TLCE
Teaching Learning Centre of Excellence

Faculty Development Program

VIT
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

Title : Thinking and Innovation - Wireless Communications and Antenna Technologies

Date : 16-Oct-2023 - 20-Oct-2023
Time : 10:00 - 17:30
Venue : TT GALLERY-2 AND TT-232

Discussion Points

- The Risk of 6G: Myth, Reality, and State-of-the-Art (Day-1, morning)
- Design Challenges and Issues of Substrate Integrated Waveguide (SIW) Components (Day-1, afternoon)
- Design Challenges and Issues on Dielectric Resonator Antenna (DRA) (Day-2, morning)
- Current Trends in RF Energy Harvesting (Day-2, afternoon)
- Ambient Back Scattering Communication (day-3, morning)
- MATLAB for Signal and Noise Analysis (Hands-on) (Day-3, afternoon)
- Current Trends in Data Protocol in IoT network (Day-4, morning)
- 5G and Beyond: Spectrum, Security and Energy Efficiency (Day-4, afternoon)
- Machine Learning in Energy and Spectrum Efficient Communication (Day-5, morning)
- Handoff in Next Generation Wireless Communication Systems (Day-5; afternoon)

	**Resource Person 1 - Details** **Name :** Dr Pyari Mohan Pradhan **Designation :** Associate Professor, ECE **University/ Company :** Indian Institute of Technology, Roorkee, India, Roorkee **Address :** India, 247667.
	**Resource Person 2 - Details** **Name :** Dr Karthikeyan S S **Designation :** Associate Professor, ECE **University/ Company :** National Institute of Technology, Trichy, India, Trichy **Address :** India, 620015.
	**Resource Person 3 - Details** **Name :** Dr T Shanmuganantham **Designation :** Professor, ECE **University/ Company :** Pondicherry University, Pondicherry, India, Pondicherry **Address :** India, 605014.
	**Resource Person 4 - Details** **Name :** Dr Runa Kumari **Designation :** Associate Professor, Department of Electrical and Electronics Engineering **University/ Company :** BITS Pilani, Hyderabad Campus, India, Hyderabad Campus **Address :** India, 500078.
	**Resource Person 5 - Details** **Name :** Dr Aniruddha Chandra **Designation :** Associate Professor, Department of Electronics and Communication Egineering **University/ Company :** NIT Durgapur, West Bengal, India, Durgapur **Address :** India, 713209.
	**Resource Person 6 - Details** **Name :** Dr Sanjay Dhar Roy **Designation :** Associate Professor, Department of Electronics and Communication Egineering **University/ Company :** NIT Durgapur, West Bengal, India, Durgapur **Address :** India, 713209.
	**Resource Person 7 - Details** **Name :** Dr Santi P Maity **Designation :** Professor, Department of Information Technology **University/ Company :** Indian Institute of Engineering Science and Technology, Shibpur, India, Shibpur **Address :** India, 711103 .

Resource Person 8 - Details

Name : Dr Sumit Kundu

Designation : Professor, Department of Electronics and Communication Egineering

University/ Company : : NIT Durgapur, West Bengal, India, Durgapur

Address : India, 713209.

Resource Person's Profile :

1. Profile of Dr Pyari Mohan Pradhan

He is currently an Associate Professor in Department of Electronics and Communication Engineering IIT Roorkee, India. He completed his PhD in Electrical Sciences at the Indian Institute of Technology Bhubaneswar. He has received B.E. degree in electronics and telecommunication engineering from the University College of Engineering, Burla in 2006 and M. Tech degree in Telematics and Signal Processing from the National Institute of Technology, Rourkela in 2009. He was post-doctoral fellow in Mayo

2. Profile of Dr Karthikeyan S S

He has completed his PhD from IIT Guwahati. He received his Bachelors of Engineering degree from the department of Electronics and Communication from Bharathidasan University, Trichy, India and Masters Degree in Applied Electronics from Satyabhama University, Chennai in 2001 and 2005 respectively. He was Assistant professor in Electronics and communication department of Indian Institute of Information technology Design & manufacturing, Kanchipuram. Currently he is an Associate professor at Depa

