Personal Information

Name	Dr. K. Vasu Babu
Years of Experience	Teaching: 16 Years Industry: Nil
Email Id (College Mail ID)	vasubabu.k@bvrithyderabad.edu.in
Areas of Specialization	MIMO Antennas, Microwave Absorbers and Optimization of Antenna design with Machine Learning Algorithms and Deep Learning Algorithms

Educational Qualifications

Doctoral Degree	Ph. D	MIMO Antennas for 5G Applications
PG Degree	M.Tech.	Digital Electronics and Communication Systems
UG Degree	B. Tech	Electronics and Communication Engineering

Awards and Honors

- Featured among the World's TOP 2% SCIENTISTS LIST published by Stanford University, USA, and Elsevier in September 2024.

PROJECT Sanctioned (Indian Space Research Organization)

Project Title: "Distributed Beams Techniques and the analysis of the radar-variable, Motion-Compensated Steering (MCS) technique and Impact on signal Power and Copolar Correlation Coeffiicent Estimates in Phased Array Weather Radar"**.**

Sanctioned Amount: Funding of the project under RESPOND Programme for a period of Three years at a total outlay of **Rs. 15,53,520/-** (Rupees Fifteen Lakh Fifty-Three Thousand, Five Hundred and Twenty only) towards meeting the expenditure of the project

File No: ISRO/RES/3/948/23-24

Sanction date: August 08, 2023

PROJECT APPLIED INDIAN SPACE RESEARCH ORGANISATION (ISRO) and DST-SERB

- **Prof. K. Vasu Babu et.al., "**Heat sink integrated X-bnad microstrip antenna array"**. RES-VSSC- 2023-009 Submitted on 06-02-2024.**
- **Prof. K. Vasu Babu, "**Design and Experimental Validation of low-profile MIMO antenna for mm wave 5G applications**" submitted to DST-SERB Under Core Research Grant (CRG) with Reference No. 182023008080 submitted on 14-03-2023**

Papers Published

International Journal Publications:

SCI Journals: 32 **Scopus Journals: 24** **UGC Journals: 15**

1. Babu, K. Vasu, et al. "Gain enhancement of mm-wave antenna using graded index lens integrated frequency selective surface for 5G NR FR2 applications." Physica Scripta 99.9 (2024): 095549.

2. Babu, K. Vasu, et al. "Gain enhancement of SiO2 substrate-based fractal antenna integrated with frequency selective surface and its optimization using machine learning algorithms for terahertz utilizations." Optical and Quantum Electronics 56.9 (2024): 1407.

3. Babu, K. Vasu, et al. "A Perfect Metamaterial Absorber (MMA) Using SiO2 Substrate with High Absorption for Terahertz Applications: Design and Equivalent Circuit Analysis." Journal of Electronic Materials (2024): 1-14.

4. Babu, K. Vasu, and Gorre Naga Jyothi Sree. "Design and Analysis of Four-Port MIMO System Optimization Methodology with Machine Learning Approaches of Validated Antenna Parameters." Wireless Personal Communications (2024): 1-20.

5. Babu, K. Vasu, et al. "An inverted U-shaped merged stubs hexa-band 4-element MIMO antenna for advanced wireless applications." International Journal of Communication Systems 37.12 (2024): e5806.

6. Vasu Babu, K., et al. "Opportunistic Control of Dual-Band Half-Circular U-Shape MIMO Design and Analysis for Wireless Applications." Wireless Personal Communications 134.4 (2024): 2083-2100.

7. Babu, K. Vasu, et al. "A Compact Self-Isolated MIMO UWB Antenna with Band Notched Characteristics." IETE Journal of Research (2024): 1-12.

8. Babu, K. Vasu, et al. "Design and optimization of a deep learning algorithm assisted stub-loaded dual band four-port MIMO antenna for sub-6 GHz 5G and x band satellite communication applications." AEU-International Journal of Electronics and Communications 175 (2024): 155074.

9. Babu, K. Vasu, et al. "Deep learning assisted fractal slotted substrate MIMO antenna with characteristic mode analysis (CMA) for Sub-6 GHz n78 5 G NR applications: design, optimization and experimental validation." Physica Scripta 98.11 (2023): 115526.

10. Babu, K. Vasu, et al. "Design of graphene-based broadband metamaterial absorber with circuit analysis approach for terahertz region applications." Optical and Quantum Electronics 55.13 (2023): 1188.

11. Babu, K. Vasu, et al. "Design and implementation of MIMO graphene patch antenna to improve isolation for THz applications." Microsystem Technologies 29.10 (2023): 1443-1453.

12. Babu, K. Vasu, et al. "Performance analysis of a photonic crystals embedded wideband (1.41–3.0 THz) fractal MIMO antenna over SiO2 substrate for terahertz band applications." Silicon 15.18 (2023): 7823-7836.

13. Babu, K. Vasu, and Gorre Naga Jyothi Sree. "Design and circuit analysis approach of graphene-based compact metamaterial-absorber for terahertz range applications." Optical and Quantum Electronics 55.9 (2023): 769.

14. Babu, K. Vasu, et al. "Broadband sub-6 GHz flower-shaped MIMO antenna with high isolation using theory of characteristic mode analysis (TCMA) for 5G NR bands and WLAN applications." International Journal of Communication Systems 36.6 (2023): e5442.Bab

15. u, K. Vasu, et al. "Design and analysis of nonagonal patch unite with rectangular shaped 4-element UWB-MIMO antenna for portable wireless device applications." Analog Integrated Circuits and Signal Processing 114.3 (2023): 459-473.

16. Babu, K. Vasu, et al. "Design and fabrication of flexible and frequency reconfigurable antenna loaded with copper, distilled water and seawater metamaterial superstrate for IoT applications." International Journal of RF and Microwave Computer-Aided Engineering 32.12 (2022): e23481.

17. Babu, K. Vasu, et al. "Compact dual-band design and analysis of half-circular U-shape MIMO radiator for wireless applications." Microsystem Technologies 29.4 (2023): 501-514.

18. Babu, Kommanaboyina Vasu, et al. "Design and optimization of micro-sized wideband fractal MIMO antenna based on characteristic analysis of graphene for terahertz applications." Optical and Quantum Electronics 54.5 (2022): 281.

19. Babu, K. Vasu, et al. "Design and development of miniaturized MIMO antenna using parasitic elements and Machine learning (ML) technique for lower sub 6 GHz 5G applications." AEU-International Journal of Electronics and Communications 153 (2022): 154281.

20. Vasu Babu, K., et al. "A micro-scaled graphene-based tree-shaped wideband printed MIMO antenna for terahertz applications." Journal of Computational Electronics 21.1 (2022): 289-303.

21. Babu, K. Vasu, et al. "Development of metamaterial inspired non-uniform circular array superstate antenna using characteristic mode analysis." Electronics 11.16 (2022): 2517.

22. Babu, K. Vasu, and B. Anuradha. "Design of UWB MIMO antenna to reduce the mutual coupling using defected ground structure." Wireless Personal Communications 118.4 (2021): 3469-3484.

23. Babu, Kommanaboyina V., et al. "Compact dual-band printed MIMO antenna with very low mutual coupling for WLAN, Wi-MAX, sub-6 GHz 5G and X-band satellite communication applications." Progress in Electromagnetics Research C 117 (2021): 99-114.

24. Babu, K. Vasu, et al. "A compact printed UWB MIMO antenna with electronically reconfigurable WLAN band-notched characteristics." Journal of Circuits, Systems and Computers 31.03 (2022): 2250045.

25. Babu, K. Vasu, et al. "An octagonal star shaped flexible UWB antenna with band-notched characteristics for WLAN applications." Journal of instrumentation 15.02 (2020): P02021.

26. Babu, K. Vasu, and Bhuma Anuradha. "Design of MIMO antenna to interference inherent for ultra-wide band systems using defected ground structure." Microwave and Optical Technology Letters 61.12 (2019): 2698-2708.

