



Dr. Piyush Kumar Mishra

Assistant Professor

Electronics and Communication Engineering Department
Indian Institute of Information Technology Vadodara -
International Campus Diu (IIITV-ICD), Education Hub,
Kevdi, Diu, India

☎ +917376158595

✉ piyush_mishra@iiitvadodara.ac.in, piyushec2@gmail.com

TEACHING & RESEARCH INTEREST (SPECIALIZATION)

Antenna and Wave Propagation, Metasurface Antenna, Dielectric Resonator Antenna (DRA), Biomedical Antenna, Implantable Antenna, RF/Microwave Sensors, Electromagnetic Field Theory, Communication Engineering

WORK EXPERIENCE

Assistant Professor | —*ECE Department*

September 2026- Onward

IIIT Vadodara -ICD, Diu, India

Research Associate (Postdoctoral Researcher) | — *iDARE Lab, ECE Department*

Sep. 2024-Aug. 2026

Indian Institute of Science (IISc), Bangalore, India

Research Title: "Design of High Gain Beam Steering Holographic Metasurface Antenna"

EDUCATION

Doctor of Philosophy (Ph.D) | *Electronics and Communication Engineering*

August 2024, CPI: 9.25

Motilal Nehru National Institute of Technology Allahabad

Prayagraj, India

* Title of Thesis: "Design and Development of Body Matched Antennas for ISM Band Biomedical Applications"

Master of Technology (M.Tech) | *Electronics Engineering*

2019, CPI: 8.65

University of Allahabad

Prayagraj, India

* Project Title: "Design of Key Shape Microstrip Patch Antenna for C/X Band Applications"

Bachelor of Technology (B.Tech) | *Electronics and Communication Engineering*

2014, 69.12%

Uttar Pradesh Technical University

Lucnow, India

TECHNICAL SKILLS

- **Operating Platform** : Windows, iOS
- **Software/Tools**: HFSS, CST, Origin, MATLAB, Excel, VNA, and Anechoic Chamber Measurements
- **Typeset Software** : $\text{\LaTeX}$, Microsoft Word

PATENTS

3. Patent Application No.: **202641026676**

"Reflection Phase-Based Multi-port Multi-beam Binary Holographic Metasurface Antenna", **FER Received On- 2/07/2026**

2. Patent Application No.: **202211031605**, Patent No.: **550469**,

"A Rectangular Dielectric Resonator Based Microwave Sensor for Non-invasive Blood Glucose Level Sensing Applications", **Grant Date-18/09/2024**

1. Patent Application No.: **202211033211**

“DGS based Slotted Millimeter-Wave Microstrip Patch Antenna for Non-Invasive Blood-Glucose Level Monitoring”, **Published On- 05/01/2024**

