

Report on Workshop on "Recent Trends and Advancements in Antennas and Microwave Technology for High-Frequency Applications"

A comprehensive two-day workshop entitled, "Recent Trends and Advancements in Antennas and Microwave Technology for High-Frequency Applications" has been conducted at the Department of Electronics Engineering, Indian Institute of Technology (BHU), Varanasi during May 29-30, 2025. This significant event was jointly organized by the IEEE MTT Society Student Branch Chapter IIT BHU, the IETE Varanasi Sub-centre, and the IEEE AP Society UP Section, bringing together experts, researchers, and students from various fields.

Workshop on
Recent Trends and Advancements in Antennas and
Microwave Technology for High-Frequency Applications
29 - 30 May 2025
Dept. of Electronics Engineering
Indian Institute of Technology (BHU) Varanasi, India- 221005

Speakers

Dr. Sudhakar Rao Prof. Satish Sharma Dr. Ravi K. Arya Dr. Surendra Pal Dr. Amit K. Singh Dr. Ashutosh Kedar Dr. Biswanath Bhoi Dr. Rajan Agrahari

Convenors

Dr. Somak Bhattacharyya Dr. Pradip K. Roy

The primary goals of the workshop were to:

- Promote knowledge sharing among participants by providing a platform for discussing the latest developments and research in high-frequency antennas and microwave technologies. This collaboration aimed to bridge the gap between industry needs and academic research, fostering an innovation environment.
- Encourage collaboration between industry and academia by facilitating networking opportunities, panel discussions, and interactive sessions where professionals and students could engage with one another, share insights, and explore potential partnerships.
- Inspire research and innovation that directly contributes to the advancement of critical communication systems, including the next generations of mobile networks such as 5G and 6G, as well as the Internet of Things (IoT).

To enhance the learning experience, the workshop included hands-on laboratory experiments to provide practical insights into the concepts discussed. The workshop's theme closely aligns with TC-4 of the IEEE MTT-S and was structured to ensure that

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attendees gained theoretical and practical knowledge that they could apply in their respective fields. The names of the speakers together with the titles of their talks are provided below in tabular format:

Speaker	Title of Talk
Dr. Amit Kumar Singh, Indian Institute of Technology, Patna, India	Intelligent Surfaces and Antennas for Millimetre Wave and Sub-THz 6G Applications
Dr. Ravi Kumar Arya, Xiangshan Laboratory Wireless Group, ZICUST, Zhongshan, Guangdong, China	Revolutionizing RF & Antenna Systems: AI, 3D Printing, and Advanced EM Measurements
Dr. Surendra Pal, Distinguished Fellow of IETE, IEEE Fellow, Professor & Senior Adviser, ISRO Satellite Centre, Bangalore, India	Importance of Polarization and Noise in Antennas and RF Systems
Dr. Biswanath Bhoi, Indian Institute of Technology (BHU), Varanasi, India	Microwaves Meet Spinwaves: A New Paradigm for Next-Generation Technologies
Dr. Rajan Agrahari, National Institute of Technology, Patna, India	Metamaterial-based Hyperspectral Image Sensor for Satellite Applications
Dr. Ashutosh Kedar, Electronics & Radar Development Establishment (LRDE), DRDO, Bangalore, India	Aperiodic/Unconventional Phased Array Antenna Technology: A New Paradigm for Realization of Active Phased Array Radars
Dr. Sudhakar Rao, IEEE Life Fellow, President & CEO, RaoS Consultants LLC, Los Angeles, USA	Advanced Antenna Designs for Space, Air, & Ground Communications: Industry Perspective
Prof. Satish Sharma, IEEE Fellow & Professor, San Diego State University, USA	Design and Development of Flat Panel Phased Array Antennas for Wireless and Satellite Communication Applications

Overall, the event was a resounding success, generating valuable discussions and collaborations that are expected to foster further antenna and microwave technology advancements.

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Glimpses of the workshop:

