

## PROFILE

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|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Name                   | Dr. Vivek Singh                                                                                                                                 |
| Position & Affiliation | Associate Professor, Department of ECE                                                                                                          |
| Areas of Interest      | Communication, Antenna, Metamaterials                                                                                                           |
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### **Educational Qualifications:**

|        |                                                                                               |       |      |
|--------|-----------------------------------------------------------------------------------------------|-------|------|
| Ph.D   | University of Allahabad (Central University)<br>(Department of Electronics and Communication) | India | 2019 |
| M.Tech | University of Allahabad (Central University)<br>(Department of Electronics and Communication) | India | 2012 |
| B.Tech | Uttar Pradesh Technical University                                                            | India | 2009 |

### **Areas of Research:**

Printed Antennas, MIMO Antennas, Metasurface Absorber, Metamaterial Antenna.

### **Brief Profile: (write about yourself)**

**Dr. Vivek Singh** is an Associate Professor in the Department of Electronics and Communication Engineering at Cambridge College of Engineering and Technology, Bengaluru, Karnataka. He holds a Ph.D. in Electronics and Communication Engineering from the University of Allahabad, where his research focused on modeling, simulation, and optimization of radio frequency devices and circuits. With more than 14 years of academic and research experience, he has also served as Head of Department in previous institutions and contributed significantly to curriculum development, accreditation, and research activities.

His primary research areas include antenna design, metamaterials, MIMO systems, and advanced communication technologies. Dr. Singh has published extensively, with over 70 research papers in reputed SCI, SCIE, ESCI, and Scopus-indexed journals and conferences, covering innovative designs such as circularly polarized antennas, metamaterial absorbers, and machine learning-optimized communication systems. He is also an active patent holder, including a granted German patent and an Indian design patent, reflecting his applied research capabilities.

A recipient of multiple honors, Dr. Singh was awarded the prestigious IETE M. N. Saha Memorial Award for

Best Application-Oriented Paper in 2024. He has successfully led and collaborated on funded projects from ISRO, the Vision Group on Science and Technology (VGST), and the Karnataka State Council for Science and Technology (KSCST), with notable outcomes in MIMO antenna design and biomedical applications. His contributions extend beyond research, involving technical event organization, project mentoring, and lab development, including the establishment of a Drone Lab in collaboration with IIT Goa.

Dr. Singh is a Senior Member of IEEE, a Fellow of IETE and ISTE, and a member of IAENG. He serves as a reviewer for leading journals such as *Nature Communications*, *IEEE Transactions on Antennas and Propagation*, and *IETE Journal of Research*. His expertise, combined with active participation in professional societies and conference committees, has made him a recognized figure in the field of electronics and communication engineering, dedicated to advancing both academic excellence and technological innovation.

#### **Awards/Achievements/Others:**

- ❖ Research Paper, titled “A Compact MIMO Antenna for 5G NR frequency bands n257/n258/n261 under Millimeter-Wave Communication,” has been **awarded the Best Paper Award by IETE Under “IETE M N Saha Memorial Award- The best application-oriented paper for the year 2024.**
- ❖ **Conducted and act as an Editor of International Conference on "Ubiquitous Technology in Communication and Artificial Intelligence"- 2023 (UTCA-2023) – Sponsored by American Institute of Physics (AIP) – Scopus Indexed.**
- ❖ Completed **8-week NPTEL course on Accreditation and Outcome Based Learning** with Elite Grade, Aug – Oct 2024.
- ❖ Participated & completed successfully **AICTE Training and Learning (ATAL) Academy Online FDP** on "Recent trends in 5G/6G Wireless Communication" from 06th – 11th January 2025, at Samskruti College of Engineering and Technology.
- ❖ Participated & completed successfully **AICTE Training and Learning (ATAL) Academy Online FDP** on "mmWave Technologies" from 13th – 18th January 2025, at Vivekanand Education Society's Institute of Technology.
- ❖ Attended **One Week Faculty Development Program** on “The trend of Research and Development of Electronics and Communication Area” held during 17<sup>th</sup> – 21<sup>th</sup> January, 2022, organized by National Institute of Technology, Manipur under AICTE Training and Learning (ATAL) Academy.
- ❖ Participated in the **Two weeks Faculty Development Program** on “Emerging Technologies” Sponsored by Department of Science and Technology (DST), Govt. of India, held from 1st to 14th August 2022 at Jamia Hamdard, New Delhi India.
- ❖ Attended Online **One-Week National Level Faculty Development Programme** on “Artificial Intelligence, Machine Learning & Applications” from 25th July to 29th July - 2022, organized by Bharatratna Indira Gandhi College of Engineering, Solapur.
- ❖ Attended **One Week Faculty Development Program** on “Techno-Entrepreneurship Training Program” held during 15<sup>th</sup> – 19<sup>th</sup> Sep, 2022, conducted by Electronics and ICT Academy ,IIT Roorkee.
- ❖ Attended Online **One-Week National Level Faculty Development Programme** on “Recent Research Trend in Biomedical Engineering” from 4th April to 8th April - 2022, organized by Bharatratna Indira Gandhi College of Engineering, Solapur.
- ❖ **Program coordinator of one week Faculty Development Program** on “VLSI for Signal Processing and Communication” held during 16th – 20th July, 2018 organized by Department of

Electronics and Communication Engineering, Shambhunath Institute of Engineering and Technology, Allahabad under the aegis of Technical Education Quality Improvement Program III (TEQIP –III).

- ❖ Attended **eight day Faculty Development Program** on “Universal Human Values and Professional Ethics” held during 5<sup>th</sup> – 12<sup>th</sup> June, 2019 organized by Technical Education Quality Improvement Program III (TEQIP –III) and conducted by Value education cell, AKTU Lucknow at Shambhunath Institute Engineering and Technology, Allahabad.
- ❖ Attended **Two Week Faculty Development Program** on “Entrepreneurship for making Self Sufficient Entrepreneurs and Innovators” held during 12<sup>th</sup> – 23<sup>rd</sup> February, 2021 organized at Indian Institute of Information Technology, Allahabad.
- ❖ Attended “**Two Week Faculty Development Program** on Entrepreneurship” held during 7<sup>th</sup> – 22<sup>nd</sup> February, 2019 organized by TBI-KIET, Ghaziabad at Shambhunath Institute Engineering and Technology, Allahabad.
- ❖ Attended “**One Week Faculty Development Program** on Entrepreneurship Development” held during 1<sup>st</sup> – 5<sup>th</sup> July, 2019 sponsored by Dr. A.P.J. Abdul Kalam Technical University, Lucknow under TEQIP-III Scheme and organized by Shambhunath Institute Engineering and Technology, Allahabad.
- ❖ Participated **One Week Short Term Training Program** on “Simulation Techniques for Engineering Research” held during 14<sup>th</sup> – 19<sup>th</sup> November, 2019 organized by Kamla Nehru Institute of Technology, Sultanpur.
- ❖ Participated in **One Week Short Term Training Program** on “Advanced Next Generation Wireless Technique” held during 20<sup>th</sup> – 25<sup>th</sup> July, 2020 organized by United College of Engineering and Research, Allahabad.
- ❖ **Program coordinator of a National Seminar on Wireless Communication System Design (WCSD-2016 and WCSD-2017)** organized by Shambhunath Institute of Engineering and Technology, Allahabad in association with IETE Allahabad.
- ❖ **Paper presented in International Conference** on Signal Processing and Communication 2015(Sponsored by IEEE).
- ❖ **Paper presented in International Conference** on Advances in Computing and Communication Engineering 2015 (Sponsored by) IEEE Computer Society).
- ❖ **Paper presented in International Conference** on Recent Trends in Engineering and Material Sciences (ICEMS-2016), (Sponsored By) Elsevier.
- ❖ Reviewer of the various **Web of Science and Scopus**-indexed Journals and Conferences.
- ❖ NPTEL online passing certificate in **National Board of Accreditation, Analog Communication, Digital Circuit and Microprocessor, and Microcontroller** courses.
- ❖ **PhD Student Guidance**- 2 Research Scholars (From VTU Research PhD Program) (Pursuing)
- ❖ **Develop Drone Lab** (in Electronics and Communication Engineering, Nagarjuna College of Engineering and Technology) **with the help of IIT Goa.**

**Courses Taught:** Analog Communication, Digital Communication, Information Theory and Coding, Antenna and Wave Propagation, Wireless Communication.

**Publications:**

**2025**

1. A. K. Dwivedi, N. K. Narayanaswamy, S. K. Singh, and **\*Vivek Singh**, "Taguchi-Neural Network Driven Optimization of Graphene Metamaterial Absorbers for Terahertz Applications," in **IEEE Transactions on Plasma Science**, DOI: <https://doi.org/10.1109/TPS.2025.3582811>. (**\*Corresponding Author**) (Impact Factor: **1.5**)
2. Prakhar Yadav, Vandana Yadav, J. A. Ansari, **Vivek Singh**, and Brijesh Mishra, "An Equivalent Circuit and Analysis of Reconfigurable Antenna for Penta-Band Wireless Applications", **Physica Scripta (IOP Science)**, DOI: <https://iopscience.iop.org/article/10.1088/1402-4896/add216> (Impact Factor: **2.6**)
3. Jayant Kumar Rai, Swati Yadav, Ajay Kumar Dwivedi, **Vivek Singh**, Pinku Ranjan, Anand Sharma, Somesh Kumar, Stuti Pandey, "Machine learning driven design and optimization of a compact dual Port CPW fed UWB MIMO antenna for wireless communication" **Scientific Reports, Nature, Springer** **15**, 13885, 2025. DOI: <https://doi.org/10.1038/s41598-025-98933-w> (Impact Factor **3.8**)
4. Jayant Kumar Rai, Ajay Kumar Dwivedi, **Vivek Singh**, Pinku Ranjan, Anand Sharma, Ashish Pandey, "Machine learning enabled dual to wideband frequency agile Al<sub>2</sub>O<sub>3</sub> Ceramic-based dielectric MIMO antenna for 5G new radio applications" **Scientific Reports, Nature, Springer** **15**, 13885, 2025. DOI: <https://doi.org/10.1038/s41598-025-93856-y> (Impact Factor **3.8**)
5. A.K Dwivedi, **Vivek Singh**, Y. Alzahrani, S. K Singh, M. Tolani "A Taguchi Neural Network–Based Optimization of a Dual-Port, Dual-Band MIMO Antenna Encompassing the 28/34 GHz millimeter wave regime", **Scientific Reports, Nature, Springer** **15**, 6026, 2025. DOI: <https://doi.org/10.1038/s41598-025-90103-2> (Impact Factor **3.8**)
6. Nagesh K. N, K. K Verma, A. K Dwivedi, **Vivek Singh**, M. Tolani, "Machine Learning Aided Tapered 4-Port MIMO Antenna for V2X Communications with Enhanced Gain and Isolation", **IEEE Access**, 2025. DOI: <https://doi.org/10.1109/ACCESS.2025.3543183> (Impact Factor **3.4**)

**2024**

7. Aditya Kumar Singh, Ajay Kumar Dwivedi, Kalidindi Naga Venkata Suresh Varma, Akhilesh Kumar Pandey, **\*Vivek Singh**, "Meander line loaded 2-port stepped impedance feed slotted MIMO antenna for C and lower X-band communication", **Physica Scripta (IOP Science)**, Volume 99, Number 12, 2024, DOI: 10.1088/1402-4896/ad908c, (**\*Corresponding Author**) (Impact Factor: **2.6**).
8. Nagesh K N, T Y Sateesha, A.K Dwivedi, **Vivek Singh**, M. Tolani "Metasurface Absorber for Millimeter Waves: A Deep Learning-Optimized Approach For Enhancing The Isolation of Wideband Dual-Port MIMO Antennas", **Scientific Reports, Nature, Springer** **14**, 30199, 2024. <https://doi.org/10.1038/s41598-024-81854-5> (Impact Factor **3.8**)

9. Anitha C, \*Vivek Singh, A K Dwivedi, Nagesh K N, “Metasurface inspired printed dual-port MIMO antenna system with LP to CP conversion features for millimeter wave n260 band applications”, **Scientific Reports, Nature**, volume 14, Article number: 24437 (2024). <https://doi.org/10.1038/s41598-024-75696-4> (\*Corresponding Author), (Impact factor: 3.8)
10. Anitha C, \*Vivek Singh, A K Dwivedi, Nagesh K N, “Review: Metamaterial/Metasurface Applications in Antenna Domain”, **Opto-Electronics Review** (2024). <https://doi.org/10.24425/opelre.2024.151692> (\*Corresponding Author), (Impact factor: 1.3)
11. M.N Manjunath, Ajay Kumar Dwivedi, Ankita Shukla, Suyash Kumar Singh, Anand Sharma, and \*Vivek Singh, "A Wideband Polarization Diversified MIMO Antenna with Improved Isolation using Machine Learning Optimized Metasurface Absorber". **Physica Scripta (IOP Science)**, Volume 99, Number 8, 2024, DOI: 10.1088/1402-4896/ad6048, (\*Corresponding Author) (Impact Factor: 2.6).
12. Manjunath M. N, \*Vivek Singh, Ajay Kumar Dwivedi, Stuti Pandey," Machine learning validated compact circularly polarized dual port-MIMO antenna with polarization diversity for Ku-band applications" **Physica Scripta (IOP Science)**, Volume 99, Number 9, 2024, DOI: 10.1088/1402-4896/ad69de, (\*Corresponding Author) (Impact Factor: 2.6).
13. A.K Singh, A.K Dwivedi, \*Vivek Singh, “Design and investigation of Compact Backed Mirror Two Port MIMO Antenna for n257 (30 GHz) 5G Spectrum”, **Journal of Infrared, Millimeter, and Terahertz Waves, Springer** (2024). <https://doi.org/10.1007/s10762-024-00982-1> (\*Corresponding Author) (Impact factor: 2.9)
14. K. Varma, Nagesh K N, A.K Dwivedi, \*Vivek Singh, “Quad Port MIMO Circularly Polarized Antenna for n77/n78 5G Coverage with Spatial and Polarization Diversity” **Wireless Personal Communications, Springer** (2024). <https://doi.org/10.1007/s11277-024-11089-0> (\*Corresponding Author) (Impact factor: 3.0)
15. Harish V, Nagesh K N, A.K Dwivedi, \*Vivek Singh, “Design and Investigation on Circularly Polarized Tunable Two Port Silicon Ceramic-Graphene Based Filtenna in THz Frequency Regime” **Optical and Quantum Electronics, Springer** (2024). <https://doi.org/10.1007/s11082-024-06443-2> (\*Corresponding Author) (Impact factor: 3.0)
16. A.K Dwivedi, S. Singh, P. Ranjan, A. Sharma, \*Vivek Singh, “Machine Learning Assisted Dual Port Metasurface Loaded MIMO Antenna with LP to CP Conversion Features for n257 Band of 5G mm-wave Applications”, **International Journal of Communication Systems, Wiley** vol. 37, issue no. 8, 2024. <https://doi.org/10.1002/dac.5737> (\*Corresponding Author) (Impact factor: 2.1)

## 2023

17. Ajay Kumar Dwivedi, Nagesh Kallollu Narayanaswamy, Krishna Kanth Varma Penmatsa, Suyash Kumar Singh, Anand Sharma & \*Vivek Singh, “Circularly polarized printed dual port MIMO antenna

with polarization diversity optimized by machine learning approach for 5G NR n77/n78 frequency band applications”, **Scientific Reports, Nature**, volume 13, Article number: 13994 (2023). <https://doi.org/10.1038/s41598-023-41302-2> (\*Corresponding Author) (Impact factor: 4.6)

18. Manjunath M.N, A.K Dwivedi, Nagesh K.N, A. Sharma, \*Vivek Singh, “Circularly Polarized Parasitic Strips Loaded Broadband Printed Antenna for Sub-6 GHz (n77/n78/n79) Domain”, **IETE Journal of Research, Taylor & Francis** (2023). <https://doi.org/10.1080/03772063.2023.2183905> (\*Corresponding Author) (Impact factor: 1.5)

