Dr. Santosh Kumar Mahto

Assistant Professor,
& HoD, Dept. of Electronics & Communication Engg.,
& Associate Dean Research and Development, IIIT Ranchi

skumar@iiitranchi.ac.in
http://iiitranchi.ac.in
linkedin.com/in/dr-santosh-kumar-72b10a105
https://scholar.google.com/citations?user=wEsn6vUAAAAJ&hl=en

Academic Qualification

2012 –2016 — **Ph.D., National Institute of Technology Jamshedpur**
Thesis title: *Soft Computing Optimization Technique for Microwave and Millimeter Wave Antennas.*

2010 – 2012 — **M.E.** Dept. of Electronics & Communication Engg in **Birla Institute of Technology Mesra, Ranchi**.
Thesis title: *Quantum Communication for Wireless Wide Area Network*.

2006 – 2010 — **B. Tech.** Dept. of Electronics & Communication Engg in **National Institute of Science and Technology Berhampur, Odisha**.

Teaching Experiences: UG & PG level – 07 years 09 months

November, 2018 – till date — **Assistant Professor**, Department of Electronics & Communication Engg., IIIT Ranchi.

August, 2017 – November, 2018 — **Temporary Faculty**, Department of Electronics & Communication Engg., IIIT Ranchi.

January, 2017 – May, 2017 — **Associate Professor**, Department of Electronics & Communication Engg., Oriental Institute of Science & Technology, Bhopal.

Administrative & Academic Experiences

August 20, 2024 – till date — **Associate Dean**, Research & Development, IIIT Ranchi
HoD, Department of Electronics and Communication Engineering, IIIT Ranchi
BoG Member, IIIT Ranchi

February 1, 2023 – August 20, 2024 — **Associate Dean**, Research & Development, Innovation & Incubation, IIIT Ranchi
Associate Dean, Training & Placement , IIIT Ranchi

February 1, 2023 – till date — **CPIO** , IIIT Ranchi

June, 2020 – February 1, 2023 — **Branch Coordinator**, Department of Electronics & Communication Engg., IIIT Ranchi

January, 2019 – May 2022 — **Faculty In-Charge**, Training & Placement, IIIT Ranchi

December, 2018 – January, 2020 — **Faculty In-Charge**, Academics & Research, IIIT Ranchi
CPIO and Grievance Officer, IIIT Ranchi
Member Senate, IIIT Ranchi

Research Achievements/ Awards

- **Best paper award** on Quantum Behaved Particle Swarm Optimization Technique applied to FIR based Linear and Non-linear Channel Equalizer in 2nd International Conference on Computer, Communication and Computational Sciences (IC4S 2017), Springer, October 11-12, Phuket,Thailand.
- **Best paper award** on Wind Driven Optimization Technique for Equalization of Non-minimum Phase Channel in International Conference on Sciences, Technology, Engineering & Management (ICSELM 2017), January 06-07, 2017, Kuala Lumpur, Malaysia.
- Received IEEE Early Member Ship Award.
- Got International Travel Support from DST to present my paper in International SAI Intelligent Systems Conference 10-11 November 2015 at London
- MHRD Scholarship receiving during Ph.D programs.
- Qualify the GATE exam in 2010, 2011 and 2012.
- Active Member of ICDeCom-11 (International Conference on Devices & Communications) BIT Mesra Ranchi
- Reviewer of Wireless Personal Communication Journal Springer (SCI Expanded)
- Reviewer of Applied Computational Electromagnetic Society (ACES) (SCI Expanded)
- Reviewer of AEU-International Journal of Electronics and Communications, Elsevier (SCI Expanded)
- Reviewer of Indian Journal Science and Technology, India (Scopus Index)

Teaching Assessment

Subjects to be Taught

- Electromagnetic Engineering
- Microwave & Antenna Design
- Soft Computing (PSO, BFO, WDO, GA, IWO etc.)
- Basic Electronics
- Digital Electronics

OnGoing Project

July 7, 2023 – till date

- **Setting up a 5G Use Case Test Lab in CMPDI for Coal Industry** – Research Projects of Ministry of Coal– Implementing agencies: **Indian Institute of Information Technology Ranchi**, Telecommunications Consultants India Limited(TCIL), New Delhi, CMPDI, Ranchi **Total Cost of Rs. 454.15 Lakhs**

Research Plan

- Microwave Imaging in Brain Cancer Detection using Wind Driven Optimization Based Confocal Algorithm
- Developed A Novel Binary Wind Driven Optimization Algorithm:
- Application of Proposed Binary WDO and Hybrid IWO/WDO Algorithm for Antenna Design and its fabrication.