27. Vasu, B. K., and B. Anuradha. "Design of inverted L-shape and ohm symbol inserted MIMO antenna to reduce the mutual coupling. AEU-Int." J. Electron. Commun 105 (2019): 42-53.

28. Vasu Babu, K., and B. Anuradha. "Design of Wang shape neutralization line antenna to reduce the mutual coupling in MIMO antennas." Analog Integrated Circuits and Signal Processing 101.1 (2019): 67-76.

29. Babu, K. Vasu, B. Anuradha, and Sudipta Das. "Design & analysis of a dual-band MIMO antenna to reduce the mutual coupling." Journal of Instrumentation 14.09 (2019): P09023.

30. Babu, K. Vasu, and B. Anuradha. "Design and analysis of multi-band circle shape MIMO antenna using defected ground structure to reduce mutual coupling." International Journal of Ultra-Wideband Communications and Systems 4.1 (2019): 32-40.

31. Babu, Kommana Vasu, and Bhuma Anuradha. "Analysis of multi-band circle MIMO antenna design for C-band applications." Progress In Electromagnetics Research C 91 (2019): 185-196.

32. Babu, K. Vasu, and B. Anuradha. "Design of multi-band minkowski MIMO antenna to reduce the mutual coupling." Journal of King Saud University-Engineering Sciences 32.1 (2020): 51-57.

33. Babu, K. B. V., and B. Anuradha. "Tri-band MIMO antenna for WLAN, WiMAX and defence system & radio astronomy applications." Advanced Electromagnetics 7.2 (2018): 60-67.

34. K. Vasu babu, Dr. Bhuma Anuradha, G. Naga jyothisree, "Improved Return Loss and Reduction of Mutual Coupling of Microstrip MIMO Antenna for C-Band Applications" International Journal of Electrical and Electronics Engineering andTelecommunications, Volume-6, Issue-2, **April, 2017**, ISSN: 2319-2518

35. K. Vasu babu, Ch. Mounika "Design of circular shape MIMO antenna for WLAN & WiMAX Applications" International Journal of Advanced and Innovative Research.ISSN: 2278-7844. Volume 6 Issue 5, **May, 2017**

36. K. Vasu babu, M. Himaja "Design and performance analysis Multiband MIMO antenna for Wireless Applications" International Journal of Advanced and Innovative Research. ISSN: 2278-7844. Volume 6 Issue **5, June 2017**

37. K. Vasu babu, R. Tejaswani "Improving Spectral Efficiency of DOA in 4G MIMO System Applications" International Journal of Advanced and Innovative Research. Volume-5, Issue-8, **2016**. ISSN: 2278-78445

38. K. Vasu babu, Ch. Mani Deepika "Performance evaluation of PAPR reduction in OFDM system using Non-linear Companding Transform" International journal of professionalengineering studies. Volume-5, Issue-8, **2016**

39. K. Vasu babu, Dr. Bhuma Anuradha, Dr. K. C. B. Rao, "Design optimization of Microstrip Antenna with EBG and DGS using the Genetic Algorithm to reduce the Mutual Coupling" Journal of Microwave Engineering and Technologies **(SCOPUS INDEXED),** ISSN: 2349-9001(online) Volume 3, Issue 1, Pages 11-30, **2016**

40. K. Vasu babu, M. R. N. Tagore, Dr. K. C. B. Rao, "High Resolution Technique for DOA Estimation using Music Algorithm" International Journal of Electrical and Electronics Engineering and Telecommunications, ISSN: 237-2518, **2015**

41. K. Vasu babu, G. Yamini sasi "An increased MUSIC DOA Estimation Algorithm for wireless communication" International journal of Research. ISSN: 2348-6848 Volume-2, Issue-9, September, **2015**

42. K. Vasu babu, N. Rekha "Performance Analysis of CP-OFDM under Different Fading Channels with Efficient Power Control Mechanism" International journal of Research and Development organization. ISSN- 3967-0867, VOL 2 ISSUE 11 **November 2015**

