A Three Day Workshop on

"RECENT TRENDS IN COMMUNICATION AND TECHNOLOGY – PATHWAY FROM 5G TOWARDS 6G"

Date: 22nd to 24th Jan 2026

Venue: Shambhavi, A.P.J Kalam Block, 1st Floor, NMAMIT, Nitte

Organised by:

IEEE MTTS Student Branch Chapter, NMAMIT

&

Department of Advanced Communication Technology

Off Campus Centre of Nitte (DU)

Nitte, Karkala Taluk, Udupi District, Karnataka 574110

Ph: +91 8258-281 263/ 281 248 Web: nitte.edu.in/nmamit

About Nitte (Deemed to be University)

Nitte (Deemed to be University) traces its origins to the Nitte Education Trust, established in 1979 by the distinguished statesman, Late Justice K.S. Hegde, former Supreme Court Judge and Speaker of the Lok Sabha. Founded with the mission of empowering rural youth through quality education and healthcare, the Trust manages 44 institutions across its campuses in Nitte, Mangaluru, and Bengaluru. The University offers over 160+ programs across disciplines such as medicine, allied health sciences, engineering, dentistry, pharmacy, nursing, physiotherapy, speech and audiology, biological sciences, media and communication, management, and architecture. It has a student strength of 27,000, supported by over 5,500+ faculty members and a strong alumni base of one lakh. Nitte (Deemed to be University) holds an A+ grade from NAAC, awarded in 2021. It is ranked in the 501–550 band in the QS Asia University Rankings 2024 and has received a Diamond rating in the QS I-Gauge India Ratings. In the NIRF Rankings 2025, the University secured the 80th position, with its constituent colleges earning high ranks in their respective disciplines. The University's teaching hospital is accredited by both NABH and NABL.

About NMAM Institute of Technology, Nitte

Nitte Mahalinga Adyantaya Memorial Institute of Technology (NMAMIT), Nitte, was established in 1986 and is recognized by the All India Council for Technical Education (AICTE), New Delhi. Since June 2022, it has been a constituent college of Nitte (Deemed to be University), Mangaluru. In the National Institutional Ranking Framework (NIRF) 2025, published by the Ministry of Education, Government of India, NMAMIT is placed in the 151–200 rank band. Located at Nitte in Karkala Taluk, NMAMIT serves as the off-campus centre of NitteDU. It maintains active collaborations with several international universities and organizations for faculty and student exchange, research, internships, and placements. The institute has a sanctioned annual intake of over 1,700 students for B.Tech programs and 319 students for M.Tech and MCA postgraduate programs. With over 7,000 students currently enrolled, NMAMIT offers a vibrant academic environment. All departments have qualified research guides who supervise doctoral research leading to a Ph.D. The campus, spread across 125 acres, is nestled in the serene and green surroundings of the Western Ghats in southern India, en route to the Kudremukh ranges. The nearest airport is Mangaluru International Airport (45 km), and the closest railway stations are Udupi (40 km) and Mangaluru (50 km). Nitte is located 19km from NH66 (connecting Kochi-Panvel) & 7km from NH169 (connecting Mangaluru- Solapur).

About the Department

The Dept. of Advanced Communication Technology (ACT) was established in 2023 with an approved intake of 60 students. The dept offers B.Tech program in Electronics and Communication (Advanced Communication Technology), designed to build strong technical competence in next-generation communication systems and emerging network technologies. The ACT curriculum emphasizes core areas such as communication networks, embedded systems, digital signal processing, 5G, Wi-Fi 6, IoT, network security, and advanced telecom standards. Through a balanced combination of theoretical understanding and hands-on laboratory training, the dept prepares students to meet the demands of contemporary communication and networking industries. The dept is supported by highly qualified faculty members with extensive experience in teaching, research, ensuring robust academic delivery and effective student mentorship. With a focus on innovation, practical exposure, and industry relevance, the Dept. of ACT is committed to nurturing professionals who advance communication and networking technologies.

About the Workshop

The three-day workshop on “Recent Trends in Communication and Technology – Pathway from 5G towards 6G” is designed to provide an in-depth understanding of emerging technologies that are shaping the future of wireless communication systems. With the rapid evolution of 5G networks and the global research push towards 6G, there is a growing demand for advanced knowledge in enabling hardware and propagation technologies such as antennas, microwave components, millimeter-wave and terahertz systems, and Reconfigurable Intelligent Surfaces (RIS). This workshop brings together theoretical foundations, recent research advancements, and practical design considerations related to next-generation communication systems. The sessions will focus on cutting-edge antenna architectures, MIMO and massive MIMO systems, beamforming techniques, metamaterials and metasurfaces, microwave and mmWave circuit design, channel modeling, and RIS-assisted wireless communications. Through expert lectures, technical discussions, and case studies, the workshop aims to bridge the gap between academic research and real-world implementation, enabling participants to gain insights into current challenges, research opportunities, and future directions in the transition from 5G to 6G technologies.

Objectives

- To provide a comprehensive overview of recent trends and advancements in wireless communication systems, with emphasis on the evolution from 5G to 6G.
- To strengthen participants’ understanding of antenna theory, microwave engineering, mmWave/THz technologies, and their role in next-generation networks.
- To introduce the concepts, design principles, and applications of Reconfigurable Intelligent Surfaces (RIS) in modern communication environments.
- To familiarize participants with advanced MIMO techniques, beamforming, and propagation challenges in high-frequency bands.
- To encourage research orientation by highlighting open research problems, simulation methodologies, and emerging applications in future communication systems.

