr. Udhayanan S, VIT vellore
98. Dr. Anjanna Matta, Faculty of Science and Technology
99. Dr. Devesh Tiwari, Graphic Era Hill University, Dehradun
100. Mrs. SATHIYA M J, Saveetha school of engineering
101. Dr. K.Ramasamy, Kalaignar Karunanidhi Institute of Technology
102. Dr. Rajesh Kumar D, Vel Tech RR and SR University
103. Dr. V A Sankar Ponnapalli, ICFAI Foundation for Higher Education

104. Mr. Anandaselvakarthik.T, Hindusthan College of Engg. and Tech.
105. Dr. Padavala Akhendra kumar, IcfaiTech, IFHE, Hyderabad
106. Mrs. K Devaki Devi, VKR, VNB and AGK College of Engg.
107. Dr. G Harinatha Reddy, NBKR Institute of Science and Tech.
108. Dr. S.SARAVANAN, NBKR Institute of Science and Tech.
109. Dr. Rajesh Kumar Jha, IcfaiTech, IFHE, Hyderabad
110. Mr. G V P Chandra Sekhar Yadav, DVR and Dr HS MIC College of Technology
111. Mr. Josiah Samuel Raj J, SIMATS, Chennai
112. Ms. SASIREKHA D, Rajalakshmi Engineering College
113. Ms. RANJITHA M, Puducherry Technological University
114. Mrs. B Santhikiran, Andhra Loyola Institute of Engg and Tech.
115. Mr. K V Balaramakrishna, Aditya College of Engg. and Tech.
116. Dr. K Mariya Priyadarshini, Andhra Loyola Institute of Engg. and Tech.
117. Mrs. Gaddam Anjali kumari, Chalapathi institute of technology
118. Ms. K.laxmi varshini, IcfaiTech, IFHE, Hyderabad
119. Ms. Chilukuri Kruthika, IcfaiTech, IFHE, Hyderabad
120. Mr. Shaik Asif, KLH Bowrampet Hyderabad
121. Ms. Y Dhruthi, IcfaiTech, IFHE, Hyderabad
122. Dr. S. BHAVANI, SESHADRI RAO GUDLAVALLERU ENGINEERING COLLEGE
123. Mr. S CHIRANJEEVI REDDY, KL UNIVERSITY VIJAYAWADA
124. Ms. Doodem harini, IcfaiTech, IFHE, Hyderabad
125. Mr. Kaari Murali, Sri Sai institute of technology and science
126. Mr. Vinaykumar Kandigai, University of Delhi
127. Mr. V V B Anjaneya Prasad, IIT MADRAS
128. Dr. Sweety Jain, Samrat Ashok Technological Institute Vidisha
129. Dr. Sayi Soundariya S, SRM UNIVERSITY
130. Dr. V S D REKHA, PVP Siddhartha Institute of Technology
131. Dr. Surya Prasada Rao Borra, PVP Siddhartha Institute of Technology
132. Dr. G. Soundarya , Dr. Mahalingam College of Engg. and Tech.
133. Mr. SEVAGAN S, National Institute of Technology, Tiruchirappalli
134. Ms. G Suneetha, KL UNIVERSITY
135. Mrs. MENAKADEVI N, Karpagam Institute of Technology
136. Dr. Nagendra Ralla, Sree Rama Engineering College, Tirupati
137. Dr. Dr. M. PRIYADHARSHINI, IcfaiTech, IFHE, Hyderabad
138. Mrs. Esther D, IIITDM, Kancheepuram
139. Mrs. K.Kavitha, Hindusthan College of Engineering and Technology
140. Mrs. GAYATHIRI M, Hindusthan College of Engineering and Technology
141. Dr. G KARTHIK REDDY, MLR Institute of Technology
142. Dr. T S Arulananth, MLR INSTITUTE OF TECHNOLOGY
143. Dr. VIJAYA KUMAR VELPULA, MLR INSTITUTE OF TECHNOLOGY
144. Dr. Manoj Kumar, MLR INSTITUTE OF TECHNOLOGY

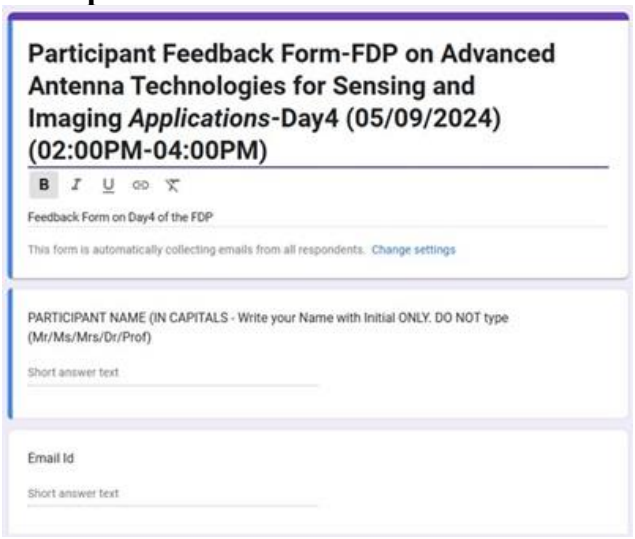
145. Dr. Potharaju Yakaiah, MLR INSTITUTE OF TECHNOLOGY
146. Mr. KHOBRAGADE PITHAMBER, MLR INSTITUTE OF TECHNOLOGY
147. Mr. SYAMBABU VADLAMUDI, MLR INSTITUTE OF TECHNOLOGY
148. Dr. D.Laxma Reddy, MLR INSTITUTE OF TECHNOLOGY
149. Dr. Kiran Chand Ravi, MLR INSTITUTE OF TECHNOLOGY
150. Dr. K Nishanth Rao, MLR INSTITUTE OF TECHNOLOGY
151. Mrs. SAILAJA MUMMALA, MLR INSTITUTE OF TECHNOLOGY
152. Mrs. GARRE DURGA SOWJANYA, MLR INSTITUTE OF TECHNOLOGY
153. Dr. Ganesh Miriyala, MLR INSTITUTE OF TECHNOLOGY
154. Ms. Mary kannidi, MLR INSTITUTE OF TECHNOLOGY
155. Mrs. Geetha yerramsetti, MLR INSTITUTE OF TECHNOLOGY
156. Mr. K.Purushotham, MLR INSTITUTE OF TECHNOLOGY
157. Mr. K.mani raj, MLR INSTITUTE OF TECHNOLOGY
158. Mrs. Monika Sirigiri, MLR INSTITUTE OF TECHNOLOGY
159. Ms. BADEPALLI SIREESHA, MLR INSTITUTE OF TECHNOLOGY
160. Dr. Vijetha Tummala, MLR INSTITUTE OF TECHNOLOGY
161. Mrs. P.Sahitya, MLR INSTITUTE OF TECHNOLOGY
162. Mr. S. Naveen Kumar, MLR INSTITUTE OF TECHNOLOGY
163. Ms. Badepalli Anusha, MLR INSTITUTE OF TECHNOLOGY
164. Mr. LADI SANDIP kumar patra, MLR INSTITUTE OF TECHNOLOGY
165. Dr. NAVEENKUMAR TADIKONDA, VR Siddhartha Engineering College
166. Mr. Madhusudana rao Ranga, VR Siddhartha Engineering College
167. Ms. Nadar Akila P Mohan, Saveetha Engineering College
168. Dr. Yechuri Sivaramakrishna, MLR INSTITUTE OF TECHNOLOGY
169. Dr. Shrikant Upadhyay, MLR INSTITUTE OF TECHNOLOGY
170. Mr. CHINTHAKINDI BABAIAH, MLR INSTITUTE OF TECHNOLOGY
171. Dr. SAPNA B A, KALAIGNARKARUNANIDHI INSTITUTE OF TECHNOLOGY
172. Dr. I.SUNDARI, Rajiv Gandhi College of Engg. and Tech.
173. Mr. MUDAVATH RAJU NAIK, MLR INSTITUTE OF TECHNOLOGY
174. Mrs. SHEEBA S, Kalaignar Karunanidhi Institute of Technology
175. Mr. SEVAGAN S, National Institute of Technology, Tiruchirappalli
176. Ms. Pranathi Raghavula, IcfaiTech, IFHE, Hyderabad
177. Mr. Ramakrishna Porandla, PISTW
178. Mr. Dasari Ramesh, PISTW
179. Ms. Nallamothu Abhinaya, MLR INSTITUTE OF TECHNOLOGY
180. Ms. Chevella Sharanya, IcfaiTech, IFHE, Hyderabad
181. Dr. Kiran chand Ravi, MLR INSTITUTE OF TECHNOLOGY
182. Mrs. SHAIK M UNNISHA BEGUM, SITE

Google meet Link: https://meet.google.com/nkm-ukps-eko

Q&A Session: The guest speakers answer the questions from the industry experts and other participants. Anticipate inquiries related to your project's feasibility, scalability, and potential challenges.

Feedback and Evaluation: The feedback form has floated in the group call and evaluated based on innovation, feasibility, presentation skills, and impact criteria

Glimpse of the Feedback Form



Participant Feedback Form-FDP on Advanced Antenna Technologies for Sensing and Imaging *Applications*-Day4 (05/09/2024) (02:00PM-04:00PM)

Feedback Form on Day4 of the FDP

This form is automatically collecting emails from all respondents. Change settings

PARTICIPANT NAME (IN CAPITALS - Write your Name with Initial ONLY. DO NOT type (Mr/Ms/Mrs/Dr/Prof)

Short answer text

Email Id

Short answer text

FDP brochure:

One Week online FDP on **Advanced Antenna Technologies for Sensing and Imaging Applications**

2nd – 6th September 2024

ICFAI Foundation for Higher Education

Organized by

Department of ECE
Faculty of Science and Technology (Icfaitech),
ICFAI Foundation for Higher Education Hyderabad-501203, India.

Patron

- Prof. (Dr.) L. S. Ganesh, Vice Chancellor, IFHE Hyderabad
- Prof. S. Vijaya Lakshmi, Registrar, IFHE, Hyderabad
- Prof. U. B. Desai, IFHE Hyderabad
- Prof. K. L. Narayana, Director (FST), IFHE, Hyderabad

Coordinator

Dr. Mallavarapu Sandhya, Assistant Professor, Dept. of ECE (FST, IcfaiTech), IFHE Hyderabad

CO-Coordinator

Dr. Soumit Samadder Chaudhury Senior Assistant Professor, Dept. of ECE (FST, IcfaiTech), IFHE Hyderabad

Advisory Committee

- Prof. Lokam Anjaneyulu, Professor, NITW, Warangal
- Dr. Sobha Rani Suram, DRDO, RCI Labs, Hyderabad.
- Dr. Sunil Verma, Deputy Manager, Astra Microwave Products Ltd, Hyderabad
- Prof. Abhinav Kumar, IIT Hyderabad
- Dr. Kiran Dasari, Manipal University

Organising Committee

All Faculties of Dept. of ECE

Resource Persons

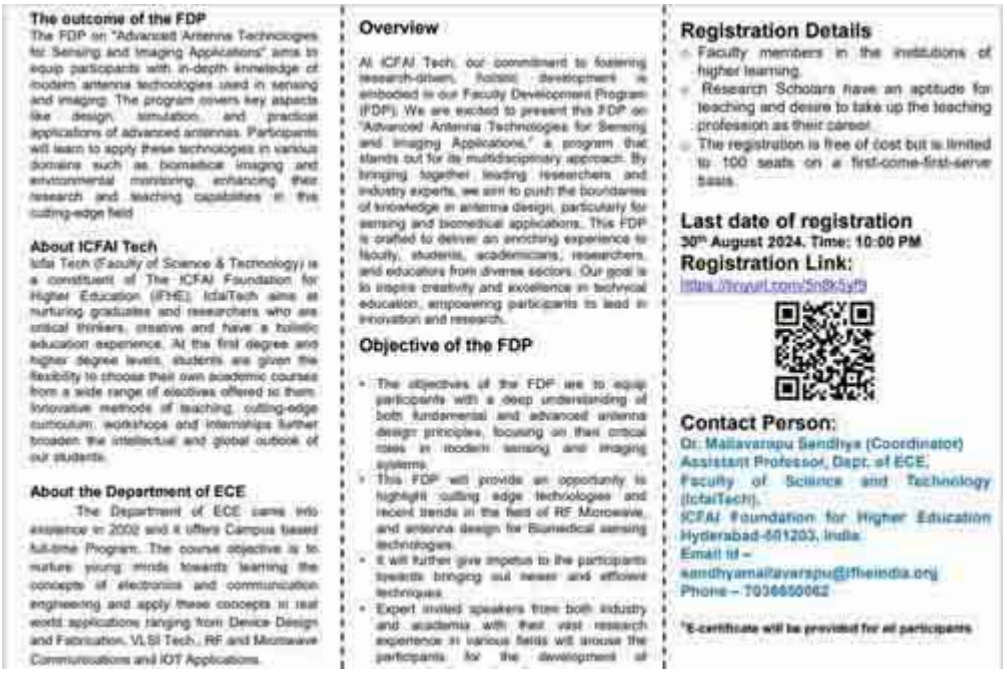
Day-1
Dr. Sudha Rani, Defense Electronics Research Laboratory, DRDO, Hyderabad, India
Title: Antenna Fundamentals for imaging and sensing applications

Day-2
Prof. Abhinav Kumar, IIT Hyderabad.
Title: WiFi based indoor 3D localization using Machine Learning

Day-3
Prof. Lokam Anjaneyulu, Professor, NITW, Warangal.
Title: Synthetic Aperture Radar (SAR) and applications.

Day-4
Dr. Kiran Dasari, Manipal Institute of Technology, Manipal University, MAHE.
Title: Microwave Imaging/SAR Data PROCESSING applications.

Day-5
Dr. Suneel Varma, Deputy Manager, Astra Microwave Products Ltd, Hyderabad.
Title: Time modulated antennas theory and applications.



