EKANT SHARMA

Assistant Professor	Co-founder and Director
Indian Institute of Technology, Roorkee	MantisWave Networks Private Limited
ekant@ece.iitr.ac.in	ekant@mantiswave.in

INTEREST AND PROFILE

- Wireless communications, with special focus on practical massive MIMO, Cell-free, ISAC, RIS, full-duplex, relays, energy efficiency and optimization
- Topics of interest: Massive MIMO, millimeter wave, cell-free systems, intelligent reflecting surfaces, non-orthogonal multiple access, unmanned aerial vehicles (Drones), device-to-device communication, multi-hop and multi-cell wireless networks
- Co-founded Startup in the field of 5G (Private 5G)
- Expertise in modeling and analyzing wireless networks mentioned above
- 6+ year experience in designing and simulating wireless and signal processing algorithms
- Experience in building state-of-the-art 5G base station hardware
- Experience of developing Phy layer algorithms for 5G NR
- Handling multiple projects worth 650+ Lakhs related to Beyond 5G/6G Communications
- Author of 50+ technical papers published in reputed journals and conferences

STARTUP

MantisWave Networks Private Limited   *Co-founder and Director*

Our product - "**5G network in a box**": Integrates the ORAN stack with Software Defined Radio hardware, creating a versatile 5G testing environment

EDUCATION

Indian Institute of Technology, Kanpur   *Kanpur, India*
Doctor of Philosophy (PhD) in Electrical Engineering (SPCOM)   *July 2014 - May 2020*
Title: Analysis and Optimization of Energy-Efficient Massive MIMO   *CGPA: 9/10*
      Wireless Relaying Systems
Advisor: Prof. Rohit Budhiraja and Prof. Kasturi Vasudevan
Awards: Outstanding PhD Thesis Award for the best thesis in Electrical department, IIT Kanpur
      Best Doctoral Dissertation Award (Honorable Mention) at IEEE SPCOM conference, 2020

Indian Institute of Technology, Kanpur   *Kanpur, India*
Master of Technology (MTech) in Electrical Engineering (SPCOM)   *July 2009 - May 2011*
Advisor: Prof. Kasturi Vasudevan   *CGPA: 8.5/10*

Chhatrapati Shivaji Institute of Technology   *Durg, Chhattisgarh, India*
Bachelor of Engineering (BE) in Electronics and Communications (ECE)   *July 2005 - April 2009*
Advisor: Mr. Deepak Sharma   *CGPA: 8.66/10*

PROFESSIONAL EXPERIENCE

Teaching Experience   *February 2021 - Present*
   Indian Institute of Technology, Roorkee   *Assistant Professor*

   Courses Taught

- ECN-519: Wireless Communication Systems (Session 2022-2023, Autumn Semester)

- ECN-620: Advanced Wireless Communication Systems (Session 2021-2022, Spring Semester)

- ECN-618: Wireless Technologies: 5G and Beyond (Session 2021-2022, Spring Semester)

- ECN-519: Wireless Communication Systems (Session 2021-2022, Autumn Semester)

- ECN-510: Digital Communication Laboratory (Session 2020-2021, Spring Semester)