43. K. Vasu babu, Dr. K. C. B. Rao, G. Naga jyothisree, "Reduction of Mutual Coupling in Microstrip MIMO Antennas using Parasitic Elements" International conference on Electromagnetic Interference & Compatibility (EMI/EMC Society), Andhra University, Visakhapatnam, **July 2015**

44. K. Vasu babu, Dr. K. C. B. Rao, G. Naga jyothisree, "A Typical Approach for the Design of a Video Application using Wireless 4G" International Journal of Advanced and Innovative Research(ijair.jctjournals.com), ISSN:2278-7844, Volume 04, Issue 04**April 2014**

45. K. Vasu babu, Suneetha Kokkirigadda, "correlation-based SNR estimation in OFDM system" Global Journal of Engineering Design & technology(www.gifre.org), ISSN:2319-7293, Volume 04, Issue 04 **August 2014**

46. K. Vasu babu, G. Naga jyothisree, "A Novel construction technique for designing of video application using Wirless 4G" International Journal of Advanced and Innovative Research (ijair.jctjournals.com), ISSN:2278-7844, Volume 03, Issue 08 **September, 2014**

47. K. Vasu babu, G. Vijaya Bharathi, "Implementation of Low power and High-Speed encryption using Crypto-Hardware" International Journal of Modern Engineering Research (www.ijmer.com) ISSN:2249-6645, Volume 03, Issue 05 **September 2013**

48. K. Vasu babu, M. Deepthi, "Mobile robot self-planning & Navigation based on artificial landmark localization" International Journal of Scientific Engineering and Technology Research (www.ijsetr.com) ISSN:2249-6645, Volume 03, Issue 07 **September 2013**

49. K. Vasu babu, M.R. N. Tagore, M. Pardha saradhi, "Comparision of Active Contour models for coronary angiogram images" National Conference on Image Processing & their Applications (NCIPA)ISSN:2248-9584, Volume 02, Issue 07 **December 2012**

International Conference Publications:

Scopus Conferences: 10 IEEE Conferences: 04

1. **K. Vasu Babu, "**Design and Implementation of Tunable Terahertz Ultra-Wideband Antenna, **Springer**, (**SCOPUS Indexed),** Lecture Notes in Electrical Engineering, India, Micro, 2023**.**
2. **K. Vasu Babu, "**Design and analysis of fractal type MIMO radiator for the applications of Sub 6-GHz 5G systems, **Springer**, (**SCOPUS Indexed),** Lecture Notes in Electrical Engineering, India, Micro, 2022**.**
3. **K. Vasu Babu, "**Design and simulation of dual-band MIMO Antenna for Radar and sub-6-GHz 5G Applications, **Springer**, (**SCOPUS Indexed),** Lecture Notes inElectrical Engineering, VIT Chennai, India, 2020**.**
4. **K. Vasu Babu, Prof. B. Anuradha, "**A compact Penta band Printed Monopole Antenna for Multiple Wireless Communications, **Springer**, (**SCOPUS Indexed),** Lecture Notes in Electrical Engineering, VIT Chennai, India, 2020**.**
5. **K. Vasu Babu, Prof. B. Anuradha, "**Design of annular ring MIMO antenna using Defected Ground Structure" International Conference on Microwave integrated circuit, Photonics and wireless networks, NIT, Trichy, India. **978-1-7281-1034- 9/19/$31.00 ©2019 IEEE**
6. **K. Vasu Babu, Prof. B. Anuradha, "**Design & Isolation reduction of circle inserted MIMO antenna" International Conference on Systems, Computation, Automation and Networking, Photonics and wireless networks, Manakula Vinayagar Institute of Technology, Puducherry, India. **978-1-7281-1524-5/19/$31.00 ©2019 IEEE.**
7. **K. Vasu Babu, Prof. B. Anuradha, "**Design of nine shape MIMO Antenna using parasitic elements to reduce mutual coupling" International Conference on Optical and Wireless Technology, **Springer**, (**SCOPUS Indexed),** Lecture Notes in Electrical Engineering, Malaviya National Institute of Technology, Jaipur, India, March, **2019.**

