

PROFILE

Name	Dr. Ajay Kumar Dwivedi
Position & Affiliation	Associate Professor & Research Head, Department of ECE
Areas of Interest	RF & Microwave, MIMO Antenna, Metasurface, 5G/6G Communication
Email	ajaydwivedi.ece@cambridge.edu.in, er.ajaydwivedi@gmail.com
LinkedIn ID	https://www.linkedin.com/in/dr-ajay-kumar-dwivedi-sm-ieee-fiete-fiste-61ba7653
Google Scholar ID	https://scholar.google.com/citations?user=uls7X14AAAJ&hl=en
Orchid ID	https://orcid.org/0000-0003-1146-0902
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Scopus ID	https://www.scopus.com/authid/detail.uri?authorId=57136397100
Professional Webpage (if any)	

Educational Qualifications:

Ph.D	Indian Institute of Information Technology Allahabad	India	2021
MTech	Sam Higginbottom University of Agriculture, Technology and Sciences (Deemed University)	India	2015
BE	Uttar Pradesh Technical University, Lucknow	India	2010

Areas of Research: RF & Microwave, Dielectric Resonator Antenna, MIMO Antenna, Metasurface, 5G/6G Communication

Brief Profile:

Dr. Ajay Kumar Dwivedi (Senior Member, IEEE) is an Associate Professor and Research Head in the Department of Electronics and Communication Engineering at Cambridge Institute of Technology, Bengaluru, India. He holds a B.Tech. in Electronics and Communication Engineering from Uttar Pradesh Technical University, Lucknow in 2010, an M.Tech. in Wireless Communication from Sam Higginbottom University of Agriculture, Technology and Sciences, Deemed University, Allahabad in 2015, and a Ph.D. in Electronics and Communication Engineering from Indian Institute of Information Technology Allahabad, Prayagraj, India in 2021. With over 15 years of academic and research experience, he has published more than 100 research papers in reputed international and national journals and conference proceedings. His primary research interests include RF and microwave engineering, dielectric resonator antennas (DRA), MIMO antenna systems, metamaterial-based antenna design, and next-generation wireless communication technologies. Dr. Dwivedi has contributed significantly to the design and optimization of advanced antenna systems for 5G/6G applications and has been involved in several funded research projects and collaborative initiatives. He is a Life Member of IETE, ISTE, IAENG, and an active member of IEEE Antennas and

Propagation Society and IEEE Microwave Theory and Technology Society. In addition, he serves as a reviewer for numerous high-impact journals, including IEEE Transactions on Vehicular Technology, IEEE Sensors Letters, IEEE Internet of Things Journal, Wireless Personal Communications, Computer Networks, and Journal of Infrared, Millimeter and Terahertz Waves.

No. of Training Courses and Conference/Workshop/FDP/Webinars attended: 100+

No. of Conference/Workshop/FDP/Webinars/Quiz Organized: 45+

Awards/Achievements/Others:

- [1] 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.**
- [2] Delivered an **Expert talk** on the topic of "Research Prospective of MIMO Dielectric Resonator Antenna conducted on 10th April 2022, **IEEE UP section Graduate Talk** Organized by the Department of Electronics and Communication Engineering, **MNNIT Allahabad.**
- [3] Coordinated and organized the **1st International conference on "Advances in Electronics: Electrical: Computational Intelligence"- 2019 (ICAEEC-19) at IIT Allahabad.**
- [4] Coordinated and organized a **2nd International conference on "Advances in Electronics: Electrical: Computational Intelligence"- 2021 (ICAEEC-21) at IIT Allahabad.**
- [5] Coordinated and organized a National Workshop on Advanced Antenna Technology (**NWAAT-2020) at IIT Allahabad.**
- [6] Co-ordinated an **IEEE International Global Conference for Advancement in technology (GCAT) IEEE 2021**
- [7] Co-ordinated an **IEEE International Global Conference for Advancement in technology (GCAT) IEEE 2022**
- [8] Delivered an **Expert Talk** as a resource person on the topic of "Research Prospective of MIMO Dielectric Resonator Antenna for 5G Application on 30th April 2023 in a **5 days FDP program** Organized by the Department of Electronics and Communication Engineering, **ATRIA IT, Bengaluru.**
- [9] Delivered an Expert Talk as a **keynote speaker at IEEE 3rd ASIACON 2023 Conference** at PCCOER - **Pimpri Chinchwad College of Engineering and Research, Pune, India, 25th – 27th Aug, 2023.**
- [10] 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 & CPC Index.**
- [11] Delivered an expert lecture in the **Two-Week Online Faculty Development Programme (FDP)** on "Recent Trends in Dielectric Resonator Hybrid Antennas for 6G and Beyond Applications" organized by E&ICT Academy and **IIT Roorkee, in collaboration with ABV-IIITM Gwalior, from 09 July to 22 July 2025.**