PUBLICATIONS

Journals

11. **P. K. Mishra**, D. Barad and D. Sarkar, “A Multi-Port Multi-Beam Binary Coded Millimeter-Wave Metasurface Antenna for Full-Duplex Vehicular Communications,” in *IEEE Transactions on Vehicular Technology*, <http://doi.org/10.1109/TVT.2026.3733618>. (**SCI, Impact factor- 7.5**)
10. **Piyush Kumar Mishra**, Tilakdhari Singh, Diksha Pandey & Vijay Shanker Tripathi (2025). CSRR-Embedded Patch Antenna Applicator for Effective and Localized Hyperthermia Treatment. *Sensing and Imaging*. (**Under Review**)
9. Singh, Tilakdhari and **Mishra, Piyush Kumar** and Pal, Aditya and Tripathi, Vijay Shanker (2024). Wideband CPW-Fed Four-Port MIMO Antenna based Microwave Sensor for Deep Brain Temperature Measurement. *Physica Scripta*, 1402-4896. <http://iopscience.iop.org/article/10.1088/1402-4896/ad79a0>. (**SCI, Impact factor- 2.6**)
8. **Mishra, P.K.**, Singh, T. & Tripathi, V.S. (2024). A Rectangular Dielectric Resonator Based Microwave Sensor for Non-invasive Blood Glucose Sensing Applications. *Sens Imaging* 25, 35 (2024). <https://doi.org/10.1007/s11220-024-00486-1>. (**SCI, Impact factor- 1.5**)
7. **Mishra, P.K.**, Mathur, K. & Tripathi, V.S. (2024). A Slotted Patch Antenna with Enhanced Bandwidth for In-body Biotelemetry Applications. *Journal of Telecommunications and Information Technology*, 2(2), 17–22. <https://doi.org/10.26636/jtit.2024.2.1412>., (**Scopus**).
6. **P. K. Mishra**, Tripathi, V.S. (2023). A compact dual-band hybrid dielectric resonator antenna for blood glucose sensing and wireless communication. *Opt Quant Electron* 56, 22 (2023). <https://doi.org/10.1007/s11082-023-05579-x>. (**SCI, Impact factor- 3.0**)
5. Singh, T., **Mishra, P.**, Pal, A., and Tripathi, V. (2023). A planar microwave sensor for noninvasive detection of glucose concentration using regression analysis. *International Journal of Microwave and Wireless Technologies*, 1-11. doi:10.1017/S1759078723000545. (**SCI, Impact factor- 1.4**)
4. Raj, S., **Mishra, P.**, and Tripathi, V. (2023). A multiband truncated patch antenna based on EBG structure for IoMT and 5G networks. *International Journal of Microwave and Wireless Technologies*, 1-13. doi:10.1017/S1759078723000454. (**SCI, Impact factor- 1.4**)
3. **Mishra PK**, Tripathi V.S. (2022) A miniature dielectric loaded wide band circularly polarized implantable antenna with low specific absorption rate for biomedical applications. *IntJ RF Microw Comput Aided Eng*. 2022;e23227.doi:10.1002/mmce.2322712. (**SCI, Impact factor- 1.7**)
2. Pal, A., **Mishra, P. K.**, and Tripathi, V. (2022). A circularly polarized wideband implantable patch antenna for biomedical applications. *International Journal of Microwave and Wireless Technologies*, 1-7. doi:10.1017/S1759078722001052. (**SCI, Impact factor- 1.4**)
1. Raj, S., **Mishra, P. K.**, Tripathi, S., and Tripathi, V. (2022). A Defected Ground Structure Based Compact Circular Patch Antenna Design for mm Wave Application. *Defence Science Journal*, 72(4), 592-599. <https://doi.org/10.14429/dsj.72.18164>. (**SCI, Impact factor- 0.7**)

Book-Chapters

1. Pandey, D., **Mishra, P.K.**, Tripathi, D.K., Tomar, G.S. (2026). Mitigating Traffic Congestion and Hidden Node Challenges in Vehicular Ad Hoc Networks Using EADAMS Load Balancing Algorithm. In: Mishra, R.A., Srivastava, V.K., Kumar, A., Naik, K. (eds) *Advances in VLSI, Communication, and Signal Processing. VCAS 2023. Lecture Notes in Electrical Engineering*, vol 1445. Springer, Singapore. https://doi.org/10.1007/978-981-96-8690-2_27.