Table 1: **Details of Ongoing/Completed Projects**

S. No.	Topic	Funding Agency	Role	Budget (INR)	Duration
1	Design and Development of New Prototype for RIS-aided Communication	IIITB COMET Foundation	PI	157 Lakhs	2022-2025
2	5G Advanced ORAN Massive MIMO Base Station	IIITB COMET Foundation	PI	125 Lakhs	2022-2025
3	RIS Assisted Cell-free NOMA system for 5G and Beyond Communication	Science and Engineering Research Board, Govt. of India	PI	30.9 Lakhs	2022-2024
4	A novel power-on pilot IC for ultra-low power wireless IoT devices	Ministry of Electronics and Information Technology, Government of India	Co-PI	411 Lakhs	2023-2026
5	3GPP Complaint PUCCH design for 5G NR User	Spanidea Systems Private Limited	PI	23.6 Lakhs	2022-2023
6	THz Characterization System	SMILE, IIT Roorkee	Co-PI	650 Lakhs	2022-2023
7	UAV Communications for 5G and Beyond: A Smart Anti-UAV design	Indian Institute of Technology Roorkee	PI	20 Lakhs	2021-2023
8	RIS-aided D2D communication for 5G and beyond networks	Science and Engineering Research Board, Govt. of India	Co-PI	52.3 Lakhs	2023-2026
9	PG Certificate In 5G Technology and IOT	Coursera	PI	7.29 Lakhs	2023-2026
8	Design and Implementation of Buried Target Identification Algorithms	DRDO, India	Co-PI	12.9 Lakhs	2023-2024

Research lab experience   *August 2019 - January 2021*
  5G Testbed Lab, Indian Institute of Technology, Kanpur   *Project Executive Officer*
  Project: Design of hardware and software algorithms for End-to-End
        5G New Radio (NR) Testbed
  Details: The 5G NR base station hardware consists of remote radio head and baseband unit (BBU),
        which are connected using high-speed optical cables. In this project, we architected the
        entire BBU design to suit the physical layer processing requirements. The work involved:

Hardware
- carefully managing the on-board processing power and memory

- designing power supplies, high-speed interfaces and printed circuit board stack-up

- performing the printed circuit board layout, signal-integrity and power-integrity simulations to ensure the desired signal and power integrity

- careful placement of thousands of discrete components. The card has the PCI form factor, and the components will have to be chosen accordingly

- Testing of different interfaces including high speed PCIe, 100G and eCPRI protocol based QSFP interface

Software
- Development of physical uplink control chain (PUCCH), both transmitter and receiver

- Development of physical downlink control chain (PUCCH), both transmitter and receiver

- Development of physical downlink shared chain (PDSCH), both transmitter and receiver

- These chains were developed both in MATLAB and VIVADO HLS software

- All the 5G NR specification were followed

Industry experience   *Associate Software Engineer*
  IBM India Software Lab, Pune   *July 2011 - July 2012*
  Projects: 1. Microsoft Windows Copy Offloaded Data Transfer
                2. SCSI-3 Persistent Reservation

PUBLICATIONS

Book Chapters:

1. **Ekant Sharma** and Prem Singh, "Full-duplex Multi-hop Communication for Beyond 5G", accepted for publication in book titled "A Glimpse Beyond 5G in Wireless Networks", Publisher: Springer Nature, 2023.

2. Prem Singh and **Ekant Sharma**, "FBMC: A Waveform Candidate for Beyond 5G", accepted for publication in book titled "A Glimpse Beyond 5G in Wireless Networks", Publisher: Springer Nature, 2023.

Journals papers:

1. Malay Chakraborty, Ekant Sharma, Himal Suraweera, Hien Ngo, "Analysis and Optimization of RIS-Assisted Cell-Free Massive MIMO NOMA Systems," IEEE Transactions on Communications (Accepted for Publication), 2024.

2. Sudhakar Rai, Prem Singh, Ekant Sharma, Aditya K Jagannatham, Lajos Hanzo, "Energy Efficiency Optimization of FBMC/OQAM-based Massive MIMO Systems Subject to Electromagnetic Exposure Constraints," IEEE Transactions on Vehicular Technology (Early Access), 2024.