## 2022

19. G.R Reddy, A.K Dwivedi, Vivek Singh, K.N Nagesh, A. Sharma, “Metasurface Loaded Ceramic Based MIMO Antenna with High Isolation and Circular Polarization Features”, **Journal of Electronic Materials, Springer, Wiley** (2022). <https://doi.org/10.1007/s11664-022-10088-w> (Impact factor: 2.1)
20. A.K Singh, S. Singh, A.K Dwivedi, \*Vivek Singh, R.S Yadav, “A Compact MIMO Antenna for 5G NR frequency bands n257/n258/n261 under Millimeter-Wave Communication”, **IETE Journal of Research, Taylor & Francis**. <https://doi.org/10.1080/03772063.2022.2091044>. (\*Corresponding Author) (Impact factor: 1.5)
21. A.K Singh, A. K Dwivedi, \*Vivek Singh, R.S Yadav, “Compact 4-port Planar MIMO Antenna with Enhanced Isolation for WLAN/WiMAX Applications”, **Sadhana Academy Proceedings in Engineering Sciences, Springer**. <https://doi.org/10.1007/s12046-022-01916-0>. (\*Corresponding Author) (Impact factor: 1.6)
22. A.K Dwivedi, Nagesh K.N, Mallanna S D, \*Vivek Singh, “UWB-MIMO DGS Loaded Patch Antenna with Low Profile for Millimeter-Wave Applications”, **Journal of Electrical Engineering-Elektrotechnicky Casopis, De Gruyter**. <https://doi.org/10.2478/jee-2022-0004> (\*Corresponding Author). (Impact factor: 0.840)
23. A.K Dwivedi, Nagesh K.N, H.Venkatesh Kumar, S. Singh, J. Mungara, A. Sharma and \*Vivek Singh, “Two Asymmetric Cylindrical Dielectric Resonator Loaded Dual Port MIMO Antenna for Wide Band Application with Circular Polarization Attributes”, **International Journal of Communication Systems, Wiley**. <https://doi.org/10.1002/dac.5155>. (\*Corresponding Author). (Impact factor: 2.1)
24. Ajay Kumar Dwivedi, Anand Sharma, Ashutosh Kumar Singh, \*Vivek Singh, “Metamaterial Inspired Dielectric Resonator MIMO antenna for isolation enhancement and Linear to Circular Polarization of Waves” **Measurement, Elsevier**. <https://doi.org/10.1016/j.measurement.2021.109681>. (\*Corresponding Author) (Impact factor: 5.6)

## 2021

25. Dwivedi, A.K., Sharma, A., Pandey, A.K., \*Vivek Singh, “Two Port Circularly Polarized MIMO Antenna Design and Investigation for 5G Communication Systems”. **Wireless Personal**

**Communication, Springer (2021).** DOI: <https://doi.org/10.1007/s11277-021-08461-9>

(\*Corresponding Author). (Impact factor: 2.2)

26. A. K. Dwivedi, A. Sharma, A. K. Singh, **Vivek Singh**, “Circularly Polarized Quad-Port MIMO Dielectric Resonator Antenna with Beam Tilting Feature for Vehicular Communication” **IETE Technical Review, Taylor & Francis**, DOI: [10.1080/02564602.2020.1862714](https://doi.org/10.1080/02564602.2020.1862714) (Impact factor: 2.4)

## 2020

27. A. K. Dwivedi, A. Sharma, A. K. Singh, **Vivek Singh**, “Design of dual band four port circularly polarized MIMO DRA for WLAN/WiMAX applications” **Journal of Electromagnetic Waves and Applications, Taylor & Francis**, pp. 1-20, 2020, DOI: <https://doi.org/10.1080/09205071.2020.1801522> (Impact factor: 1.335)
28. A. K. Dwivedi, A. Sharma, A. K. Singh, **Vivek Singh**, “Quad-Port Ring Dielectric Resonator Based MIMO Radiator with Polarization and Space Diversity” **Microwave and Optical Technology Letters, Wiley**, 2020, <https://doi.org/10.1002/mop.32329>. (Impact factor: 1.392)
29. A. K. Dwivedi, B. Mishra, \***Vivek Singh**, P. N. Tripathi and A. K. Singh, “Design of a Compact CPW-Fed Monopole Antenna with Asymmetrical Hexagonal Slot Loaded Ground Structure for C/X/Ku Band Applications” **The Scientific Journal of Riga Technical University Electrical, Control and Communication Engineering, Sciendo**, 2020 (\*Corresponding Author). <https://doi.org/10.2478/ecce-2020-0003>. (Impact factor: 0.7)

## 2019

30. **Vivek Singh**, B. Mishra and R. Singh, “Anchor Shape Gap Coupled Patch Antenna for WiMAX and WLAN Applications” **International Journal for Computation and Mathematics in Electrical and Electronic Engineering (COMPEL), Emerald Insight**, vol. 38, Issue no. 1, pp.263-286, 2019. <https://doi.org/10.1108/COMPEL-12-2017-0546> (Impact factor: 0.755)