- [12] Delivered an expert talk on "Metamaterial/Metasurface-Based Planar/MIMO Antenna Design for 5G/6G Communication" during the **One-Week Faculty Development Program (FDP)** on Smart Antenna Design for 6G Communication Systems, organized by the Electronics and ICT Academy, **NIT Patna, in association with MNNIT Allahabad, from 21st to 27th July 2025.**

Courses Taught: B.Tech / M.tech

- Antenna & Wave Propagation
- Microwave Engineering
- Microprocessor/ Introduction to Microprocessor
- Microcontroller & its applications
- Wireless communication
- Satellite Communication
- Optical Communication
- Electronics Engineering
- Data Communication Engineering
- Wireless and Mobile network

Publications/Patents:

JOURNAL: (SCI/SCIE/ESCI) INDEXED

Publications

- [1] **A.K Dwivedi**, A. Sharma, A.K. Singh, and V. Singh, "Quad-port ring dielectric resonator-based MIMO radiator with polarization and space diversity", **Microwave and Optical Technology Letters., Wiley**, vol. 62, issue no. 6, pp. 2316 – 2327, 2020. <https://doi.org/10.1002/mop.32329> **(H Index: 82, Q3, I.F 1.0)**
- [2] V. 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> **(H Index: 82, Q3, I.F 1.0)**
- [3] **A.K Dwivedi**, B. Mishra, V. 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**, vol. 16, issue no. 1, pp. 15 – 22, 2020. <https://doi.org/10.2478/ecce-2020-0003>
- [4] **A.K Dwivedi**, A. Sharma, A.K. Singh, and V. Singh, "Design of Dual-Band Four Port Circularly Polarized MIMO DRA for WLAN/WiMAX

- Application”, **Journal of Electromagnetic Waves and Applications, Taylor & Francis**, vol. 34, issue no. 15, pp. 1990 – 2009, 2020. <https://doi.org/10.1080/09205071.2020.1801522> (H Index: 57, Q2, I.F 1.2)
- [5] A.K Dwivedi, A. Sharma, A.K. Singh, and V. Singh, “Circularly Polarized Quad-Port MIMO Dielectric Resonator Antenna with Beam Tilting Feature for Vehicular Communication”, **IETE Technical Review, Taylor & Francis**, vol. 39, issue no. 2, pp. 389 – 401, 2022. <https://doi.org/10.1080/02564602.2020.1862714> (H Index: 45, Q2, I.F 2.5)
- [6] A.K Dwivedi, A. Sharma, P. Ranjan, “Dual-Band Modified Rectangular Shaped Dielectric Resonator Antenna with Diversified Polarization Feature”, **International Journal of Circuit Theory and Applications, Wiley**, vol. 49, issue no. 10, pp. 3434 – 3442, 2021. <https://doi.org/10.1002/cta.3095> (H Index: 56, Q3, I.F 1.8)
- [7] A.K Dwivedi, A. Sharma, A.K. Pandey, and V. Singh, “Two port circularly polarized MIMO antenna design and investigation for 5G communication systems”, **Wireless Personal Communications, Springer**, vol. 120, issue no. 3, pp. 2085 – 2099, 2021. <https://doi.org/10.1007/s11277-021-08461-9> (H Index: 82, Q2, I.F 1.9)
- [8] A.K Dwivedi, A. Sharma, A.K. Singh, and V. Singh, “Metamaterial Inspired Dielectric Resonator MIMO antenna for isolation enhancement and Linear to Circular Polarization of Waves”, **Measurement, Elsevier** (2021). <https://doi.org/10.1016/j.measurement.2021.109681> (H Index: 130, Q1, I.F 5.2)
- [9] K. Srivastava, A.K Dwivedi, A. Sharma, “Circularly Polarized Dielectric Resonator Based MIMO Antenna with Pattern and Polarization Diversity for Vehicular Applications”, **International Journal of Circuit Theory and Applications, Wiley**, vol. 49, issue no. 10, pp. 3421 – 3433, 2021. <https://doi.org/10.1002/cta.3078> (H Index: 56, Q3, I.F 1.8)
- [10] A. Sharma, A.K Dwivedi, Nagesh K.N, A. Gupta, D.K Tripathi, “Broadband Dielectric Resonator Antenna with Dual-Frequency Circularly polarized response for WLAN and WiMAX Applications”, **International Journal of Circuit Theory and Applications, Wiley**, vol. 50, issue no. 02, pp. 525 – 538, 2021. <https://doi.org/10.1002/cta.3151> (H Index: 56, Q3, I.F 1.8)
- [11] A. Kumar, Nagesh K.N, H.Venkatesh Kumar, S. A Siddique, B. Mishra and A.K Dwivedi, “High-Isolated WiFi-2.4 GHz/LTE MIMO Antenna for RF-Energy Harvesting Applications”, **AEUE - International Journal of Electronics and Communications, Elsevier**, vol. 141

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<https://doi.org/10.1016/j.aeue.2021.153964> (H Index: 78, Q2, I.F 3.0)

- [12] A.K Dwivedi, Nagesh K.N, S. Singh, A. Sharma and V. 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**, vol. 35, issue no. 10, pp. 1-14, 2022. <https://doi.org/10.1002/dac.5155> (H Index: 62, Q2, I.F 1.7)
- [13] A. Kumar, A.K Dwivedi, Nagesh K.N, A. Sharma, P.Ranjan, “Circularly Polarized Dielectric Resonator based Two Port Filtenna for millimeter-wave 5G Communication System”, **IETE Technical Review, Taylor & Francis**, vol. 39, issue no. 6, pp. 1501 – 1511, 2022. <https://doi.org/10.1080/02564602.2022.2028588> (H Index: 45, Q2, I.F 2.5)
- [14] D.Sharma, R. Katiyar, A.K Dwivedi, Nagesh K.N, A. Sharma, P.Ranjan, “Dielectric Resonator based Two Port Filtenna with Pattern and Space Diversity for 5G IoT Applications”, **International Journal of Microwave and Wireless Technologies, Cambridge University Press**, pp. 1 – 8, 2022. <https://doi.org/10.1017/S1759078722000150> (H Index: 31, Q3, I.F 1.3)
- [15] A. Sharma, A.K Dwivedi, Nagesh K.N, Y.K Prajapati, D.K Tripathi, “Ceramic Material based Optical Antenna for Multiband Photonics Applications”, **Optical Engineering**, Vol. 61, issue no. 1, 2022. <https://doi.org/10.1117/1.OE.61.1.017104> (H Index: 120, Q2, I.F 1.1)
- [16] A.K Dwivedi, Nagesh K.N, Mallanna S D, V. Singh, “UWB-MIMO DGS Loaded Patch Antenna with Low Profile for Millimeter-Wave Applications”, **Journal of Electrical Engineering-Elektrotechnicky Casopis, De Gruyter** (2022). <https://doi.org/10.2478/jee-2022-0004> (H Index: 32, Q3, I.F 1.0)
- [17] A.K Singh, A. K Dwivedi, Nagesh K.N, V. Singh, R.S Yadav, “Compact 4-port Planar MIMO Antenna with Enhanced Isolation for WLAN/WiMAX Applications”, **Sadhana Academy Proceedings in Engineering Sciences, Springer** (2022). <https://doi.org/10.1007/s12046-022-01916-0> (H Index: 59, Q2, I.F 1.4)
- [18] A.K Singh, A.K Dwivedi, V. Singh, S. 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** (2022). <https://doi.org/10.1080/03772063.2022.2091044> (H Index: 35, Q3, I.F 1.3)
- [19] G.R Reddy, A.K Dwivedi, V. Singh, K.N Nagesh, A. Sharma, “Metasurface Loaded Ceramic Based MIMO Antenna with High

- Isolation and Circular Polarization Features”, **Journal of Electronic Materials, Springer**, (2022). <https://doi.org/10.1007/s11664-022-10088-w> (H Index: 112, Q2, I.F 2.2)
- [20] C.S Vamsi, A.K Dwivedi, G. Bharti, A. Sharma, “Efficient Graphene Based Circularly Polarized MIMO Antenna for THz Applications”, **Applied Optics, Optica Publishing Group**, Vol. 61, Issue 28, pp. 8155-8161, (2022). (H Index: 217, Q2, I.F 1.7)
- [21] A. Srivastava, A. Gupta, A.K Dwivedi, K.Varma, P. Ranjan, A. Sharma, “Aperture Coupled Dielectric Resonator Antenna Optimisation using Machine Learning Techniques”, **AEUE - International Journal of Electronics and Communications, Elsevier** (2022). <https://doi.org/10.1016/j.aeue.2022.154302> (H Index: 78, Q2, I.F 3.0)
- [22] O. Singh, M.R Bharamagoudra, H. Gupta, A.K Dwivedi, P. Ranjan, A. Sharma, "Microstrip Line Fed Dielectric Resonator Antenna Optimization using ML Algorithms", **Sadhana Academy Proceedings in Engineering Sciences, Springer**, Vol. 47, article number 226, 2022. <https://doi.org/10.1007/s12046-022-01989-x> (H Index: 59, Q2, I.F 1.4)
- [23] M.Yadav, A.K Dwivedi, Nagesh K.N, A. Pandey, V. Kumar, A. Sharma, “Mutual Coupling and RCS Reduction of MIMO Dielectric Resonator Antenna for S-band Applications”, **Waves in Random and Complex Media, Taylor & Francis** (2022) <https://doi.org/10.1080/17455030.2022.2139429> (I.F 4.051).
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- [25] Nagesh K.N, R. Priyadarshini, Rani BA, N. Anjum, Jyothi S.K, A.K Dwivedi*, Design and Development of Ceramic based MIMO Filtenna with Circular Polarization Features”, **Journal of Electronic Materials, Springer**, Vol. 51, Pages 6586–6594, 2022. <https://doi.org/10.1007/s11664-022-09900-4> (H Index: 112, Q2, I.F 2.2) (*Corresponding author).
- [26] K. Tyagi, A.K Dwivedi, S. Singh, P. Ranjan, A. Sharma, “Four Port Dielectric Resonator Based MIMO Antenna Design for Cognitive Radio Applications”, **IEEE Transactions on Circuits and Systems II: Express Briefs** Vol. 70, Issue 6, pp. 1936 – 1940, 2022. DOI: 10.1109/TCSII.2022.3230721 (H Index: 128, Q1, I.F 4.0)
- [27] P. Ranjan, A. Krishnan, A.K Dwivedi, S. Singh, A. Sharma, “Design and Optimization of MIMO Dielectric Resonator Antenna Using Machine Learning for Sub-6 GHz based 5G IoT Applications”, **Arabian Journal for Science and Engineering, Springer**, Vol. 48, Pages