3. Priya Gupta, Dharmendra Prajapati, Ekant Sharma and Debashis Ghosh, "Spatially Correlated Multi-Pair Massive MIMO Relaying With Rician Channel and Phase Shifts," in IEEE Transactions on Vehicular Technology, vol. 72, no. 4, pp. 4844-4850, April 2023

4. Sreenivasulu Reddy Kudumala, Ashutosh Kumar Dubey, Priya Gupta, Saakshi Gupta, **Ekant Sharma**, "Hardware Impaired RIS Assisted Multi-Pair FD Communication With Spatial Correlation," IEEE Communications Letters, vol. 26, no. 9, pp. 2200-2204, Sept. 2022

5. Venkatesh Tentu, **Ekant Sharma**, Dheeraj Naidu Amudala, Rohit Budhiraja, "UAV-Enabled Hardware-Impaired Spatially Correlated Cell-Free Massive MIMO Systems: Analysis And Energy Efficiency Optimization", IEEE Transactions on Communications, vol. 70, no. 4, pp. 2722-2741, April 2022

6. Soumyadeep Datta, Dheeraj Naidu Amudala, **Ekant Sharma**, Rohit Budhiraja and Shivendra S. Panwar, "Full-Duplex Cell-Free Massive MIMO Systems: Analysis and Decentralized Optimization, " IEEE Open Journal of the Communications Society, vol. 3, pp. 31-50, 2022

7. Sauradeep Dey, **Ekant Sharma** and Rohit Budhiraja, "Hardware-Impaired Rician-Faded Massive MIMO FD Relay: Analysis And Optimization," IEEE Transactions on Communications, vol 69, no. 8, pp. 5209 - 5227, Aug. 2021

8. Dheeraj Naidu Amudala, **Ekant Sharma** and Rohit Budhiraja, "Energy-Efficient Spatially-Correlated Hardware Impaired Massive MIMO FD Relaying," in IEEE Transactions on Communications, vol. 69, no. 3, pp. 2028-2046, March 2021

9. Vikalp Mandawaria, **Ekant Sharma** and Rohit Budhiraja, "Energy-Efficient Massive MIMO Multi-Relay NOMA Systems With CSI errors," in IEEE Transactions on Communications, vol. 68, no. 12, pp. 7410-7428, Dec. 2020

10. Venkatesh Tentu, **Ekant Sharma** and Rohit Budhiraja, "WSEE Optimization Using Asynchronous ADMM For Massive MIMO Two-Way Relaying", in IEEE Communications Letters, vol. 24, no. 10, pp. 2255-2259, Oct. 2020

11. **Ekant Sharma**, Neha Gupta, Sauradeep Dey and Rohit Budhiraja, "Hybrid Massive MIMO Two-Way Relaying With Users And Relay Hardware Impairments", in IEEE Signal Processing Letters, vol. 27, pp. 486-490, Feb. 2020

12. **Ekant Sharma**, Dheeraj Amadula and Rohit Budhiraja, "Energy Efficiency Optimization of Massive MIMO FD Relay With Quadratic Programming," in IEEE Transactions on Wireless Communications, vol. 19, no. 2, pp. 1429-1448, Feb. 2020

13. **Ekant Sharma**, Swadha Siddhi Chauhan and Rohit Budhiraja, "Decentralized WSEE Optimization for Massive MIMO Two-Way Half-Duplex AF Relaying," in IEEE Transactions on Wireless Communications, vol. 19, no. 2, pp. 1397-1414, Feb. 2020

14. Dheeraj Amadula, **Ekant Sharma** and Rohit Budhiraja, "Spectral and Energy Efficiency of Multipair Two-way Full-Duplex Spatially Correlated Massive MIMO MRC/MRT Relaying," in IEEE Transactions on Communications, vol. 67, no. 12, pp. 8346-8364, Dec. 2019

15. **Ekant Sharma**, Arpita Singh Chauhan and Rohit Budhiraja, "Transceiver Design for Massive MIMO Two-Way Half-Duplex AF Hybrid Relay With MIMO Users," in IEEE Transactions on Vehicular Technology, vol. 68, no. 9, pp. 8759-8774, Sept. 2019

16. **Ekant Sharma**, Swadha Siddhi Chauhan, and Rohit Budhiraja, "Weighted Sum Energy Efficiency Optimization for Massive MIMO Two-Way Half-Duplex AF Relaying," IEEE Wireless Communications Letters, Volume: 8 , Issue: 1 , Feb. 2019