Conferences

19. **P. K. Mishra**, Malleboina Raju and D. Sarkar, "Predicting the Maximum Directivity of Metasurface Antennas using Infinitesimal Dipole Model," *2026 ICEAA-IEEE APWC*, September 14-18, 2026, Toyama, Japan. (**Accepted**)
18. **P. K. Mishra** and D. Sarkar, "A Two-Port Circularly Polarized One-Bit Coded Metasurface Antenna for Full-Duplex Millimeter-Wave Space Communication Systems," *2026 IEEE Space, Aerospace and Defence Conference (SPACE)*, Bangalore, India. (**Accepted & Presented**)
17. S. Kichouliya, **P. K. Mishra** and D. Sarkar, "Comparative Analysis Between Series Fed Patch Arrays and Holographic Metasurface Antenna for mmWave Radar Applications," *2026 IEEE Wireless, Antenna & Microwave Symposium (WAMS)*, Hyderabad, India, 2026. (**Accepted & Presented**)
16. **P. K. Mishra**, D. Barad and D. Sarkar, "Impact of Realistic Design on the Performance of Binary Holographic Metasurface Antennas," *2025 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON)*, Kochi, India, 2025, pp. 1-4, doi: 10.1109/MAPCON65020.2025.11426565.
15. **P. K. Mishra** and D. Sarkar, "One-Dimensional Reconfigurable Holographic Metasurface Antenna for mm-Wave Beam-Steering," *2025 IEEE Wireless, Antenna & Microwave Symposium (WAMS)*, Chennai, India, 2025, pp. 1-5, doi: 10.1109/WAMS64402.2025.11158914.
14. A. C. Joshi, **P. K. Mishra** and D. Sarkar, "A Dual-Band Four-Port MIMO Implantable Antenna with Enhanced Isolation," *2025 19th European Conference on Antennas and Propagation (EuCAP)*, Stockholm, Sweden, 2025, pp. 1-5, doi: 10.23919/EuCAP63536.2025.10999262.
13. T. Singh, **P. K. Mishra**, A. Pal, P. Sharma and S. Tripathi, "A Trapezoidal Slot Cross Shaped Dual Band Antenna for WBAN Biomedical Applications," *2024 Second International Conference on Microwave, Antenna and Communication (MAC)*, Dehradun, India, 2024, pp. 1-5, doi: 10.1109/MAC61551.2024.10837019.
12. **P. K. Mishra**, T. Singh and V. S. Tripathi, "A Fist Shape CSRR Loaded Patch Antenna at K and Ka Band for Satellite Applications," *2024 IEEE International Symposium on Antennas and Propagation and INC/USNC-URSI Radio Science Meeting (AP-S/INC-USNC-URSI)*, Firenze, Italy, 2024, pp. 2541-2542, doi: 10.1109/AP-S/INC-USNC-URSI52054.2024.10686754.
11. K. Singh Yadav, **P. Kumar Mishra**, T. Singh, P. Sharma and V. S. Tripathi, "Rectangular Dielectric Resonator Antenna for Ku-Band Satellite Applications," *2024 IEEE Space, Aerospace and Defence Conference (SPACE)*, Bangalore, India, 2024, pp. 286-289, doi: 10.1109/SPACE63117.2024.10667737.
10. K. Singh Yadav, **P. Kumar Mishra**, A. Pal and V. S. Tripathi, "An Implantable Antenna for Biotelemetry Applications Incorporating Dielectric Resonator," *2024 IEEE International Conference on Electronics, Computing and Communication Technologies (CONECCT)*, Bangalore, India, 2024, pp. 1-5, doi: 10.1109/CONECCT62155.2024.10677278.
9. **P. K. Mishra**, S. Raj and V. S. Tripathi, "A Novel Skin-Implantable Patch Antenna for Biomedical Applications," *2020 IEEE 7th Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON)*, 2020, pp.1-5, doi:10.1109/UPCON50219.2020.9376443.
8. **P. K. Mishra**, A. Yadav, T. Singh and V. S. Tripathi, "An Electromagnetic Band Gap Structure Based Dielectric Resonator Antenna for Millimeter-Wave Applications," *2022 IEEE 9th Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON)*, 2022, pp. 1-4, doi: 10.1109/UPCON56432.2022.9986478.
7. **P. K. Mishra**, S. Raj and V. S. Tripathi, "A Novel Hexagonal Slotted Circular Patch Antenna for ISM Band Biomedical Applications," *2021 IEEE MTT-S International Microwave and RF Conference (IMaRC)*, 2021, pp. 1-4, doi: 10.1109/IMaRC49196.2021.9714576.
6. T. Singh, **P. K. Mishra**, A. Pal, P. K. Shukla, P. Sharma and V. S. Tripathi, "Defected Ground Circular Shaped Non- Invasive Microwave Sensor for Deep Brain Temperature Measurements," *2023 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON)*, Ahmedabad, India, 2023, pp. 1-6, doi: 10.1109/MAPCON58678.2023.10463875.