## 2018

31. B. Mishra, **Vivek Singh**, and R. Singh, “Gap Coupled Dual Band Petal Shape Patch Antenna for WLAN / WiMAX Applications”. **Advances in Electrical and Electronic Engineering (AEEE)**, vol. 16, no. 2, pp. 185–198, 2018. [10.15598/aeee.v16i2.2416](https://doi.org/10.15598/aeee.v16i2.2416) (Impact factor: 0.976)
32. B. Mishra, **Vivek Singh**, R. K. Singh, N. Singh and R. Singh, “A compact UWB patch antenna with defected ground for Ku/K band applications,” **Microwave and Optical Technology Letters, Wiley**, vol. 60, no. 1, pp. 1-6, 2018. <https://doi.org/10.1002/mop.30911> (Impact factor: 1.392)
33. **Vivek Singh**, B. Mishra, R. Singh, “Dual-wideband Semi-circular Patch Antenna for Ku/K Band Applications,” **Microwave and Optical Technology Letters, Wiley**, vol. 61, no. 2, pp. 323-329,

2019. <https://doi.org/10.1002/mop.31592> (Impact factor: **1.392**)

34. **Vivek Singh**, B. Mishra, A. K. Dwivedi and R. Singh, “Inverted L-Notch Loaded Hexa Band Circular Patch Antenna for X, Ku/K Band Applications” **Microwave and Optical Technology Letters, Wiley**, vol. 60, no. 8, pp. 2081–2088, 2018. <https://doi.org/10.1002/mop.31296> (Impact factor: **1.392**)

2017

35. B. Mishra, **Vivek Singh**, and R. Singh, “Dual and wide-band slot loaded stacked microstrip patch antenna for WLAN/WiMAX applications,” **Microsystem Technologies, Springer**, vol. 23, no. 8, pp. 3467–3475, Aug. 2017. <https://doi.org/10.1007/s00542-016-3120-z> (Impact factor: **2.276**)

2016

36. **Vivek Singh**, B. Mishra, P. N. Tripathi, and R. Singh, “A compact quad-band microstrip antenna for S and C-band applications,” **Microwave and Optical Technology Letters, Wiley**, vol. 58, no. 6, pp. 1365–1369, Jun. 2016. <https://doi.org/10.1002/mop.29799> (Impact factor: **1.392**)

**Journal: (SCOPUS Indexed)**

37. K. Patil, Mownika T, Chethana, A.K Dwivedi, Nagesh K.N, \***Vivek Singh**, “Compact Ultra-Wideband Multilayer Patch Antenna with Defected Ground Plane for Ku Band Applications”, **Microwave Review (2023)** (Accepted for Publication) (\*Corresponding Author) (Cite Score: **0.3**) (<http://www.mtt-serbia.org.rs/files/MWR/MWR-2023jul/Vol29No1-2260-3-Patil.pdf>).

38. **Vivek Singh**, B. Mishra, A. K. Pandey, A. K. Patel, S. Yadav and R. Singh, “Triple band CPW fed monopole leaf shaped patch antenna,” **Int. J. Commun. Antenna Propag.**, vol. 7, no. 2, pp. 135–141, 2017. <https://doi.org/10.15866/irecap.v7i2.11842> (Cite Score: **2.6**) (Publishing House: **Praise Worthy Prize**)

39. B. Mishra, **Vivek Singh**, C. Jha, A. K. Pandey, and R. Singh, “Microwave band pass filter synthesis using coupled inductor for ISM band applications,” **Int. J. Applied Eng. Res.**, vol. 12, no. 11, pp. 2862–2867, 2017. [https://www.ripublication.com/ijaer17/ijaerv12n11\\_33.pdf](https://www.ripublication.com/ijaer17/ijaerv12n11_33.pdf) (Publishing House: **Research India Publication**)

**Journal: (Others)**

40. **Vivek Singh**, G. Chandra, R. Singh, “Slit Loaded Dual Wideband Microstrip Patch Antenna,” International Journal of Advanced Computer Engineering and Communication Technology (IJACECT), vol. 4, no. 3, pp. 20-22, 2015.
41. **Vivek Singh**, Chandrabhan, G. Chandra, R. Singh, “Circular Ring Loaded Monopole Dual Band Patch Antenna,” International Journal of Computer Application (IJCA), Vol. 6, Issue 1, pp. 106-108, 2016.
42. B. Mishra, **Vivek Singh**, A. Dwivedi, and R. Singh, “Dual band microstrip patch antenna with double-sided notch,” Int. J. Computer Application., vol. 6, no. 1, pp. 106–108, 2016. (Journalno-64190 & Serial no-3)