Outcomes

- Gain a clear understanding of the technological roadmap from 5G to 6G, including key enabling technologies.
- Analyze and design advanced antenna and microwave components suitable for high-frequency communication systems.
- Understand the principles and practical implementation of RIS and metasurface-based systems for wireless communications.
- Apply knowledge of mmWave, MIMO, and beamforming techniques to address coverage, capacity, and reliability challenges.
- Identify potential research directions and industry-relevant problems in next-generation communication technologies.

Topics Covered

- Shared Aperture Phased Array Antennas: A Step towards Multifunctional Phased Array Antennas
- RIS-Based Index Modulation Strategies for 6G Wireless Systems
- Electrically Small Planar Antennas for 5G and 6G
- The Journey from 5G to B5G and 6G; Technologies, Challenges & Opportunities.
- Emerging Antenna Technologies for Modern Wireless Systems.
- Metamaterial Structures and its Applications in Communication Systems.

DETAILED SCHEDULE

Day – 1	Jan 22, 2026	
Time	Session	Resource Person
9:15 - 9:45	Workshop Inauguration	Chief Guest - Dr. Ashutosh Kedar
9:45 - 11:30	Keynote Session - I	Dr. Ashutosh Kedar
11:30 - 11:45	Tea Break	
11: 45 - 1:30	Session - 2	Dr. Mahesh A
1:30 - 2:30	Lunch Break	
2:30 - 4:00	Session - 3	Dr. Goutham Simha

Day – 2	**Jan 23, 2026**	
Time	**Session**	**Resource Person**
9:15 – 11:15	Session - 4	Dr. Sukomal Dey
11:15 – 11:30	Tea break	
11:30 – 1:30	Session - 5	Dr. Shrikanth Reddy
1:30 – 2:30	Lunch Break	
2:30 – 4:30	Session – 6	Girish, Keysight

Day – 3	**Jan 24, 2026**	
Time	**Session**	**Resource Person**
9:15 – 11:15	Session - 7	Dr. Praveenkumar
11:15 – 11:30	Tea break	
11:30 – 1:30	Session - 8	Dr. Parveez Shariff B G

RESOURCE PERSONS

Dr. Ashutosh Kedar
Scientist ‘G’ Electronics and Radar Development Establishment (LRDE),DRDO
Chair, IEEE AP/MTT-S Joint Chapter Bangalore

Dr. Sukomal Dey
Associate Professor – IIT Palakkad
Chair, IEEE AP-S Chapter,Kerala Section

Dr. GOUTHAM SIMHA
Associate professor, MIT Manipal,SMIEE

Dr. G SHRIKANTTH REDDY
Associate Professor – IIT Palakkad, SMIEEE

Dr. MAHESH A
Associate Professor, RV College of Engineering, Bengaluru,SMIEEE

Mr. GIRISH BALIGA
General Manager, Industry Marketing
Keysight Technologies, Bengaluru

DR. PRAVEEN KUMAR
Assisstant professor, MIT Manipal

DR. PARVEEZ SHARIFF B G
Assistant Professor,
Faculty Advisor MTTS SBC, NMAMIT

Who can attend?

Anyone from the field of RF and Microwave studies, including undergraduate, postgraduate, Research Scholars, Faculty Members, and Industry personnel, can attend the workshop.

Registration Fee: Free for IEEE/ Non-IEEE Members

Last date for registration: 19th Jan 2026

Registration Link: https://forms.gle/5apMBk8iojmcJbcC9

REGISTRATION LINK:

COMMITTEES

Advisory Committee

Prof. (Dr.) M. Shantharam Shetty, Pro-Chancellor, NitteDU, Mangalore
Sri. Vishal Hegde, Pro-Chancellor (Admin), NitteDU, Mangalore
Dr. M S Moodithaya, Vice Chancellor, NitteDU, Mangalore
Prof (Dr.) Gopal Mugeraya, Vice President (Technical Education), NitteDU, Mangalore
Dr. Harsha Halahalli, Registrar, NitteDU, Mangalore

Steering Committee

Sri. A. Yogeesh Hegde, Director (CM & D), Nitte
Dr. Nagesh Prabhu, Vice Principal, NMAMIT, Nitte
Dr. I. Ramesh Mithanthaya, Dean (Academics), NMAMIT, Nitte
Dr. Shrinivasa Rao B.R., CoE (VTU Autonomous Scheme), NMAMIT, Nitte
Dr. A N Parameswaran, Director, IIC, NMAMIT, Nitte
Dr. Subrahmanya Bhat K, CoE, Nitte Off-Campus Centre, NitteDU
Dr. Rekha Bhandarkar, Deputy Registrar, Nitte Off-Campus Centre, NitteDU
Dr. Srinivasa Pai P, Deputy Dean (Academics), Nitte Off-Campus Centre, NitteDU

General Chair

Dr. Niranjan N. Chiplunkar, Principal, NMAMIT, Nitte

Convenor

Dr. Durga Prasad, Head, Dept of Advanced Communication Technology, NMAMIT, Nitte

IEEE MTTS Chair

Mr. Adwaith H U
Ph: +91 7338631772 Email:nnm23ac002@nmamit.in

Coordinator & IEEE MTTS Faculty Advisor

Dr. Parveez Shariff B G, Asst. Prof. (GD - III), Dept. of ACT, NMAMIT, Nitte
Ph: +91 7829200515 Email: parveez.shariff@nitte.edu.in

IEEE Branch Counselor

Dr. Vasudeva Acharya
Professor, Dept. of ISE, NMAMIT, Nitte

NITTE (Deemed to be University) | NMAM INSTITUTE OF TECHNOLOGY
Nitte, Karkala Taluk
Udupi District - 574110, Karnataka
+91 8258 281 263 | 281 264
www.nitte.edu.in/nmamit | principal_nmamit@nitte.edu.in