17. Vikalp Mandawaria, **Ekant Sharma**, Rohit Budhiraja, "WSEE Optimization of mmWave NOMA Systems," in IEEE Communications Letters, vol. 23, no. 8, pp. 1413-1417, Aug. 2019

18. Sauradeep Dey, **Ekant Sharma**, and Rohit Budhiraja, "Scaling Analysis of Hardware-Impaired Two-Way full-Duplex Massive MIMO Relay," IEEE Communications Letters, Volume: 23 , Issue: 7, July, 2019

19. DN Amudala, A Rajoriya, **Ekant Sharma**, S Dey, Rohit Budhiraja, "Massive MIMO multi-pair two-way half-duplex AF FDD relaying: channel estimation", CSI Transactions on ICT, Springer, 2019

20. **Ekant Sharma**, Rohit Budhiraja, K Vasudevan and Lajos Hanzo, "Full-Duplex Massive MIMO Multi-Pair Two-Way AF Relaying: Energy Efficiency Optimization," in IEEE Transactions on Communications, vol. 66, no. 8, pp. 3322-3340, Aug. 2018

21. **Ekant Sharma**, Ashish Shukla, and Rohit Budhiraja, "Spectral- and Energy-Efficiency of Massive MIMO Two-Way Half-Duplex Hybrid Processing AF Relay," IEEE Wireless Communications Letters, Volume: 7 , Issue: 5 , Oct. 2018

22. Prem Singh, **Ekant Sharma**, K Vasudevan and Rohit Budhiraja, "CFO and Channel Estimation for Frequency Selective MIMO-FBMC/OQAM Systems," IEEE Wireless Communications Letters, Volume: 7 , Issue: 5 , Oct. 2018

23. **Ekant Sharma**, Himanshu B Mishra, K Vasudevan and Rohit Budhiraja, "PAPR Analysis of Superimposed Training Based SISO/MIMO-OFDM Systems With Orthogonal Affine Precoder," Elsevier Physical Communications, Volume 25, Part 1, December 2017, Pages 239-248

24. **Ekant Sharma**, S. Rane, and K Vasudevan, "BER Efficient Interleaved OFDM System," Wireless Personal Communications, Springer, 98, no. 1 (2018): 1531-1546

Conference papers:

1. K. P. Rajput, E. Sharma, P. Singh and B. S. Mysore Ramarao, "Energy Efficient Massive MIMO IoT Network: A Power and MSE Constrained Approach," International Conference on Signal Processing and Communications (SPCOM), Bangalore, India, 2024, pp. 1-5

2. Sudhakar Rai, Ekant Sharma, Neeraj Varshney, Aditya K Jagannatham, "Dynamic User Clustering for mmWave-Based NOMA Networks," IEEE Asia-Pacific Conference on Communications (APCC), 2024 (Accepted for Publication)

3. Samudrala Soujanya, Arjun Menon K, Prem Singh, Ekant Sharma, "Implementation of Channel Deinterleaver for 5G NR PUCCH Channel," IEEE Asia-Pacific Conference on Communications (APCC), 2024 (Accepted for Publication)

4. Dwikul Jyoti Das, Sai Teja Kollimarla, Ekant Sharma, Prem Singh, "OTFS Aided Full-Duplex Cell-Free Massive MIMO," IEEE Wireless Communications and Networking Conference (WCNC), 21–24 April 2024

5. Malay Chakraborty, Priya Gupta, Ekant Sharma, Debashis Ghosh, "Impact of Rician Phase Shifts on Multi-Pair Two-Way Full-Duplex Massive MIMO Relaying," IEEE Wireless Communications and Networking Conference (WCNC), 21–24 April 2024

6. Shaik Suhail Farhaan, Samudrala Soujanya, Prem Singh, Ekant Sharma, "Two-Fold Physical Layer Security for OTFS-aided RIS Communication," IEEE Wireless Communications and Networking Conference (WCNC), 21–24 April 2024