43. Aditya Kumar Singh, Kamal Prakash Pandey, **Vivek Singh**, “Representation and Conversion of Line Coding using Mealy Sequential Network,” International Journal of Emerging Trends in Engineering and Development, vol. 1, Issue 6, pp. 76-81, 2016.
44. **Vivek Singh** and B. Mishra, “FPGA implementation of various lines coding technique for efficient transmission of digital data in communication,” Int. J. of Res. in Engineering and Technology, Vol. 3, Issue 4, pp. 60-63. 2014.

#### **Book Chapter: (SCOPUS Indexed)**

45. B. Mishra, **Vivek Singh**, A. K. Dwivedi, A. K. Pandey, A. Sarwar, and R. Singh, “Slots loaded multilayered circular patch antenna for Wi-Fi/WLAN applications,” **Computing and Network Sustainability. Lecture Notes in Networks and Systems 12 (Springer)**, pp. 49–59, 2017. DOI: [10.1007/978-981-10-3935-5\\_6](https://doi.org/10.1007/978-981-10-3935-5_6) 2017.
46. B. Mishra, **Vivek Singh**, and R. Singh, “Gap Coupled Swastika Shaped Patch Antenna for X and Ku-band Applications,” **Optical and Wireless Technologies, Lecture Notes in Electrical Engineering (Springer)**, Vol. 546, pp. 449-455, 2020, DOI: [https://doi.org/10.1007/978-981-13-6159-3\\_47](https://doi.org/10.1007/978-981-13-6159-3_47).
47. A. Dwivedi, B. Mishra, S.A. Siddique and **Vivek Singh\***, “A CPW-Fed Annular Shape Antenna with Asymmetrical Hexagonal Slot Loaded Defected Ground Plane for Ultra- wideband Applications.” **Optical and Wireless Technologies, Lecture Notes in Electrical Engineering (Springer)**, 2020. DOI: [https://doi.org/10.1007/978-981-16-2818-4\\_52](https://doi.org/10.1007/978-981-16-2818-4_52) (\*Corresponding Author)
48. B. Mishra, S.A. Siddique, **Vivek Singh**, S. K. Soni “Reconfigurable hexa-band antenna with defected ground structure for 2.1-3.4 GHz band applications” **Optical and Wireless Technologies, Lecture Notes in Electrical Engineering (Springer)**, 2020. DOI: [https://doi.org/10.1007/978-981-16-2818-4\\_45](https://doi.org/10.1007/978-981-16-2818-4_45)
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#### Patents:

1. German patent granted on “A Circularly Polarized Two Port MIMO Cylindrical Dielectric Resonator Antenna Device for 5G Applications”. **Granted No. 202021105303**, IPC: H01Q21/24
2. **Title:** RECONFIGURABLE ANTENNA FOR IOT DEVICES, **Indian Patent Design Grant (Design Grant No: 441529-001)**, on 04/04/2025.

#### Research and Consultancy:

| Title of the Project                                                                                           | Principal Investigator/Co-Investigator | Status                           | Funding Agency                                                                                                                                       | Fund           |
|----------------------------------------------------------------------------------------------------------------|----------------------------------------|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| IRS Assisted Drones-based Communication for Remote Area Connectivity                                           | Dr. Vivek Singh (Co-PI)                | Submitted/ <b>Result Awaited</b> | Indian Space Research Organization Basket                                                                                                            | 41 Lakh        |
| Monitoring, Optimal Localization, and Treatment of Hepatocellular Carcinoma using Microwave Ablation Technique | Dr. Vivek Singh (Co-PI)                | <b>Selected for Funding</b>      | Vision Group on Science and Technology, Govt. of Karnataka                                                                                           | Rs 10 Lakh     |
| MIMO antenna for Signal Booster Devices                                                                        | Dr. Vivek Singh (PI)                   | <b>Awarded</b>                   | Karnataka State Council for Science and Technology (KSCST-2023), Indian Institute of Science, Bangalore ( <b>Best Project Award in 2024 in ECE</b> ) | Rs. 11000.00/- |