

MTT/AP/EMC

Workshop on "Recent Advances in Antennas & Microwave Circuits with Application"

A 3 -day workshop was conducted by IEEE MTT-S (Head Quarters) and IEEE MTT-S Hyderabad chapter in collaboration with Matrusri Engineering college as Host, during 18-20 Nov, 2019 (3 days) at Matrusri Engineering College, 16-1-486, Saidabad, Hyderabad. The workshop was inaugurated by Prof. SK Kaul, IITDelhi and it was followed by his keynote lecture. The workshop was devoted to the fundamental theory, recent developments and research outcomes addressing the related theoretical and practical aspects in the usage of advanced tools and techniques for the design of practical RF antennas and microwave circuits. This workshop brought to light the new areas of research and development being carried out in universities abroad and rest of the world. Also the workshop enhanced the research competence of faculty in the areas of RF antennas and microwave circuits with simulation studies by providing exposure to practical problems and solutions, through case studies and live projects.

Technical Lecture on "Reconfigurable Antennas: Theory, Challenges and Physical Implementation" at OU, Hyderabad

A technical lecture on "Reconfigurable Antennas: Theory, Challenges and Physical Implementation" by Dr. A. Bharathi, Assistant Professor, ECE Department, UCE, OU, was conducted on 26th Oct 2019 at Auditorium, ECE Dept., University College of Engineering, Osmania University Hyderabad. The technical lecture established that analysis, design, fabrication and testing are four important aspects of any antenna system development. It was rightly pointed out that the communication technology has been augmenting rapidly and current wireless communication systems have ability to achieve multifunctional capabilities with a single system supporting several applications under different operating conditions. However, as each application operates in a different frequency band, with different radiation pattern or different polarization, such a single system requires multiple antennas. This is because historically from a Systems' stand point, antenna has been viewed as a static device. Once an antenna design is finalized, its operational characteristics remain unchanged. This has driven innovation in antenna towards multifunctioning capabilities in competence with the contemporary communication systems. She stated that reconfigurable antenna is a remarkable technology that adds novel features to existing conventional antennas whose characteristics are fixed and remain unchanged. The talk also explored emerging areas of reconfigurable antennas from basic concepts that provide insight into theoretical foundation, fundamental design approaches and practical considerations of various reconfigurable antennas. The event was attended by about 75 enthusiastic participants.



Dr. M. LakshmiNarayana felicitating Dr. A. Bharathi, UCE, OU

9th Sir J C Bose Memorial Lecture on 'Phased Arrays and Related RF Technologies for mm wave 5G Communication' at Hotel Plaza, Hyderabad

9th Sir J C Bose Memorial Lecture on 'Phased Arrays and Related RF Technologies for mm wave 5G Communication' by Professor K J Vinoy, Fellow INAE, IISc Bangalore was hosted on 30th Nov 2019 at Hotel – The Plaza. The event is a flagship event of the chapter and was the ninth instalment in the series. The event started with a short briefup on Sir J C Bose's life and work by Chapter Chair, Sandeep Satav, Scientist RCI, DRDO. The speaker, Prof. K J Vinoy indicated that Acharya Jagadis Chandra Bose was well recognized as a pioneer in millimeterwave (mmw) technologies, among several other impactful contributions. He stated that Sir J C Bose's mmw experiments are now regarded nearly a century ahead of the other comparable developments in the area. He further added that commercial technologies have only recently begun to scratch the surface of the possibilities awaiting at millimetre wave and beyond. In this talk, some of his recent research efforts towards mm-wave beam steering antennas and related RF technologies was discussed. He stated that due to the high free space loss, communication links at mm waves require high gain, beam steering antennas. As part of the activities towards an indigenous 5G test-bed, the group led by Prof K J Vinoy has developed a beam steering antenna prototype working at 26 GHz, the likely band identified for mm wave 5G communications in India. Several interesting array design challenges based on unique aspects of this system were presented. Towards, device technologies at mm waves, a highly reliable microelectromechanical switch with a low actuation voltage has also been fabricated and characterized in IISc was also presented. The lecture was followed by a question – answer session. The event brought in more than 60 participants.

Three days workshop on Electromagnetic and Microwave Engineering pedagogy, Research trends and Applications

IEEE Birla Institute of Technology and Sciences (BITS) Pilani , Hyderabad Campus had organized the Three days workshop on Electromagnetic and Microwave Engineering pedagogy, Research trends and Applications held on 2-4 January 2020. Total 15 technical talks and two poster presentations were planned like Electromagnetic Pedagogy, Insights into Maxwell's Equation, Teaching and Learning Electromagnetics, Don't kill your Research by Indifferent Writing HPM applications for Directed Energy Weapon, Structurally Integrated Antennas for Airborne Application of EM waves in plasma. At the end, a Panel discussion was organized on Collaborative opportunities for Academia followed by vote of thanks.



Group Photo with Participants

MTT/AP/ECS Joint Chapter – (7 Activities)

Event Title	Event Date	Event Category
Electromagnetic and Microwave engineering: Pedagogy, Research trends and Applications : Hyderabad Section Jt Chapter, AP03/MTT17/EMC27	1/2/2020 9:00	Technical
Administrative meeting of MTT/AP/EMC Joint Chapter, Slate 2020 : Hyderabad Section Jt Chapter, AP03/MTT17/EMC27	1/25/2020 18:15	Administrative
Design of antennas for defense applications : Hyderabad Section Jt Chapter, AP03/MTT17/EMC27	5/15/2020 18:00	Technical
A webinar on "MMIC Technologies for Space and Defence Applications: an Indian perspective" : Hyderabad Section Jt Chapter, AP03/MTT17/EMC27	5/16/2020 17:30	Technical
10th Sir JC Bose Memorial Lecture (A webinar) : Hyderabad Section Jt Chapter, AP03/MTT17/EMC27	11/30/2020 17:30	Technical
A Technical Webinar on "System Level Issues & Retrospection on Design Specifications and	12/27/2020 10:30	Technical

Testing of RF & Microwave Products" : Hyderabad Section Jt Chapter, AP03/MTT17/EMC27		
A Technical webinar on System Level Electromagnetic Interference (EMI) Issues on Large Platforms : Hyderabad Section Jt Chapter, AP03/MTT17/EMC27	12/29/2020 18:30	Technical