8. **K. Vasu Babu, Prof. B. Anuradha, "**Design of Half-ring MIMO antenna to reduce the mutual coupling" International Conference on Artificial Intelligence, Smart grid and smart city applications, **Springer**, (**SCOPUS Indexed),** Lecture Notes in Electrical Engineering PSG College of Technology, Coimbatore, India, **January,2019.**
9. **K. Vasu Babu, Prof. B. Anuradha, "**Design & Analysis of MIMO antenna to reduce the mutual coupling" **IEEE-INAE Workshop on Electromagnetics**, IIST, Trivandrum, India, **December, 2018.**
10. **K. Vasu Babu, Prof. B. Anuradha, "**Dispersion Characterization of a UWB Vivaldi Antenna in Time and Frequency Domain" International conference on Antennas & Wave Propagation, Hyderabad, India, December**.** 978-1-5386-7070-6/18/$31.00©2018 IEEE.
11. **K. Vasu Babu, Prof. B. Anuradha, "**Design of Rectangular MIMO Antenna for Bluetooth and WLAN Applications to Reduce the Mutual Coupling" International Conference on Engineering Vibration, Communication and Information Processing, **Springer**, (**SCOPUS Indexed),** Lecture Notes in Electrical Engineering 478, https://doi.org/10.1007/978-981-13-1642-5_14, Manipal University, Jaipur, India, **March, 2018.**
12. **K. Vasu Babu, Prof. B. Anuradha, "**A Dual-band Minkowski Shaped MIMO Antenna to reduce the mutual coupling" International Conference on Optical and Wireless Technology, **Springer**, (**SCOPUS Indexed),** Lecture Notes in Electrical Engineering 478, https://doi.org/10.1007/978-981-13-6159-3_9, Malaviya National Institute of Technology, Jaipur, India, **February, 2018.**
13. **K. Vasu Babu, Prof. B. Anuradha, "**Design of Dual-Band MIMO Antenna for LTE 2500, WiMax, and C-Band Applications to Reduce the Mutual Coupling" International Conference on Microelectronics and Telecommunications, **Springer**, (**SCOPUS Indexed),** Lecture Notes in Electrical Engineering, https://doi.org/10.1007/978-981-13-1906-8_12 Vishakhapatnam, India, **January, 2018.**

14. **K. Vasu Babu, Prof. B. Anuradha, "**Reduction of Mutual coupling by desegregated with EBG Structure for Microstrip Antenna Array Radar Applications" International Conference on Signal Processing, Communication, Power and Embedded System (SCOPES), Centurion University of Technology and management, Odisha, India. 978-1-5090-4620-1/16/$31.00 **©2016 IEEE.**

National Journal Publications:

Nil-

National Conference Publications:

-Nil-

PATENTS

- **Patent Title:** A Multiple-Input-Multiple-Output (MIMO) Ultra-Wide Band (UWB) MIMO Antenna

  Name of Applicants: Dr. K. Vasu Babu et.al.

  Patent Number: 202141007311 A

  Country: India

  Status: Published on 26-02-2021

Book Chapters Published as Editor & Author

As Editor: -

1. K. Vasu babu et.al. "Millimeter Wave and THz Devices for 5G and 6G systems: Modern Design Aspects and Optimization", Springer, 2024.
2. K. Vasu babu et.al. "Recent Advances in Graphene Nanophotonics", Springer, 2023.
3. K. Vasu Babu et.al. "Material Proceedings", International Conference on Innovative Research in Renewable Energy Technologies (IRRET, 2022).

