

Personal Information

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



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

Papers Published

International Journal Publications:

SCI Journals: 16 Scopus Journals: 06 UGC Journals: 15

- 1. 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 (2023), SCI, Wiley.**
- 2. Babu, 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 (2023), SCI, Springer.**
- 3. 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 (2022): e23481, SCI, Wiley.**
- 4. Babu, K. Vasu, et al.** " Compact dual-band design and analysis of half-circular U-shape MIMO radiator for wireless applications." **Microsystem Technologies, SCI, Springer, August, 2022.**
- 5. 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, ELSIEVER, (2022): 154281.**

6. **Babu, K. Vasu, et al.** "Development of Metamaterial Inspired Non-Uniform Circular Array Superstate Antenna Using Characteristic Mode Analysis. **SCI, Electronics** **2022, 11, 2517.**" (2022).
7. **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*, **SCI, Springer**, 54.5 (2022): 1-20.
8. **K. Vasu Babu, et al.** "A Micro-Scaled Graphene Based Tree-Shaped Wideband Printed MIMO Antenna For Terahertz Applications." **Journal of Computational Electronics**, **SCI, Springer**, Pages: 1-15, **2022**
9. **K. Vasu Babu, and B. Anuradha.** "Design of UWB MIMO antenna to reduce the mutual coupling using defected ground structure." **Wireless Personal Communications**, **SCI, Springer**, Vol. 118, Issue.04, **2021**
10. **K. Vasu Babu, 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, 99-114, **2021**
11. **K. Vasu Babu et.al.,** "A compact printed UWB MIMO antenna with Electronically Reconfigurable WLAN band- Notched characteristics" **Journal of Circuits, Systems and Computers**, **SCI**, <https://doi.org/10.1142/S0218126622500451>, **2021**
12. **K. Vasu Babu,** "An octagonal star shaped flexible UWB antenna with band-notched characteristics for WLAN applications" **Journal of Instrumentation**, **SCI, IOP Publishing**, Vol. 15, Issue. 02, **2020**
13. **K. Vasu Babu, Prof. B. Anuradha,** "Design and performance analysis of tri-band wang shaped MIMO Antenna" **BJIT- International Journal of Information Technology**, **SPRINGER**, Vol. 35, 42-53, **2020**
14. **K. Vasu Babu, Prof. B. Anuradha,** "Design of MIMO Antenna to interference inherent for ultra-wide band systems using defected ground structure" **Microwave and Optical Technology Letters**, **SCI, Wiley**, Vol. 62, 42-53, <https://doi.org/10.1002/mop.31958>, **2019**
15. **K. Vasu Babu, Prof. B. Anuradha,** "Design of inverted L-shape & ohm symbol inserted MIMO Antenna to reduce the Mutual Coupling" **AEU- International Journal of Electronics & Communication**, **SCI, ELSEVIER**, Vol. 105, 42-53, **2019**
16. **K. Vasu Babu, Prof. B. Anuradha,** "Design of Wang shape neutralization line antenna to reduce the mutual coupling in MIMO antennas" **Analog Integrated Circuits and Signal Processing**, **SCI, SPRINGER**, <https://doi.org/10.1007/s10470-019-01397-y>, Vol. 101, 67-76, **2019**
17. **K. Vasu Babu, Prof. B. Anuradha,** "Design & analysis of wide-band MIMO antennato reduce the Mutual Coupling" **Journal of Instrumentation**, **SCI, IOP Publishing**, Vol. 14, 1-18, **2019**
18. **K. Vasu Babu, Prof. B. Anuradha,** "Analysis of Multi-Band Circle MIMO Antenna Design for C-Band Applications" **Progress in Electromagnetic Research C (PIER)**, **SCI**, Vol. 91, 185-196, **2019**

19. **K. Vasu Babu, Prof. B. Anuradha**, “Design and analysis of multi-band circle shape MIMO antenna using defected ground structure to reduce mutual coupling” International Journal of Ultra-wide band communications and systems, Inder Science (**ELSEVIER-SCOPUS Indexed**), **Vol. 4, 32-40, 2019**
20. K. Vasu babu, Dr. Bhuma Anuradha, “Design of multi-band minkowski MIMO antenna to reduce the mutual coupling” Journal of king saud university-Engineering Sciences, **ELSEVIER**, <https://doi.org/10.1016/j.jksues.2018.06.003>, **June, 2018**
21. K. Vasu babu, Dr. Bhuma Anuradha, “Tri-band MIMO antenna for WLAN, WiMAX and Defence System & Radio Astronomy Applications” Advanced Electromagnetics, Volume-7, Issue-2, **March 2018**, (**ELSEVIER-SCOPUS Indexed**), ISSN: 2119- 0275
22. 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 and Telecommunications, Volume-6, Issue-2, **April, 2017**, ISSN: 2319-2518
23. 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**
24. 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**
25. K.Vasu babu, R. Tejaswani “Improving Spectral Efficiency of DOA in 4G MIMO SystemApplications” International Journal of Advanced and Innovative Research. Volume-5, Issue-8, **2016**. ISSN : 2278-78445
26. K.Vasu babu, Ch. Manideepika “Performance evaluation of PAPR reduction in OFDM system using Non-linear Companding Transform” International journal of professionalengineering studies. Volume-5, Issue-8, **2016**
27. 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 MutualCoupling” Journal of Microwave Engineering and Technologies (**SCOPUS INDEXED**), ISSN: 2349-9001(online) Volume 3, Issue 1,Pages 11-30, **2016**
28. 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**
29. 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**
30. 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**
31. 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**

32. 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**
33. 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**
34. 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**
35. 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**
36. 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**
37. 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 in Electrical 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.**

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

- **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.**
- **Prof. K. Vasu Babu et.al.**, “Distributed Beams Techniques and the analysis of the radar-variable, Motion-Compensated Steering (MCS) technique and Impact on signal Power and Copolar Correlation Coefficient Estimates in Phased Array Weather Radar”. **RES-ISTRAC-2022-009 Submitted on 21-05-2022. (Sanctioned submitted declaration form and waiting for conformation mail from ISRO)**
- **Prof. K. Vasu Babu et.al.**, “Design and simulation of Luneburg Lens and Hemispherical Dielectric Lens Focal Planar array for simultaneous multiple beams”. **RES-ISTRAC-2022-012 Submitted on 12-05-2022.**

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. “Recent Advances in Graphene Nanophotonics”, Springer, 2023.
2. K. Vasu Babu et.al. “Material Proceedings”, International Conference on Innovative Research in Renewable Energy Technologies (IRRET, 2022).

As Author: -

1. K. Vasu babu et.al. “Design and analysis of a CPW-fed fractal MIMO THz antenna using an array of parasitic elements, 2022.
2. K. Vasu babu et.al. “Design of monopole ground graphene disc inserted THz antenna for future wireless systems, 2023.
3. K. Vasu babu et.al. “Design and analysis of fractal-based THz antenna with co-axial feeding technique for wireless applications, 2023.

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)

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 Microwaves and Beyond Techniques	15 Nov – 20 Nov, 2021	SRM University, AP
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 using Ansys HFSS	21 Sep – 26 Sep, 2020	SVECW, Bhimavaram
One week STTP on Trends and challenges in Design and Implementation of Reconfigurable Antenna for increased Spectrum access in CRA	14 Sep – 19 Sep, 2020	VRSEC, Vijayawada
One Week STTP on Antenna and Modern Wireless 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 Allied Fields	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, 5 th 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, 6 th National Level Technical Symposium	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	28-29 Jun, 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

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.