The outcome of the FDP

The FDP on "Advanced Antenna Technologies for Sensing and Imaging Applications" aims to equip participants with in-depth knowledge of modern antenna technologies used in sensing and imaging. The program covers key aspects like design, simulation, and practical applications of advanced antennas. Participants will learn to apply these technologies in various domains such as biomedical imaging and environmental monitoring, enhancing their research and teaching capabilities in this cutting-edge field.

About ICFAI Tech

IcfaiTech (Faculty of Science & Technology) is a constituent of The ICFAI Foundation for Higher Education (IFHE). IcfaiTech aims at nurturing graduates and researchers who are critical thinkers, creative and have a holistic education experience. At the first degree and higher degree levels, students are given the flexibility to choose their own academic courses from a wide range of electives offered to them. Innovative methods of teaching, cutting-edge curriculum, workshops and internships further broaden the intellectual and global outlook of our students.

About the Department of ECE

The Department of ECE came into existence in 2002 and it offers Campus based full-time Program. The course objective is to nurture young minds towards learning the concepts of electronics and communication engineering and apply these concepts in real world applications ranging from Device Design and Fabrication, VLSI Tech., RF and Microwave Communications and IOT Applications.

Overview

At ICFAI Tech, our commitment to fostering research-driven, holistic development is embodied in our Faculty Development Program (FDP). We are excited to present this FDP on "Advanced Antenna Technologies for Sensing and Imaging Applications," a program that stands out for its multidisciplinary approach. By bringing together leading researchers and industry experts, we aim to push the boundaries of knowledge in antenna design, particularly for sensing and biomedical applications. This FDP is crafted to deliver an enriching experience to faculty, students, academicians, researchers, and educators from diverse sectors. Our goal is to inspire creativity and excellence in technical education, empowering participants to lead in innovation and research.

Objective of the FDP

- The objectives of the FDP are to equip participants with a deep understanding of both fundamental and advanced antenna design principles, focusing on their critical roles in modern sensing and imaging systems.
- This FDP will provide an opportunity to highlight cutting edge technologies and recent trends in the field of RF Microwave, and antenna design for Biomedical sensing technologies.
- It will further give impetus to the participants towards bringing out newer and efficient techniques.
- Expert invited speakers from both industry and academia with their vast research experience in various fields will arouse the participants for the development of

Registration Details

- Faculty members in the institutions of higher learning.
- Research Scholars have an aptitude for teaching and desire to take up the teaching profession as their career.
- The registration is free of cost but is limited to 100 seats on a first-come-first-serve basis.

Last date of registration

30th August 2024. Time: 10:00 PM

Registration Link:

https://tinyurl.com/5n8k5yf9

Contact Person:

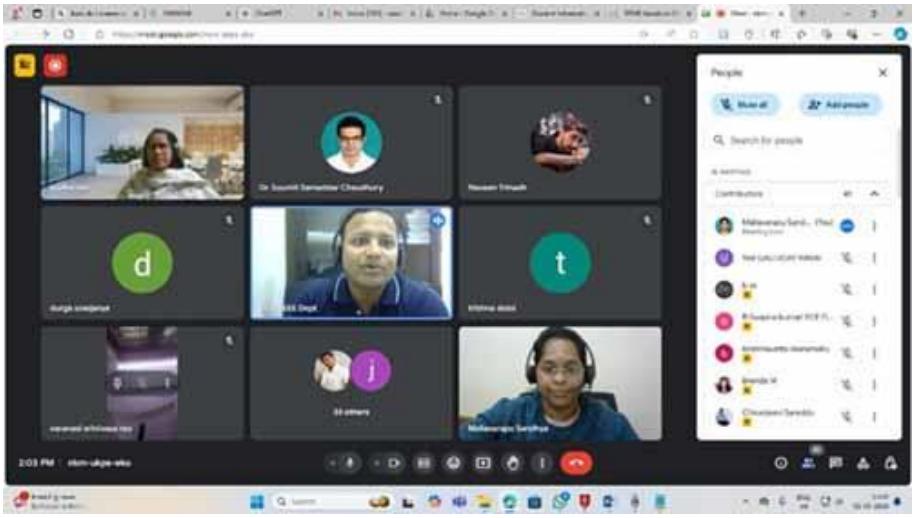
Dr. Mallavarapu Sandhya (Coordinator)
Assistant Professor, Dept. of ECE,
Faculty of Science and Technology (IcfaiTech),
ICFAI Foundation for Higher Education
Hyderabad-501203, India.
Email Id – sandhyamallavarapu@ifheindia.org
Phone – 7036650062