- 14671–14679, 2023. <https://doi.org/10.1007/s13369-023-07830-9> (H Index: 70, Q1, I.F 2.6)
- [28] Manjunath M.N, **A.K Dwivedi**, Nagesh K.N, A. Sharma, V. 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> (I.F 1.5) (H Index: 35, Q3, I.F 1.3)
- [29] Srinu V, S. Singh, **A.K Dwivedi**, A. Sharma, S. Agarwal, “Design and Investigation of Two Port MIMO Microstrip Radiator with Low RADAR Cross Section for S-band Application”, **Engineering Research Express, IOP Science**, (2024). (Accepted for Publication). (H Index: 19, Q3, I.F 1.5)
- [30] **A.K Dwivedi**, Nagesh, K.N, K. Varma, S. Singh, A. Sharma, V. 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**, 13, Article number: 13994, 2023. <https://doi.org/10.1038/s41598-023-41302-2> (H Index: 315, Q1, I.F 3.8)
- [31] A.K Singh, **A.K Dwivedi**, V. Singh, R.S Yadav, “Meander Line Loaded 2- Port Stepped Impedance Feed Slotted MIMO Antenna For C and Lower X-Band Communication”, **Wireless Personal Communications, Springer** (2024). (Under Review). (I.F 2.2) (H Index: 82, Q2, I.F 1.9)
- [32] **A.K Dwivedi**, S. Singh, P. Ranjan, A. Sharma, V. 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> (H Index: 62, Q2, I.F 1.7)
- [33] Manjunath M.N, **A.K Dwivedi**, S. Pandey, V. Singh, “Machine Learning Optimized Compact Circularly Polarized Dual Port-MIMO Antenna with Polarization Diversity for Ku-Band Applications” **Physica Scripta, IOP Science**, Vol. 99, Page No. 9, 2024. <https://iopscience.iop.org/article/10.1088/1402-4896/ad69de> (H Index: 97, Q2, I.F 2.6)
- [34] **A.K Dwivedi**, Manjunath M.N, A. Shukla, A. Sharma, S. Singh, and V. Singh, “A Wideband Polarization Diversified MIMO Antenna with Improved Isolation using Machine Learning Optimized Metasurface Absorber” **Physica Scripta, IOP Science**, Vol. 99, Page No. 8, 2024. <https://iopscience.iop.org/article/10.1088/1402-4896/ad6048> (H Index: 97, Q2, I.F 2.6)
- [35] Harish V, Nagesh K N, **A.K Dwivedi**, V. Singh, “Design and Investigation on Circularly Polarized Tunable Two Port Silicon

- Ceramic-Graphene Based Filtenna in THz Frequency Regime” **Optical and Quantum Electronics, Springer**, Vol. 56, article number 987, 2024. <https://doi.org/10.1007/s11082-024-06443-2> (H Index: 73, Q2, I.F 3.3)
- [36] K. Varma, Nagesh K N, **A.K Dwivedi**, V. Singh, “Quad Port MIMO Circularly Polarized Antenna for n77/n78 5G Coverage with Spatial and Polarization Diversity” **Wireless Personal Communications, Springer**, Vol. 135, pages 619–638, 2024. <https://doi.org/10.1007/s11277-024-11089-0> (H Index: 82, Q2, I.F 1.9)
- [37] A.K Singh, **A.K Dwivedi**, V. 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**, Vol. 45, Page No. 538 – 555, 2024. <https://doi.org/10.1007/s10762-024-00982-1> (H Index: 70, Q2, I.F 1.8)
- [38] A. Yadav, **A.K Dwivedi**, I K Singh, K K Verma, G. Das, A. Sharma, “Metasurface Loaded Dual-Port Al₂O₃ Ceramic based Antenna with Improved Gain and Circular Polarization Characteristics”, **Physica Scripta, IOP Science**, Vol. 99, page no. 6, 2024. <https://iopscience.iop.org/article/10.1088/1402-4896/ad4eac> (H Index: 97, Q2, I.F 2.6)
- [39] Anitha C, V. 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> (H Index: 49, Q3, I.F 1.3)
- [40] Anitha C, V. 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**, 14, 24437, 2023. <https://doi.org/10.1038/s41598-024-75696-4> (H Index: 315, Q1, I.F 3.8)
- [41] 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> (H Index: 315, Q1, I.F 3.8)
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3.8]