As Author: -

1. Babu, K. Vasu, et al. "Spatially Efficient MIMO Antenna Design Using Photonic Crystal and Polyimide Substrate." Next Generation Wireless Communication: Advances in Optical, mm-Wave, and THz Technologies. Cham: Springer Nature Switzerland, 2024. 417-428.
2. Vasu Babu, K., et al. "Fractal MIMO Antenna Design for High-Frequency Terahertz Applications." Next Generation Wireless Communication: Advances in Optical, mm-Wave, and THz Technologies. Cham: Springer Nature Switzerland, 2024. 251-261.
3. Vasu Babu, K., et al. "Design and Analysis of Frequency Selective Surface for Gain Enhancement in Terahertz Applications." Next Generation Wireless Communication: Advances in Optical, mm-Wave, and THz Technologies. Cham: Springer Nature Switzerland, 2024. 331-339.
4. Babu, K. Vasu, et al. "Advanced MIMO Antenna Design with Defected Ground Structure for 5G NR (N75 and N77) Applications." Next Generation Wireless Communication: Advances in Optical, mm-Wave, and THz Technologies. Cham: Springer Nature Switzerland, 2024. 95-104.
5. Vasu Babu, K., et al. "Design and analysis of a CPW-fed fractal MIMO THz antenna using an array of parasitic elements." Terahertz Devices, Circuits and Systems: Materials, Methods and Applications. Singapore: Springer Nature Singapore, 2022. 53-60.
6. Vasu Babu, K., et al. "Design of monopole ground graphene disc-inserted THz antenna for future wireless systems." Recent Advances in Graphene Nanophotonics. Cham: Springer Nature Switzerland, 2023. 305-312.
7. Babu, K. Vasu, et al. "Design and analysis of fractal-based THz antenna with co-axial feeding technique for wireless applications." Recent Advances in Graphene Nanophotonics. Cham: Springer Nature Switzerland, 2023. 351-358.

PROFESSIONAL SERVICE/ REVIEWER

- AEÜ - International Journal of Electronics and Communications (ELSIEVER)
- Microwave and Optical Technology Letters (Wiley)
- Optical and Quantum Electronics (Springer)
- Progress in Electromagnetics Research
- Wireless Personal Communications (Springer)
- Journal of Electromagnetic Waves and Applications (Taylor & Francis)
- Analog Integrated Circuits and Signal Processing (Springer)
- Journal of Electronics (Taylor & Francis)
- Journal of Circuits Systems, and Computers (World Scientific)
- Microsystem Technologies (Springer)
- IETE Journal of Research (Taylor & Francis)
- Frequenz (De Gruyter)
- Sensors and Actuators (ELSIEVER)
- Advances in Electrical Engineering, Electronics and Energy (ELSIEVER)
- Computer Systems Science and Engineering (Tech Science Press)
- Journal for Control, Measurement, Electronics, Computing and Communications (Taylor & Francis)
- Micro and Nanostructures (ELSIEVER)
- Micromachines
- Scientific Reports (Springer)
- Cybernetics and Systems
- Symmetry (MDPI)
- Electronics (MDPI)
- Physica Scripta (IOP Science)
- Journal of Instrumentation (IOP Science)
- Heliyon (ELSIEVER)
- Results in Engineering (ELSIEVER)
- Defence Science Journal (DRDO)