Faculty Development Program Organised

November 23, 2021 – November 23, 2021
- Five Days AICTE training and Learning (ATAL) Sponsored Faculty Development Programme "Soft Computing and its Application in Electromagnetics (SCAE-2021)" November 23-27, 2021 IIIT Ranchi Five Days AICTE training and Learning (ATAL) Sponsored

January 03, 2023 – January 09, 2023
- Event Coordinator of SERB (DST) Sponsored High End Workshop (KARYASHALA) on "Soft Computing and its Application in Electromagnetics (SCAE-2023)" January 03-09, 2023, IIIT Ranchi

Significant Outreach Institute Activities

September 20, 2021 - September 24, 2021
- As an Expert speaker on the topic "Artificial Intelligence" at five days online Faculty Development Programme Sponsored by ATAL Academy on Artificial Intelligence (20th Sep-24th Sep 2021), University College of Engineering and Technology, VBU, Hazaribag.

February 8, 2021 - February 19, 2021
- A invited talk on Wind Driven Optimization Technique for Array Synthesis in Two Week TEQIP-III sponsored Virtual Short Term Course "Research Trends in Electronics and Communication Engineering - 2021" from 08th – 19th Feb 2021 at University College of Engineering and Technology, VBU, Hazaribag.

February 3, 2021 - February 7, 2021
- A invited talk on Soft Computing and its application in Antenna Array Synthesis in Faculty Development program on Recent Advances in RF and Microwave Engineering (03 Feb 2020 to 07 Feb 2020 One Week).

February 22, 2021 - February 24, 2021
- A invited talk on "Particle Swarm Optimization" at three days online Workshop on Mathematics and its Application in Engineering & Technology February 22-24, 202, University College of Engineering and Technology, VBU, Hazaribag.

June 18, 2020 - June 20, 2020
- A invited talk on Soft Computing and its application for our three day faculty development program, scheduled from 18th June to 20th June, Potti Sreeramulu Chalavadi Mallikharjuna Rao college of Engineering and Technology Kothapet, Vijayawada.

Research Experience: A. Ph.D Dissertation Guided.

Sl. No	Title of the Thesis	Research area	Year	Name of Students	Completed/ On-going
1	Design, Development and Analysis of Wide Band MIMO Antenna for wireless Applications	MIMO Antenna	2019	Ajit Kumar Singh	Awarded
2	Design and Analysis of Miniaturized High-Performance MIMO Antenna System for Sub-6GHz Applications	MIMO Antenna	2019	Raj Kumar Mistri	Awarded
3	Performance Enhancement of Compact Microstrip Filtennas based on Co-design Approach for RF Front end Applications	Filter & Antenna	2019	Pravesh Pal	Awarded
4	Design and Analysis of Metamaterial based Sensor for dielectric characterization	Sensor	2020	Kunal Kumar Singh	Thesis Submitted
5	Soft Computing for design and Analysis of Array Synthesis	Array Antenna	2020	Brajesh Kumar Gupta	On-going
6	Dielectric resonator antenna	Antenna	2021	Paritosh Pathak	On-going
7	MIMO Antenna	Antenna	2022	Prerna Kumari	On-going
8	Wearable Antenna	Antenna	2023	Priya Kumari	On-going
9	Metamaterial based Sensor	Microwave Sensor	2023	Sukhdev Mahto	On-going

Research Experience: B. PG Dissertation Guided

Sr. No.	Title of Dissertation / Project	Name of student(s)
1	Power cost optimization at Tata Steel through Frequency Prediction	Soma Anand
2	FPGA Prototyping of Neuromorphic Architecture	Sunidhi Singh
3	Reconfigurable antenna for iot applications using paper substrate	Dev vrat Krishna

Research Experience: C. UG Dissertation Guided.