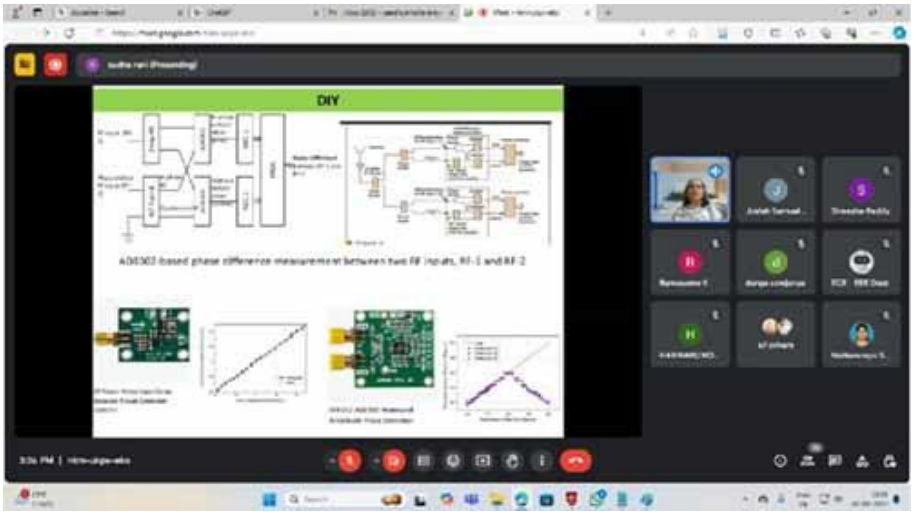
*E-certificate will be provided for all participants

Day/Session	Day1-Monday (2/9/2024) (2:00 PM-4:00 PM)	Day2-Tuesday (3/9/2024) (11:00 AM-01:00 PM)	Day3-Wednessday (4/9/2024) (2:00 PM-4:00 PM)	Day4 – Thursday (5/9/2024) (2:00 PM-4:00 PM)	Day5-Friday (6/9/2024) (3:30 PM-5:30 PM)
Speaker	Dr. Sudha Rani, Defense Electronics Research Laboratory, DRDO.	Prof. Abhinav Kumar, IIT Hyderabad	Prof. L.Anjaneyulu, NIT Warangal	Dr. Kiran Dasari, Manipal University	Dr. Suneel Varma, Astra Microwave Products Ltd

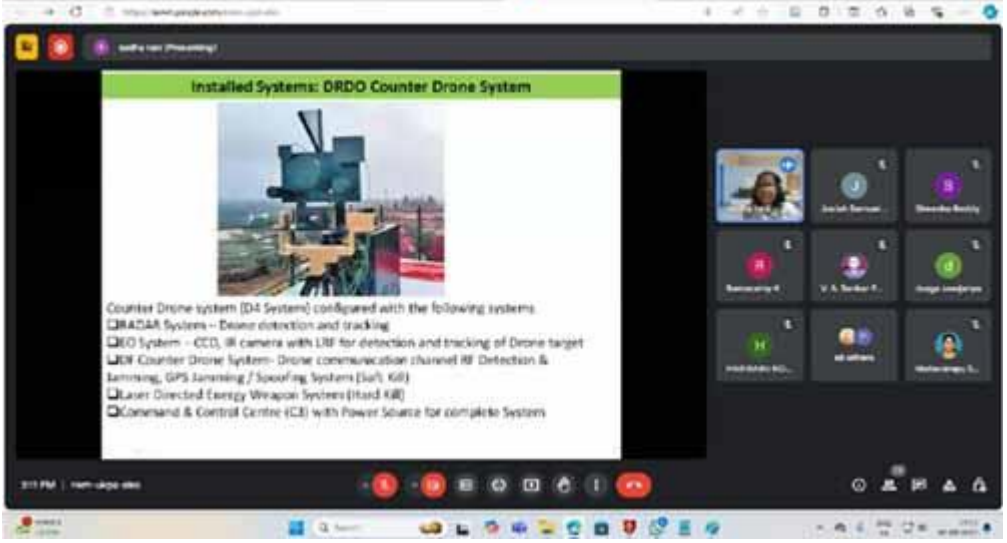
Glimpse of the sessions- FDP

Day-1:

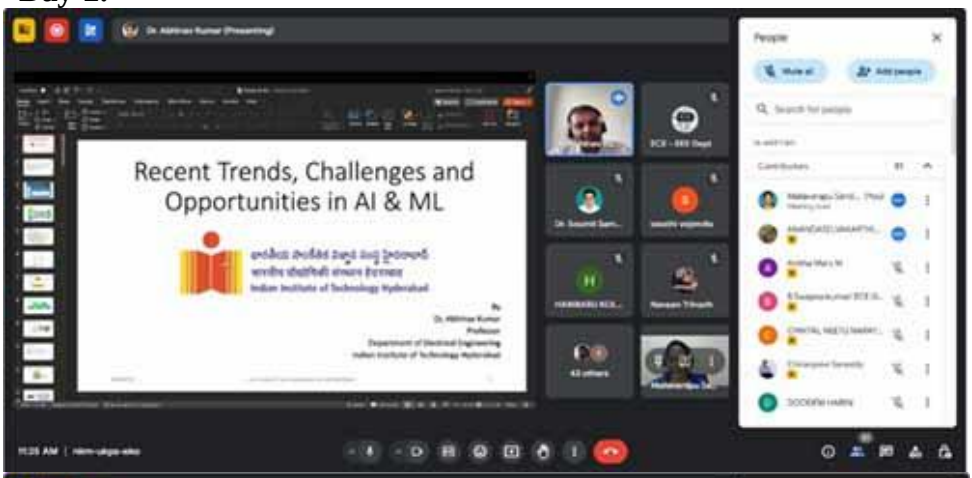


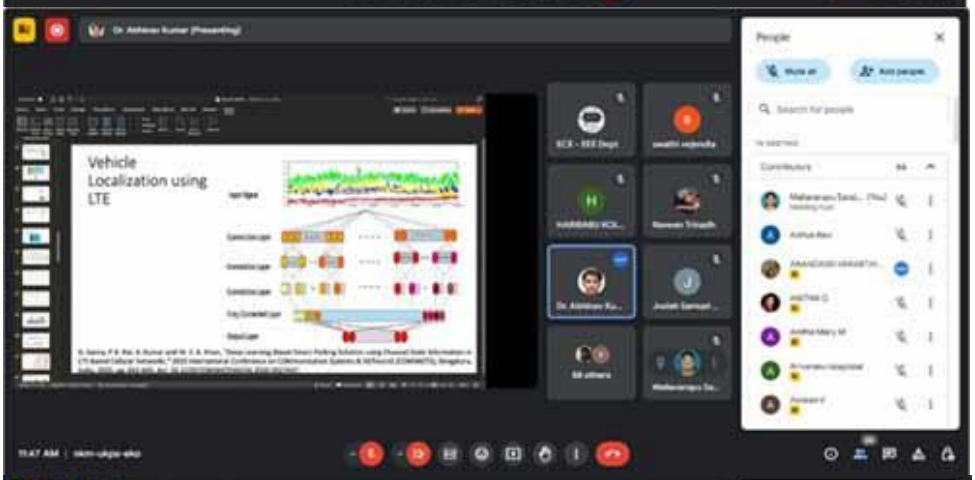

DIY

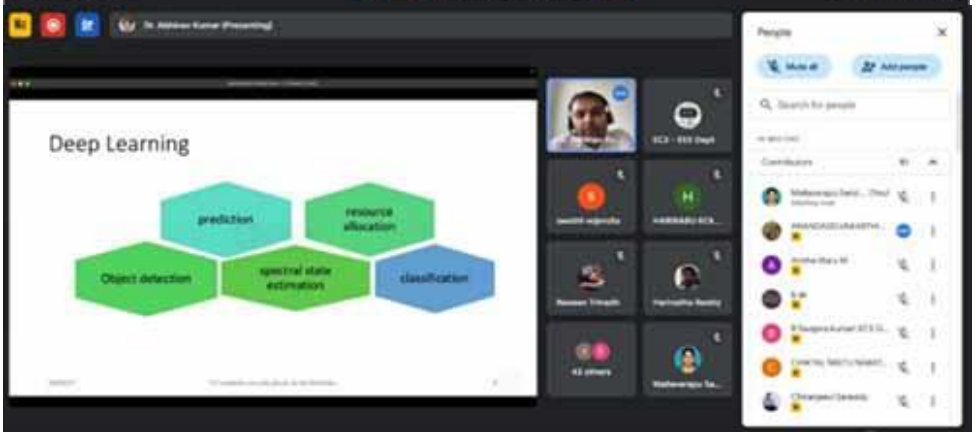

Installed Systems: Integrated Electronic Warfare System
CC (MC)
Radio Link
ESM 01
ESM 02
ESM 03
Radio Link
ECM-L 01
ECM-L 02
ECM-L 03
Line Link
ECM-M 01
ECM-M 02
Line Link
ECM-H 01
ECM-H 02