3. Profile of Dr T Shanmuganantham

He has 26 years of experience in teaching currently, he has been a Professor in the Department of Electronics Engineering, School of Engineering & Technology, Pondicherry Central University, Pondicherry, since July 2010. He received a B.E. degree in Electronics & Communication Engineering from the University of Madras in the year 1996, an M.E. degree in Communication Systems from Madurai Kamaraj University in the year 2000 and a Ph.D. degree (He received a Gold Medal) in the field of Antenna

4. Profile of Dr Runa Kumari

Prof. Runa Kumari received her Ph.D. degree from the National Institute of Technology, Rourkela, India in the year 2014. She is presently working as an associate professor at the Department of Electrical and Electronics Engineering, Birla Institute of Technology & Science, Pilani, Hyderabad campus. Her current research interest includes log periodic antenna, dielectric resonator antenna, planar antenna, reconfigurable planar antennas, and metamaterial. She has worked extensively on different an

5. Profile of Dr Aniruddha Chandra

Dr. Aniruddha Chandra received BE, ME, and PhD degrees from Jadavpur University, Kolkata, India, in 2003, 2005, and 2011 respectively. He joined the Electronics and Communication Engineering Department, National Institute of Technology, Durgapur, India, in 2005. He is currently serving as an Associate Professor there. In 2011, he was a Visiting Lecturer at the Asian Institute of Technology, Bangkok. From 2014 to 2016, he worked as a Marie Curie fellow at Brno University of Technology, Czech Rep

6. Profile of Dr Sanjay Dhar Roy

Dr. Sanjay Dhar Roy received his B.E. (Hons.) degree in Electronics and Telecommunication Engineering in 1997 from Jadavpur University, Kolkata, India and M.Tech. degree in Telecommunication Engineering in 2008 from NIT Durgapur. He received his Ph. D. degree from NIT Durgapur in 2011. He worked for Koshika Telecom Ltd. from 1997 to 2000. After that he joined the Department of Electronics and Communication Engineering, National Institute of Technology Durgapur as a Lecturer in 2000 and is curre

7. Profile of Dr Santi P Maity

Dr. Santi P. Maity (Member, IEEE) is currently a Professor with the Department of Information Technology, Indian Institute of Engineering Science and Technology, Shibpur, India. His research interests include cognitive radio networks- spectral sensing, secondary transmission, eavesdropping and jamming, energy harvesting, and relay-based wireless routing, digital image watermarking, reversible watermarking and secret sharing.

8. Profile of Dr Sumit Kundu

Dr. Sumit Kundu received his B.E. (Hons.) degree in Electronics and Communication Engineering in 1991 from NIT, Durgapur, India and M.Tech. degree in Telecommunication Systems Engineering and Ph. D. in Wireless Communication Engineering respectively from IIT Kharagpur, India. He has been a faculty in the Department of ECE, National Institute of Technology, Durgapur since 1995 and is currently a Professor there. His research interests include Cognitive Radio Networks focusing on Spectrum Sensing

An overview of the state-of-the-art, ongoing, and upcoming research in the area of wireless communications and antenna technologies will be provided through this faculty development program (FDP). It will go over the difficulties with antenna design and potential solutions. In 5G and future networks, it discusses contemporary handoffs, spectrum, security, and energy efficiency. Energy harvesting and current data protocol trends in IoT networks will also be explored. A single hands-on session will take place. The application of machine learning to wireless communications will be discussed in this FDP.

MATLAB

Coordinator's: **Prof. ABHIJIT BHOWMICK 14842 - Associate Professor Sr. - SENSE**
Prof. YOGESH KUMAR CHOUKIKER 13969 - Associate Professor Sr. - SENSE