Sr. No.	**Title of Dissertation / Project**	**Name of student(s)**
1	Quality Assurance of Automatic Number Plate Recognition and it's core Business Application	AKRITY AYUSHI
2	Detection of Brain Cancer	NIMISHA RAJPUT
3	DevOps: Building Reliable and Secure Systems Including Application Build, Package, and Deployment	SHUBHAM KUMAR SINGH
4	Compact Multi-Band Microstrip Patch Antenna For Wireless Applications	VIPUL PANDEY
5	DevOps: Building Reliable and Secure Systems Including Application Build, Package, and Deployment	AMAN SHRIKANT PASI
6	Detection of Brain Cancer	Daravath Shirisha
7	DevOps: Building Reliable and Secure Systems Including Application Build, Package, and Deployment	DIPALI MISHRA
8	Blogging Application	Smriti Agrawal
9	WEB GIS APPLICATIONS (LUIS and GIS-FRAMEWORK)	Saloni Seth
10	U.S. Monetary System and Fixed Income Market	Pratham Mishra
11	Breast Cancer Diagnosis Using Adaptive Voting Ensemble Machine Learning Algorithm	Paidi Mohan Sai
12	Microsrtip Antenna for 5G Application	Ayush Agarwal

Patents:

- Arvind Choubey, Prakash Ranjan, Chetan Barde, Santosh Kumar Mahto, and Rashmi Sinha. "Zeroth Order Resonator (ZOR) Antenna using slotted Metamaterial structure", Ref. NO. 202031026590, App. Number TEMP/E-1/29503/2020-KOL. **(Granted)**
- Santosh Kumar Mahto, Kunal Kumar Singh, Rashmi Sinha, and Ajit Kumar Singh. "Fluid Adulterations Sensor using Highly Sensitive Bridge Type Resonator Inspired by Metamaterial."India Patent Application No. 202431018381 A. **(Published)**
- Rashmi Sinha, Ranjeet Kumar, Arvind Choubey, Santosh Kumar Mahto, Praveen Kumar, Pravesh Pal, and Ajit Kumar Singh "A Tri-Band Graphene-Based Terahertz MIMO Antenna for Wearable Devices for Health Monitoring and A Method for Fabricating the same" India Patent Application No. 202431067375, TEMP/E-1/78595/2024-KOL **(Published)**

Research Publications

Journal Articles (SCI/SCOPUS)

1. Mahto, S. K., Choubey, A., & Kumar, R. (n.d.). A microstrip antenna using ebg structure for mobile and ism band.
2. Mistri, R. K., Mahto, S. K., & Sinha, R. (n.d.). A compact quad element human face-shaped wideband mimo antenna for 5g applications. *International Journal of Communication Systems*, e5872.
3. Tembo, S. R., Courant, J.-L., Vaton, S., Mohamed, A., Hamdi, M. S., Tahar, S., Fox, J., Al-hnaity, B., Abbod, M., Alar'raj, M. Et al. (n.d.). Section 1: Paper presentations.
4. Kumar, P., Singh, A. K., Kumar, R., Sinha, R., Mahto, S. K., Choubey, A., & Al-Gburi, A. J. A. (2024). High isolated defected ground structure based elliptical shape dual element mimo antenna for s-band applications. *Progress in Electromagnetics Research C, 143*.
5. Kumar, P., Singh, A. K., Kumar, R., Mahto, S. K., Pal, P., Sinha, R., Choubey, A., & Al-Gburi, A. J. A. (2024). Design and analysis of low profile stepped feedline with dual circular patch mimo antenna and stub loaded partial ground plane for wireless applications. *Progress In Electromagnetics Research C, 140*, 135–144.
6. Mistri, R. K., Singh, A. K., Mahto, S. K., Sinha, R., Alhassoon, K., Al-Gburi, A. J. A., & Ismail, M. M. (2024). An eight-element mimo antenna system supporting dual bands for 5g mobile, fss, and dbs communication. *Progress in Electromagnetics Research B, 107*.
7. Singh, K. K., Kumar Mahto, S., & Sinha, R. (2024). Differential metamaterial based sensor for solid dielectric characterization with improved sensitivity. *Sensor Review*, *44*(3), 221–230.
8. Singh, K. K., Singh, A. K., Mahto, S. K., Sinha, R., & Al-Gburi, A. J. A. (2024). Enhanced accuracy and high sensitivity in dielectric characterization through a compact and miniaturized metamaterial inspired microwave sensor. *Sensors and Actuators A: Physical, 370*, 115271.
9. Kumar, P., Sinha, R., Choubey, A., & Mahto, S. K. (2023). Dgs based miniaturized wideband mimo antenna with efficient isolation for c band applications. *Frequenz*, *77*(3-4), 163–172.
10. Kumar, P., Sinha, R., Choubey, A., Mahto, S. K., Pal, P., Kumar, R., & Singh, A. K. (2023). Highly isolated hexagonal shaped dgs based mimo antenna for c-band applications. *Grenze International Journal of Engineering & Technology (GIJET)*, *9*(1).
11. Kumar, R., Sinha, R., Choubey, A., & Mahto, S. K. (2023). A circular monopole antenna with uniquely packed quad t-shaped strips for wlan/wimax application. *Frequenz*, *77*(3-4), 211–218.
12. Mahto, S. K., Singh, A. K., Sinha, R., Alibakhshikenari, M., Khan, S., & Pau, G. (2023). High isolated four element mimo antenna for ism/lte/5g (sub-6ghz) applications. *IEEE Access*.