7. H. Rudramuniyappa, S. Soujanya, R. Jain, N. Anjum, P. Singh and E. Sharma, "FPGA Implementation and Architecture Design of Polar Encoder for 5G-NR," 2023 IEEE Region 10 Conference (TENCON), 2023, pp. 535-540

8. R. Jain, N. Anjum, S. Soujanya, H. Rudramuniyappa, A Jain, A. Bisht and E. Sharma and P. Singh, "FPGA Implementation of Rate Matching in 5G NR PDSCH," IEEE Region 10 Conference (TENCON), 2023, pp. 1-6

9. Malay Chakraborty, Sivapavan Kumar Vasa, Ekant Sharma and Himal A Suraweera, "Downlink Spectral Efficiency of RIS-Assisted Cell-Free Massive MIMO-NOMA Systems With CSI Errors," accepted for publication in IEEE GLOBECOM 2022

10. Nitish Vikas Deshpande, Sauradeep Dey, Dheeraj Naidu Amudala, **Ekant Sharma** and Rohit Budhiraja, "Analysis of Statistical CSI-based Optimized Phase-Shift IRS-aided FD mMIMO System", to appear in IEEE Global Communications (GLOBECOM) Conference: Selected Areas in Communications, 2021

11. Soumyadeep Datta, **Ekant Sharma**, Dheeraj Naidu Amudala, Rohit Budhiraja and Shivendra Panwar, "FD Cell-Free mMIMO: Analysis and Optimization", to appear in IEEE International Conference on Communications (ICC), Jun 2021

12. Venkatesh Tentu, Dheeraj Naidu Amudala, **Ekant Sharma** and Rohit Budhiraja, "UAV-Enabled Hardware-Impaired Cell-free Massive MIMO With Spatially-Correlated Rician Fading", to appear in IEEE International Conference on Communications (ICC), Jun 2021

13. Aditya Gupta, Dheeraj Naidu Amudala, **Ekant Sharma** and Rohit Budhiraja, "Max-Min Fairness for Wireless-Powered Spatially Correlated Massive MIMO Multi-way Relaying", to appear in IEEE International Conference on Communications (ICC), Jun 2021

14. Vikalp Mandawaria, **Ekant Sharma** and Rohit Budhiraja, "Spectral Efficiency for Massive MIMO Multi-Relay NOMA Systems with CSI errors," to appear in IEEE 28th European Signal Processing Conference (EUSIPCO 2020), Amsterdam, Netherlands, Jan, 2021.

15. Sauradeep Dey, **Ekant Sharma** and Rohit Budhiraja, "Dynamic Resolution ADC/DAC massive MIMO FD Relaying System Over Correlated Rician Channel," to appear in IEEE 28th European

Signal Processing Conference (EUSIPCO 2020), Amsterdam, Netherlands, Jan, 2021.

16. Dheeraj Naidu Amudala, **Ekant Sharma** and Rohit Budhiraja, "Spatially-Correlated Hardware-Impaired Massive MIMO FD Relaying With MIMO Users," to appear in IEEE ICC 2020 Workshop on Full-Duplex Communications for Future Wireless Networks, Dublin, Ireland, Jun, 2020

17. Sauradeep Dey, **Ekant Sharma** and Rohit Budhiraja, "Impact of User and Relay Hardware Impairments on Spectral Efficiency of HD Massive MIMO Relay," to appear in IEEE SPCOM 2020, Bangalore, India, July, 2020

18. Soumyadeep Dutta, **Ekant Sharma** and Rohit Budhiraja, "Power Scaling for Massive MIMO UAV Communication System," IEEE 12th International Conference on communication systems and networks (COMSNETS), Bengaluru, India, 2020, pp. 507-510

19. Venkatesh Tentu, Dheeraj Amudula, Anupama Rajoriya, **Ekant Sharma** and Rohit Budhiraja, "Energy Efficient Multi-Pair Massive MIMO Two-Way AF Relaying: A Deep Learning Approach," IEEE 12th International Conference on communication systems and networks (COMSNETS), Bengaluru, India, 2020, pp. 440-445