5. T. Singh, **P. K. Mishra**, A. Verma, S. Siddhi, P. Sharma and V. S. Tripathi, "A Trapezoidal Ground-based Truncated Rectangular Patch Antenna for Non-Invasive Monitoring of Bone Fracture Healing," 2024 IEEE Wireless Antenna and Microwave Symposium (WAMS), Visakhapatnam, India, 2024, pp. 1-5, doi: 10.1109/WAMS59642.2024.10527968.
4. Vivekanand, P. kumar and **P. K. Mishra**, "Design of Frequency Reconfigurable Antenna for Multiple Applications," 2023 First International Conference on Microwave, Antenna and Communication (MAC), Prayagraj, India, 2023, pp. 1-4, doi:10.1109/MAC58191.2023.10177076.
3. T. Singh, **P. K. Mishra**, A. Pal and V. S. Tripathi, "A Defected Ground Comb Shape Microwave Sensor for Non Invasive Measurement of Blood Glucose," 2022 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON), Bangalore, India, 2022, pp. 1783-1787, doi: 10.1109/MAPCON56011.2022.10046895.
2. A. Pal, **P. K. Mishra**, T. Singh and V. S. Tripathi, "A Compact Ultra wide band Planar Patch Antenna for UWB/X/Ku Band Applications," 2022 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON), Bangalore, India, 2022, pp. 1063-1067, doi: 10.1109/MAPCON56011.2022.10047813.
1. **Mishra, Piyush Kumar** and Yadav, Shekhar and Jaiswal, Komal and Singh, Rajeev, Dual Band Key-Shaped Microstrip Patch Antenna for C/X Band Applications (April 12, 2020). Proceedings of the International Conference on Advances in Electronics, Electrical and Computational Intelligence (ICAEEC) 2019, <http://dx.doi.org/10.2139/ssrn.3574117>

RESEARCH IDS

- **ORCID:** (<https://orcid.org/my-orcid?orcid=0000-0002-6206-0450>).
- **Research Gate:** (<https://www.researchgate.net/profile/Piyush-Kumar-Mishra-2>).
- **Google Scholar:** (<https://scholar.google.com/citations?hl=en&user=z4pNS4QAAAAJ>).
- **LinkedIn:** (<https://www.linkedin.com/in/piyush-kumar-mishra-62769456/>).

AWARDS

- **Best Paper Award** in the Metasurface Session at the 2026 IEEE Space, Aerospace and Defence Conference (SPACE), 19-21 July 2026, Bangalore, India
- **Recipient of International Travel Scheme (ITS)** , Science and Engineering Research Board (SERB), Govenment of India, to attend 2024 IEEE International Symposium on Antennas and Propagation and ITNC-USNC-URSI Radio Science Meeting 14-19 July 2024, Florence, Italy
- **Recipient of travel grant** (2500 USD) to attend IEEE MTT-S Chapter Chairs Meet (CCM) in 2023 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON), Ahmedabad, India.
- **Recipient of travel grant** (500 USD) to attend IEEE MTT-S Chapter Chairs Meet (CCM) in 2022 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON), Bangalore, India.
- **First Prize of PHD Initiative Program** in IEEE MTT-S International Microwave and RF Conference (IMaRC 2019) organized by IIT Bombay, Mumbai, India, during 13 - 15 December 2019.

ACHIEVEMENTS

- **Indian Institute of Science (IISc) Bangalore, Research Associate Fellowship** from September 2024 to Till Date.
- **MHRD Fellowship** for M.Tech (2017 - 2019) and Ph.D (2019 - 2024)
- **GATE-2017**

FOREIGN VISIT

- **University of Technology (UTS) Sydney, Australia, November 2025**, under the "SPACE MAITRY" knowledge exchange program between the Indian Institute of Science, Bangalore, and University of Technology (UTS) Sydney.
- **Florence, Italy, July 2024** to present research paper at 2024 IEEE International Symposium on Antennas and Propagation and ITNC-USNC-URSI Radio Science Meeting.