13 Mistri, R. K., Mahto, S. K., & Sinha, R. (2023). Dual band 8× 8 mimo antenna system for dcs 1800 and 5g mobile applications. *International Journal of Communication Systems*, *36*(3), e5387.

14 Mistri, R. K., Singh, A. K., Mahto, S. K., & Sinha, R. (2023). Quad element millimetre-wave mimo antenna for 5g communication. *Journal of Electromagnetic Waves and Applications*, *37*(15), 1258–1273.

15 Singh, A. K., Mahto, S. K., Kumar, P., & Sinha, R. (2023). Analysis of path loss and channel capacity in quad element mimo antenna for terahertz communication systems. *International Journal of Circuit Theory and Applications*, *51*(3), 1460–1475.

16 Singh, A. K., Mahto, S. K., & Sinha, R. (2023). A compact quad element mimo antenna for lte/5g (sub-6 ghz) applications. *Frequenz*, *77*(3-4), 173–183.

17 Singh, A. K., Mahto, S. K., Sinha, R., Alibakhshikenari, M., Al-Gburi, A. J. A., Ahmad, A., Kouhalvandi, L., Virdee, B. S., & Dalarsson, M. (2023). Low-loss paper-substrate triple-band-frequency reconfigurable microstrip antenna for sub-7ghz applications. *Sensors*, *23*(21), 8996.

18 Singh, K. K., Kumar Mahto, S., & Sinha, R. (2023). A review: Material characterization with metamaterial based sensors. *Sensor Review*, *43*(2), 41–51.

19 Kumar, P., Sinha, R., Choubey, A., & Mahto, S. K. (2022a). A miniaturized rectangular shape narrowband mimo antenna with reduced mutual coupling for c-band applications. *Journal of Electromagnetic Waves and Applications*, *36*(12), 1717–1730.

20 Kumar, P., Sinha, R., Choubey, A., & Mahto, S. K. (2022b). A novel metamaterial electromagnetic band gap (mm-ebg) isolator to reduce mutual coupling in low-profile mimo antenna. *Journal of Electronic Materials*, *51*(2), 626–634.

21 Kumar, R., Sinha, R., Choubey, A., & Mahto, S. K. (2022). A quadrilateral shaped fractal slot planar antenna for ultra-wide band applications. *Australian Journal of Electrical and Electronics Engineering*, *19*(3), 270–282.

22 Mohanty, R., Mahto, S. K., & Sinha, R. (2022). Brain tumor detection: A review of early stage tumor detection techniques. *Internet of Things and Its Applications: Select Proceedings of ICIA 2020*, 261–269.