- [43] Nagesh K. N, K. K Verma, **A. K Dwivedi**, V. Singh, M.Tolani, "Machine Learning Aided Tapered Four-Port MIMO Antenna for V2X Communications with Enhanced Gain and Isolation", **IEEE Access**, 2025.
<https://doi.org/10.1109/ACCESS.2025.3543183> (H Index: 242, Q1, I.F 3.4)
- [44] J.K Rai, **A.K Dwivedi**, V. Singh, P. Ranjan, A. Sharma, A. Pandey, "Machine learning Enabled Dual to Wideband Frequency Agile Al₂O₃ Ceramic-Based Dielectric MIMO Antenna for 5G New Radio Applications", **Scientific Reports, Nature, Springer**, 15, 9648, 2025.
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- [45] J.K Rai, S. Yadav, **A.K Dwivedi**, V. Singh, P. Ranjan, A. Sharma, S. Kumar, S. Pandey, "Design and Optimization of Compact Dual Port CPW Fed Ultra-Wide Band MIMO Antenna for Next Generation Wireless Communication Using Machine Learning Approach", **Scientific Reports, Nature, Springer**, 15, 13885, 2025.
<https://doi.org/10.1038/s41598-025-98933-w> (H Index: 315, Q1, I.F 3.8)
- [46] Smitha D, Nayana B R, Pramukhya M, Brunda M, **A.K Dwivedi**, Nagesh K.N, V. Singh, "Dual Port Circularly Polarized Optically Transparent MIMO Antenna for N77/N78 5G Applications", **International Journal of Microwave and Wireless Technologies, Cambridge University Press**. (2025). (Under Review) (H Index: 31, Q3, I.F 1.4)
- [47] B. Bharti, A.Yadav, **A.K Dwivedi**, "A Self-Diplexing Filtering Antenna with Radiation Nulls, Improved Bandwidth, High Efficiency, and Isolation for n78 and n79 5G Bands", **IEEE Transactions on Vehicular Technology** (2025). (Under Review) (H Index: 236, Q1, I.F 6.1)
- [48] A.K Singh, **A.K Dwivedi**, V. Singh, "A miniature Inverted L-shaped MIMO Antenna for 5G NR frequency bands (n257, n258, and n261) within the millimetre wave spectrum", **International Journal of Microwave and Wireless Technologies, Cambridge University Press** (2025). (Under Review) (H Index: 35, Q3, I.F 1.4)
- [49] **A.K Dwivedi**, Nagesh K N, S. K Singh, V. Singh "Taguchi-Neural Network Driven Optimization of Graphene Metamaterial Absorbers for Terahertz Applications", **IEEE Transactions on Plasma Science** (2025).
<https://doi.org/10.1109/TPS.2025.3582811> (H Index: 124, Q2, I.F 1.3).
- [50] J.K Rai, **A. K Dwivedi**, Y. Alzahrani, P. Ranajan, A. Sharma, R.

Chowdhary, M.Tolani, “Machine Learning Based Frequency Tunable MIMO Dielectric Resonator Antenna for IoT Application”, **Cluster Computing** (2025). (Under Review) (H Index: 69, Q1, I.F 3.8). (*Corresponding author).

- [51] P. Tiwari, J.K Rai, A.K Dwivedi, P. Ranjan, R. Chowdhury A. Pandey, “A High Isolated, High Gain Millimeter Wave Quad-Port MIMO Antenna Array for Wideband 5G New Radio Application”, **Scientific Reports, Nature, Springer** (2025). (Revision Submitted) (H Index: 315, Q1, I.F 3.8)
- [52] S. Singh, B. Bharti, A.Yadav, A.K Dwivedi, “Optimized Microwave Ablation with a Novel Applicator: Integration of Taguchi Neural Networks for Enhanced Predictive Accuracy of Ablation Zone”, **IEEE Journal on Multiscale and Multiphysics Computational Techniques** (2025).
<https://doi.org/10.1109/JMMCT.2025.3589163> (H Index: 22, Q2, I.F 1.8).
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- [54] M. Umapriya, M. Thanulatha, Deekshitha B, Chandana H N, A.K Dwivedi, V. Singh, “Design and Performance Characterization of a Sub-6 GHz 4-Port MIMO Antenna for V2X Systems Using Data-Driven Learning Models”, **Scientific Reports, Nature, Springer** (2025). (Revision Submitted) (H Index: 315, Q1, I.F 3.8).
- [55] Anitha C, V. Singh, A.K Dwivedi, “Design and Characterization of a 4-Port MIMO Antenna with Integrated Metasurface Absorber for Isolation Enhancement in Sub-6 GHz Applications”, **Scientific Reports, Nature, Springer** (2025). (Accepted For Publication) (H Index: 315, Q1, I.F 3.8).