FDPs Attended / Workshops Attended

WORKSHOPS / FDP / TECHNICAL SYMPOSIUMS

Description	Dates	Location
One Week Faculty Development Programme on "Biomedical Antennas"	2022 March, 2022	Karunya Institute of Technology and Sciences, Coimbatore
International Workshop on Modern Antenna Design and Its Challenges	21 Feb- 25 Feb, 2022	Mizoram University, Mizoram
One week FDP on Advancements on Antenna Technologies for future applications	14 Feb- 19 Feb, 2022	VRSEC, Vijayawada
One-week STTP on Computational Techniques for Electromagnetics	27 Dec – 31 Dec, 2021	Delhi Technological University, Delhi
Indo-US VAJRA Course on "Fundamentals of Electromagnetics" EMF-2021	26 Jun- 30 Jun,2021	National Institute of Technology, Silchar
One-week STTP on Advanced Electromagnetics and Modern Antenna Design Principles	06 Dec – 10 Dec, 2021	SSNCE, Chennai
One-week STTP on Recent Trends in	15 Nov – 20 Nov,	SRM University, AP
Microwaves and Beyond Techniques	2021	
One week STTP on Recent Advancements in RF & Microwave Circuits and Devices	05 Apr – 09 APR, 2021	BENNET University, Noida
One-week STTP on Recent Trends Circuits and Communication	19 Feb – 23 Feb, 2021	JCE, Jaipur
One-week STTP on Flexible and wearable antennas & applications	09 Feb – 13 Feb, 2021	Regional College for Education and Research & Technology, Jaipur
One-week STTP on Electromagnetics, Microwaves, RF & Antenna Design usingAnsys HFSS	21 Sep – 26 Sep, 2020	SVECW, Bhimavaram
One-week STTP on Trends and challenges in Design and Implementation of ReconfigurableAntenna for increased Spectrum access in CRA	14 Sep – 19 Sep, 2020	VRSEC, Vijayawada
One Week STTP on Antenna and ModernWireless Systems	03 Aug -07 Aug, 2020	VVIT, Purnea, Bihar
One-week STTP on Antenna Design and analysis using mathematical solvers	27 July -01 Aug, 2020	AITAM, Tekkali, India

QIP short term course on Efficient and Low-Loss Antenna Configurations	21 May- 02 June, 2018	IIT Kharagpur, India
FDP on ES and IOT Applications in AlliedFields	25-30 October, 2017	VVIT, Guntur
Workshop on Basics of SCADA	13-20 Apr, 2017	VVIT, Guntur
Workshop on Basics of PLC	3-12 Apr, 2017	VVIT, Guntur
Workshop on Advanced Antenna Design	29-30 Aug, 2016	SRM University, Chennai, India
Workshop on Nano fabrication	29-30 May, 2016	IIT Bombay, India
Quality improvement Programme on instructional Design and delivery system	04-09 Jun, 2016	NITTTR, Chennai, India
Workshop on Advances in signal & Image Processing (NW-ASIP)	22 Apr, 2014	JNTUK, Kakinada, India
Workshop on Advances in signal Processing (NWASP)	30 Aug, 2013	Andhra University, Visakhapatnam, India
VIVA VVIT 2012, 5th National Level Technical Symposium	25-26 Feb, 2012	VVIT, Nambur, India
Workshop on Computing freedom in engineering education – A free Software perspective	27 Nov, 2010	SWECHA, Hyderabad, India
Faculty development Programme on Recent trends in Digital Signal Processing	6-8 Aug, 2010	QIS College of Engineering, Ongole, India
Workshop on MATLAB Programming	23-24 Jul, 2010	SACET, Chirala, India
ERION 2010, 6th National Level TechnicalSymposium	25-26 Feb, 2010	SACET, Chirala, India
Faculty development Programme on Guidance & Counselling	23-27 Nov, 2009	NITTTR, Chennai, India
Faculty development Programme on Instructional Design and Delivery System	6-8 Feb, 2009	NITTTR, Chennai, India
National Level Workshop on Communications and Signal Processing – A Research perspective	28-29Jun,2008	Vignan Engineering College, Guntur, India
National Level Workshop on DSP Applications in Modern Communications	30-31 Mar, 2007	SACET, Chirala, India

Certifications:

COURSERA COURSES COMPLETED:

1. Neural Networks and Deep Learning
2. Introduction to Satellite Communications
3. Linear Circuits 1: DC Analysis
4. Linear Circuits 2: AC Analysis
5. Wireless Communication for Everybody

NPTEL COURSES COMPLETED:

1. Principles of Communication Systems
2. Antennas
3. Microwave Engineering
4. Analog Communications
5. Deep learning

Professional Memberships:

1) IAENG-159267

Any Other Achievements

1) Acting as a resource person in various faculty development programs
2) Acting as Session chair in Virtual International Conference Innovative Research in Renewable Energy Technologies (IRRET-2023) 9th -10th APRIL 2023.
3) Acting as a reviewer for various international conferences organized in India and outside India.