23 Pal, P., Sinha, R., & Mahto, S. K. (2022a). A compact wideband circularly polarized planar filtenna using synthesis technique for 5 ghz wlan application. *AEU-International Journal of Electronics and Communications*, *148*, 154180.

24 Pal, P., Sinha, R., & Mahto, S. K. (2022b). A wideband omnidirectional planar filtenna for 5 ghz wlan application. *Journal of Electromagnetic Waves and Applications*, *36*(18), 2697–2715.

25 Ranjan, P., Mahto, S. K., Choubey, A., Sinha, R., Peraza-Vázquez, H., Barde, C., Peña-Delgado, A., & Roy, K. (2022). The synthesis of pixelated metamaterial cross polarizer using binary wind driven optimization algorithm. *Microsystem Technologies*, *28*(11), 2467–2485.

26 Singh, A. K., Mahto, S. K., & Sinha, R. (2022d). Quad element mimo antenna for lte/5g (sub-6 ghz) applications. *Journal of Electromagnetic Waves and Applications*, *36*(16), 2357–2372.

27 Singh, A. K., Mahto, S. K., & Sinha, R. (2022e). Reconfigurable dual element dual band mimo antenna for 5g (sub-6 ghz) and wlan applications. *COMPEL-The international journal for computation and mathematics in electrical and electronic engineering*, *41*(5), 1940–1955.

28 Singh, K. K., Kumar Mahto, S., Sinha, R., & Priye, V. (2022). Miniaturized triple notch metamaterial sensor for solid dielectric characterization with improved sensitivity. *Sensor Review*, *42*(4), 455–462.

29 Kumar, A., Mahto, S. K., Sinha, R., & Choubey, A. (2021). Dual circular slot ring triple-band mimo antenna for 5g applications. *Frequenz*, *75*(3-4), 91–100.

30 Kumar, A., Rajawat, M. S., Mahto, S. K., & Sinha, R. (2021). Metamaterial-inspired complementary split ring resonator sensor and second-order approximation for dielectric characterization of fluid. *Journal of Electronic Materials*, *50*(10), 5925–5932.

31 Kumar, R., Sinha, R., Choubey, A., & Mahto, S. K. (2021a). A compact microstrip feedline printed antenna with perturbed partial ground plane for uwb applications. *International Journal of RF and Microwave Computer-Aided Engineering*, *31*(9), e22764.

32 Kumar, R., Sinha, R., Choubey, A., & Mahto, S. K. (2021b). An ultrawide band monopole antenna using hexagonal-square shaped fractal geometry. *Journal of Electromagnetic Waves and Applications*, *35*(2), 233–244.

33 Pal, P., Sinha, R., & Mahto, S. K. (2021). Synthesis approach to design a compact printed monopole filtenna for 2.4 ghz wi-fi application. *International Journal of RF and Microwave Computer-Aided Engineering*, *31*(5), e22619.

34 Singh, A. K., Mahto, S. K., & Sinha, R. (2021a). A miniaturized mimo antenna for c, x, and ku band applications. *Progress In Electromagnetics Research C*, *117*, 31–40.

35 Singh, A. K., Mahto, S. K., & Sinha, R. (2021b). Compact super-wideband mimo antenna with improved isolation for wireless communications. *Frequenz*, *75*(9-10), 407–417.

36 Barde, C., Choubey, A., Sinha, R., Mahto, S. K., & Ranjan, P. (2020). A compact wideband metamaterial absorber for ku band applications. *Journal of Materials Science: Materials in Electronics*, *31*(19), 16898–16906.

37 Ranjan, P., Barde, C., Choubey, A., Sinha, R., & Mahto, S. K. (2020). Wide band polarization insensitive metamaterial absorber using lumped resistors. *SN Applied Sciences*, *2*(6), 1061.

38 Ranjan, P., Choubey, A., Mahto, S. K., Sinha, R., & Barde, C. (2019). A novel ultrathin wideband metamaterial absorber for x-band applications. *Journal of Electromagnetic Waves and Applications*, *33*(17), 2341–2353.