KEYNOTE ADDRESS / INVITED TALKS

- **A journey from Biomedical Antennas for Wireless Healthcare to Holographic Metasurface Antennas for Space** on 12 November 2025, organized by the University of Technology (UTS), Sydney, Australia.
- **Significance of IEEE Student Branch in Technical Institutions** on 27 May 2023, organized by Buddha Institute of Technology, Gorakhpur, Uttar Pradesh, India.
- **Role of RF and Microwave in Bio-Medical Applications** in IEEE UP Graduate Talk Series on 29 August 2022, organized by IEEE UP Section, India.

CHAIR IN CONFERENCES

- **Session Chair** in International Conference on Microwave, Antenna and Communication (MAC-2025) organised by Department of Electronics & Communication Engineering, MANIT Bhopal, India, held on 27-29 June 2025.
- **Session Chair** in International Conference on Microwave, Antenna and Communication (MAC-2024) organised in Dehradun, India, held on 04-06 October 2024.
- **Session Chair** in International Conference on Ubiquitous Technology in Communication and Artificial Intelligence (UTCA-2023) organised by Department of Electronics & Communication Engineering, Nagarjuna College of Engineering and Technology, Bengaluru, India held on 20-21 October 2023.

REVIEWER FOR JOURNALS

Journals :

IEEE Access, IEEE Antennas and Propagation Magazine, IET Microwaves, Antennas & Propagation (Wiley), Wireless Personal Communications (Springer), Scientific Reports, Discover Electronics

ROLE / RESPONSIBILITIES

- **Chairperson**, IEEE Student Branch MNNIT Allahabad (Jan 2021- Dec 2023)
- **Chairperson**, IEEE MTT-S SBC MNNIT Allahabad (Jan 2021 - Dec 2023)
- **Hostel President**, C.V. Raman Hostel, MNNIT Allahabad, 2022
- **Ambassador**, IEEE Day 2021
- **Volunteer**, Educational Activities, IEEE India Council, 2021
- **Student Member**, Student Activity Committee (SAC), IEEE UP Section, 2021

ORGANIZED CONFERENCES & WORKSHOPS

5. **Publicity Chair** of IEEE International Conference on Microwave, Antenna and Communication (MAC 2025) during 27 - 29 June 2025 held at MANIT Bhopal, India.
4. **Student Co-ordinator** of IEEE International Conference on Microwave, Antenna and Communication (MAC 2023) during 24 - 26 March 2023 held at MNNIT Allahabad, India.
3. **Event Mangement Committee Member** of International Conference on VLSI, Communication and Signal Processing (VCAS 2022) during 14 - 16 October 2022 held at MNNIT Allahabad, India.
2. **Organizer** of a two-day workshop on "Ansys Solutions for High Frequency Electromagnetics and 5G Technology" during 16 - 17 September 2021 held at MNNIT Allahabad, India.
1. **Volunteer** of Technical Hands-On Workshop during 22-29 June 2021, organized by IEEE UP Section India.

PROFESSIONAL MEMBERSHIP / SOCIETY

- IEEE Professional Member (**96645209**) (Since-Aug. 2019),
IEEE AP-S, MTT-S, AESS, Sensor Council, and Young Professional (YP)

REFERENCES

3. **Dr. Debdeep Sarkar**, (Assistant Professor), [PostDoc Supervisor], Electrical Communication Engineering Department, Indian Institute of Science (IISc), Bangalore, India
Email: debdeep@iisc.ac.in
2. **Dr. Vijay Shanker Tripathi**, (Professor), [Ph.D Supervisor], Electronics and Communication Engineering Department, MNNIT Allahabad, Prayagraj, India.
Email: vst@mnmit.ac.in
1. **Dr. Somak Bhattacharyya**, (Associate Professor), Department of Electronics Engineering, IIT BHU, Varanasi, India.
Email: somakbhattacharyya.ece@iitbhu.ac.in

DECLARATION

I hereby declare that all the information filled above is very authentic & genuine to the best of my knowledge. I take full responsibility of the authenticity of the above information.



Place: IIIT Vadodara -ICD, Diu

Piyush Kumar Mishra