20. Sauradeep Dey, **Ekant Sharma**, and Rohit Budhiraja, "Multi-Pair Two-way Full-Duplex Massive MIMO Relaying with Non-Ideal Hardware," IEEE Global Communications Conference (GLOBECOM), Waikoloa, HI, USA, 2019, pp. 1-6

21. **Ekant Sharma**, Dheeraj Amudula and Rohit Budhiraja, "Energy Efficiency Optimization of Massive MIMO FD Relay Using Quadratic Programming," 2019 IEEE 20th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)

22. Neha Gupta, **Ekant Sharma**, Sauradeep Dey and Rohit Budhiraja, "Spectral Efficiency of Multi-pair Two-Way Massive MIMO Relay With Correlated Hardware Distortion," 2019 IEEE 20th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)

23. **Ekant Sharma** and Rohit Budhiraja, "QoS-Constrained Energy-Efficient AF Two-Way Full-Duplex Relaying with Massive Antennas," Proceedings of IEEE SPCOM 2018 (Invited paper), IISc Bangalore, India, pp. 1-6, Jul. 2018

24. Arpita Chauhan, **Ekant Sharma**, and Rohit Budhiraja, "Hybrid Block Diagonalization for Massive MIMO Two-Way Half-Duplex AF Hybrid Relay," Proceedings of IEEE SPCOM 2018, IISc Bangalore, India, pp. 1-6, Jul. 2018

25. **Ekant Sharma**, Ashish Kant Shukla, and Rohit Budhiraja, "Spectral- and Energy-Efficiency for Massive MIMO Two-Way Full-Duplex Hybrid Processing AF Relay," Proceedings of IEEE SPCOM 2018, IISc Bangalore, India, pp. 1-6, Jul. 2018

26. **Ekant Sharma**, Rohit Budhiraja and K Vasudevan, "Multi-Pair Two Way AF Full-Duplex Massive MIMO Relaying with ZFR/ZFT Processing," Proceedings of IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), Montreal, QC, Canada, October 8-13, 2017

27. **Ekant Sharma**, H. B. Mishra, and K Vasudevan, "PAPR Analysis of Superimposed Training Based MIMO-OFDM Systems using an Orthogonal Affine Precoder," IEEE 13th International Conference INDICON, Bengaluru, India, Dec 2016

28. **Ekant Sharma**, H. B. Mishra, and K. Vasudevan, "Training Sequence Optimization for Estimating the Channel in the Presence of Colored Interference for MIMO-OFDM Systems," IEEE Region 10 Conference (TENCON), Singapore, Nov 2016

29. **Ekant Sharma** and K Vasudevan, "PAPR and BER Minimized OFDM Systems with Low Complexity Channel Independent Precoders," 22nd IEEE Symposium on Communications and Vehicular Technology in the Benelux (SCVT), Luxembourg, Nov 2015

RELEVANT COURSES

Representation and Analysis of Random Signals	MIMO Wireless communications
Probability theory and Random Variables	Convex Optimization
Transceiver optimization for OFDM wireless system	Statistical signal processing
Simulation-Based Design of 4G/5G Wireless Standards	Communication theory
Mathematical methods in Signal Processing	Digital Communication Networks

ACADEMIC ACHIEVEMENTS

- Exemplary Reviewer - IEEE Transactions on Communications for the year 2022
- Outstanding PhD Thesis Award for the best thesis in Electrical department, IIT Kanpur
- Best Doctoral Dissertation Award (Honorable Mention) at IEEE SPCOM conference, 2020
- Finalist for Qualcomm Innovation Fellowship for 2020-2021
- Awarded with Shastri Indo-Canadian Institute scholarship for 2017-2018
- Qualified GATE 2009 with 99.63%ile (AIR-138) in fourth year of engineering
- Qualified GATE 2008 with 98.48%ile (AIR-422) in third year of engineering