JOURNAL: (SCOPUS INDEXED)

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- [6] **A.K Dwivedi**, S. Yadav, P.N Tripathi and V. Singh, “Staircase Aperture Loaded MPA for (B41/n41) Sub-6 GHz for 5G Domain” **IEEE 7th International Conference Engineering & Telecommunication — En&T-2020, Moscow Institute of Physics and Technology, Moscow, Russia** (2020). **DOI: 10.1109/EnT50437.2020.94312814**
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- [12] Sumanth M, V. Ghali, Vikram K, Shivaraj B, V. Singh, **A.K Dwivedi***, Dielectric Resonator Loaded Two Port Circularly Polarized MIMO Antenna for Sub 6 GHz Band Coverage”, **IEEE 7th Open International Conference "Electrical, Electronic and Information Sciences" Estream 2023, Lithuania (2023).** [10.1109/eStream59056.2023.10134770](https://doi.org/10.1109/eStream59056.2023.10134770) **(*Corresponding author).**
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Research and Consultancy

1. **Optimal Localization, and Treatment of Hepatocellular Carcinoma Using Microwave Ablation Technique**
 - **Role:** Principal Investigator (PI)
 - **Status:** Granted
 - **Funding:** \$3000 USD (₹2,50,000)
 - **Agency:** IEEE AP-S Society Membership and Benefits Committee and AP-S Society Education Committee (APS USRS – 2023)
2. **Machine Learning-based Monitoring, Optimal Localization and Treatment of Hepatocellular Carcinoma Using Microwave Antenna Sensor for Post-COVID-19 Patients**
 - **Role:** Principal Investigator (PI)
 - **Status:** Granted
 - **Funding:** ₹5000
 - **Agency:** Karnataka State Council for Science and Technology (KSCST–2023), IISc Bangalore
3. **Metamaterial/Metasurface-Based ML-Assisted Smart Antennas for 5G/B5G Applications**
 - **Role:** Principal Investigator (PI)
 - **Status:** Submitted
 - **Funding:** ₹5,00,000
 - **Agency:** DST-SERB (Karyashala High-end Workshop)
4. **Novel Antenna Design for Enhanced Brain Tumor Detection Using Machine Learning in the THz Frequency Spectrum**
 - **Role:** Principal Investigator (PI)
 - **Status:** Submitted
 - **Funding:** \$3000 USD (₹2,50,000)
 - **Agency:** IEEE AP-S Society Membership and Benefits Committee and AP-S Society Education Committee (APS USRS – 2024)
5. **Monitoring, Optimal Localization, and Treatment of Hepatocellular Carcinoma Using Microwave Ablation Technique**
 - **Role:** Principal Investigator (PI)
 - **Status:** Granted
 - **Funding:** ₹10,00,000
 - **Agency:** Vision Group on Science and Technology, Government of Karnataka
6. **Multi-Temporal Satellite-Based Crop Growth Monitoring by Synergistic Use of Machine Learning and Empirical Models for Sustainable Development**
 - **Role:** Co-Principal Investigator (Co-PI)
 - **Status:** Submitted
 - **Funding:** ₹15,36,000
 - **Agency:** Council of Science & Technology, Uttar Pradesh
7. **IRS-Assisted Drones-Based Communication for Remote Area Connectivity**
 - **Role:** Co-Principal Investigator (Co-PI)
 - **Status:** Submitted
 - **Funding:** ₹41,00,000
 - **Agency:** Indian Space Research Organization (ISRO Basket)
8. **RFCMOS-Based Wideband Voltage Controlled Oscillators @ L, S, C, X, and Ku-Band**
 - **Role:** Co-Principal Investigator (Co-PI)
 - **Status:** Submitted
 - **Funding:** ₹56,40,000
 - **Agency:** Indian Space Research Organization (ISRO Basket)