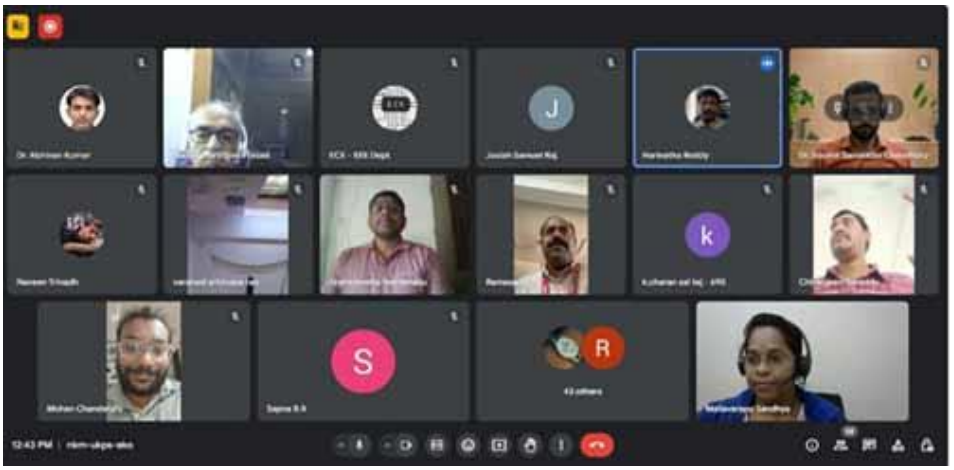

Installed Systems: DRDO Counter Drone System
Counter Drone system (D-4 System) configured with the following systems
RADAR System – Drone detection and tracking
EO System – CCD, IR camera with LRF for detection and tracking of Drone target
RF Counter Drone System- Drone communication channel RF Detection & Jamming, GPS Jamming / Spoofing System (Soft Kill)
Laser Directed Energy Weapon System (Hard Kill)
Command & Control Centre (C2) with Power Source for complete System

Day-2:


Recent Trends, Challenges and Opportunities in AI & ML
Indian Institute of Technology Hyderabad
People


Vehicle Localization using LTE
People

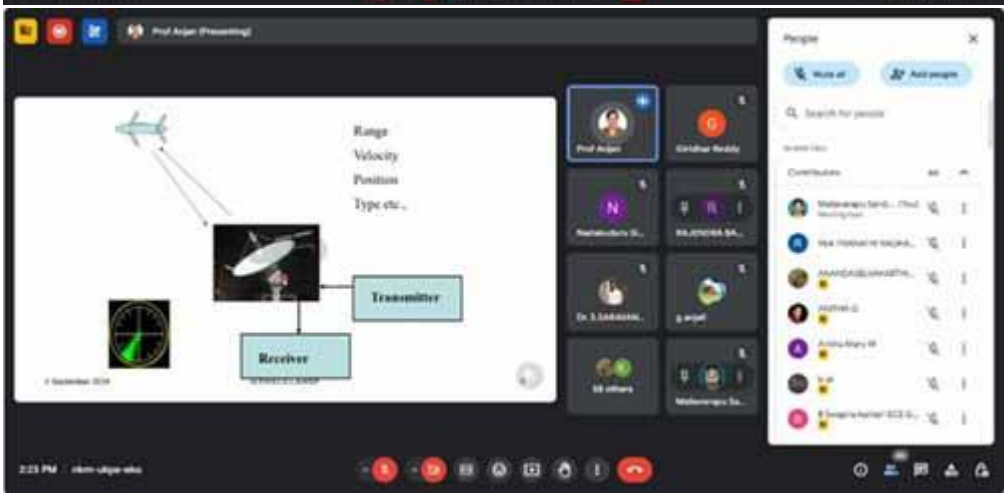

Deep Learning
prediction
resource allocation
Object detection
spectral state estimation
classification
People

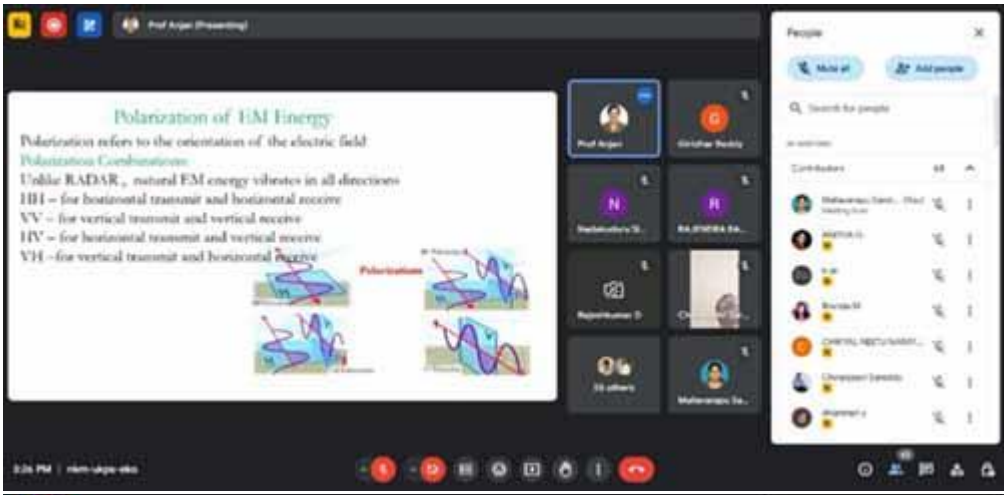


Day-3:


Remote Sensing
Microwave Remote Sensing
Active
Passive
Imaging
Non-imaging
RADAR
RAR
SAR
People