WORKSHOPS/CONFERENCES ATTENDED

- IEEE SPAWC conference, Cannes, France, July 2-5, 2019
- IEEE BIS Seminar at IITK on 5G Communications, Indian Institute of Technology, Kanpur, 2018
- IEEE SPCOM conference, Indian Institute of Science, Bangalore, July 16-19, 2018
- IEEE PIMRC conference, Quebec, Canada, October 8-13, 2017
- IEEE TENCON conference, Singapore, November 22-25, 2016
- Shannon Centenary Day, Indian Institute of Technology, Kanpur, October 19th, 2016
- Joint Telematics Group/IEEE Information Theory Society Summer School on Signal Processing Communications and Networks, IISc Bangalore, July 20-23, 2015
- 22nd IEEE Symposium on Communications and Vehicular Technology, Luxembourg, Nov 2015

RESEARCH TALKS

- Invited talk at Workshop on "Radio Frequency Front End Design and Solutions for Advanced Wireless and Space Communication", IITR, July 2022
- Invited talk at Workshop on "Technical Writing using LaTeX", VIT-AP, April 2022
- Invited by IIITB COMET Foundation as a speaker for the workshop on "5G-NR Physical Layer: Modeling, Technologies and Standards", March 2022
- Expert talk in FDP at DSCE Bangalore on "Disruptive Technologies and challenges in Devices, Communications, Health care, Automation, Smart Grid using AI, ML and 5G/6G", March 2022
- Invited talk at Center for Network Intelligence (IISc) on the topic "5G and Beyond Wireless Systems: Energy Efficiency Perspective", July 2021
- Expert talk in FDP at NITTTR Chandigarh on the topic "Beyond 5G", Sep. 2021
- Expert talk in FDP at NITTTR Chandigarh on the topic "MATLAB Implementation of OFDM based on 5G NR Standard", Sep. 2021
- Expert talk in FDP at DSCE Bangalore on the topic "5G and Beyond Wireless Systems", Sep. 2021

- Expert talk in FDP at PESITM, Bangalore on the topic "Tools and Techniques for Effective Research Writing", Dec. 2020

PROFESSIONAL ACTIVITIES

- Organizing chair for IEEE ELEXCOM'23 conference

- Acting as TPC member for IEEE ICC, IEEE GLOBECOM, IEEE NCC, IEEE COMSNETS, IEEE ICNC AMCN, IEEE ICICICT, E2A,

- Instructor for Post Graduate Certification course in "5G Technology and IoT" by Coursera and IIT Roorkee

- Acting as the Joint Secretary in the executive committee of the IEEE Roorkee Sub-section, 2022

- Member of following departmental/Institute committees:
  - Faculty in-charge department integrated communication and sensing laboratory August 2023-July 2024
  - Faculty in-charge department communication laboratory August 2021-July 2024
  - Faculty in-charge department maintenance and repair August 2023- July 2024
  - Institute senate committee for scholarships and prizes (SCSP)
  - Department faculty search committee, 2023
  - Department research committee (DRC), August 2023- July 2025
  - Department academic program committee (DAPC), August 2021- July 2023
  - ANSYS fellowship for MTech students, 2022 and 2023
  - Departmental high performance computing (HPC), 2022
  - SATHI proposal of DST, 2022
  - Anti ragging committee, 2022-2023
  - Faculty advisor for MTech CNSP group, academic year 2022 and 2023
- Routinely review articles for
  - IEEE Journal on Selected Areas in Communications, IEEE Transactions
  - IEEE Transactions on Wireless Communications
  - IEEE Transactions on Communications
  - IEEE Transactions on Vehicular Technology
  - IEEE Open Journal of the Communications Society
  - IEEE Transactions on Green Communications and Networking
  - IEEE Systems Journal
  - IEEE Communication Letters
  - IET Communications

PERSONAL TRAITS

Highly motivated and eager to learn new things

Strong motivational and leadership skills

Ability to work as an individual as well as in group