Types of Radars
• Weather radar (angle scanning)
• Side-looking Airborne radar (SLAR)
• Synthetic Aperture Radar (SAR)
• Imaging Radar Intereferometer
• Ground-based radars (i.e., for range instrumentation)
People

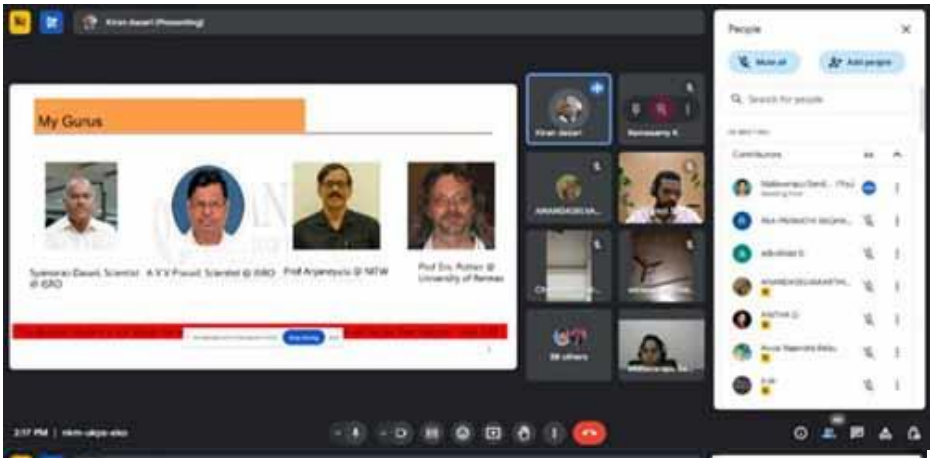

Range
Velocity
Position
Type etc.,
Transmitter
Receiver
People

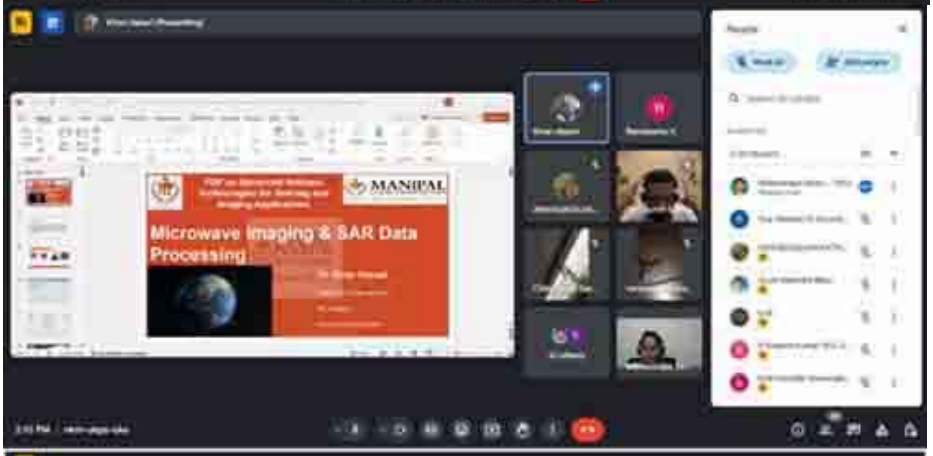

Polarization of EM Energy
Polarization refers to the orientation of the electric field
Polarization Combinations:
Unlike RADAR , natural EM energy vibrates in all directions
HH – for horizontal transmit and horizontal receive
VV – for vertical transmit and vertical receive
HV – for horizontal transmit and vertical receive
VH –for vertical transmit and horizontal receive
Polarizations
People


People

Day-4:


People


My Gurus
People


MANIPAL
Microwave Imaging & SAR Data Processing
People

Day-5:


MTT-S Conferences and Local Events
IMS
RWW


FDP talk on
Time-Modulated Antennas Theory and Applications
Presented by
ICFAI

Certificates to the participants:

The 5-day online FDP on **Advanced Antenna Technologies for Sensing and Imaging Applications**, organized by Dr.M. Sandhya (Co-ordinator), Department of ECE, IcfaiTech, IFHE, Hyderabad highlighted significant advancements and future directions in the field. The sessions demonstrated how these technologies have greatly enhanced sensing capabilities, offering higher resolution, greater sensitivity, and wider frequency ranges, which are vital for applications in environmental monitoring, medical diagnostics, and security. The trend toward miniaturization and increased efficiency has made these technologies more applicable to portable and embedded systems. Nevertheless, challenges related to cost, complexity, and scalability persist, emphasizing the need for ongoing research and development. The profound impact on both academic research and industry underscores the role of such FDPs in driving technological innovation and economic growth. Continuous education and training are crucial for professionals to stay abreast of these advancements, highlighting the importance of programs like this in providing the latest knowledge and skills.