39 Ranjan, P., Mahto, S. K., & Choubey, A. (2019). Bwdo algorithm and its application in antenna array and pixelated metasurface synthesis. *IET Microwaves, Antennas & Propagation*, *13*(9), 1263–1270.

40 Ranjan, P., Choubey, A., & Mahto, S. K. (2018). A novel approach for optimal design of multilayer wideband microwave absorber using wind driven optimization technique. *AEU-International Journal of Electronics and Communications*, *83*, 81–87.

41 Ranjan, P., Choubey, A., Mahto, S. K., & Sinha, R. (2018a). A six-band ultra-thin polarization-insensitive pixelated metamaterial absorber using a novel binary wind driven optimization algorithm. *Journal of Electromagnetic Waves and Applications*, *32*(18), 2367–2385.

42 Ranjan, P., Choubey, A., Mahto, S. K., & Sinha, R. (2018b). An ultrathin five-band polarization insensitive metamaterial absorber having hexagonal array of 2d-bravais-lattice. *Progress In Electromagnetics Research C*, *87*, 13–23.

43 Mahto, S. K. (2017). Soft computing optmizaton algorithms for microwave and milimeter-wave antennas.

44 Ranjan, P., Choubey, A., & Mahto, S. K. (2017). Wide-angle polarization independent multilayer microwave absorber using wind driven optimization technique. *International Journal of Applied Engineering Research*, *12*(19), 8016–8025.

45 Sinha, R., Choubey, A., & Mahto, S. K. (2017). Wind driven optimization technique for equalization of non-minimum phase channel. *Indian Journal of Science and Technology*, *10*, 16.

46 Mahto, S. K., & Choubey, A. (2016). A novel hybrid iwo/wdo algorithm for nulling pattern synthesis of uniformly spaced linear and non-uniform circular array antenna. *AEU-International Journal of Electronics and Communications*, *70*(6), 750–756.

47 Sinha, R., Choubey, A., & Mahto, S. K. (2016). An efficient adaptive system identification technique based on wind driven optimization method. *Indian Journal of Science and Technology*, *9*(38), 1–12.

Conference Proceedings

1 Krishna, D. V., Mahto, S. K., Singh, A. K., & Sinha, R. (2023). Reconfigurable wideband monopole radiator using paper substrate for bluetooth/ism band applications, In *2023 ieee wireless antenna and microwave symposium (wams)*. IEEE.

2 Pal, P., Sinha, R., Mahto, S. K., Kumar, P., & Kumar, R. (2022). A monopole filtenna based on square loop resonator for wireless communication, In *2022 ieee microwaves, antennas, and propagation conference (mapcon)*. IEEE.

3 Singh, A. K., Mahto, S. K., & Sinha, R. (2022a). Circular shape dual element mimo antenna for 5g (sub-6ghz) application, In *2022 ieee microwaves, antennas, and propagation conference (mapcon)*. IEEE.

4 Singh, A. K., Mahto, S. K., & Sinha, R. (2022b). Dual element mimo antenna with improved radiation efficiency for 5g millimeter-wave applications, In *2022 ieee region 10 symposium (tensymp)*. IEEE.

5 Singh, A. K., Mahto, S. K., & Sinha, R. (2022c). A micro scaled dual element mimo antenna with improved isolation for terahertz applications, In *2022 ieee 19th india council international conference (indicon)*. IEEE.

6 Kumar, R., Sinha, R., Choubey, A., & Mahto, S. K. (2021c). A uniquely packed 2.4 ghz ism band microstrip antenna for bluetooth devices, In *International conference on computational techniques and applications*. Springer Nature Singapore Singapore.

7 Singh, A. K., Mahto, S. K., & Sinha, R. (2021c). Dual-element cpw-fed mimo antenna for ism band application, In *International conference on computational techniques and applications*. Springer Nature Singapore Singapore.

8 Kumar, A., Mahto, S. K., & Sinha, R. (2020). Y-shaped antenna for 5g enabled gadgets and its mimo for smartphone applications, In *2020 ursi regional conference on radio science (ursi-rcrs)*. IEEE.

9 Barde, C., Choubey, A., Sinha, R., Mahto, S. K., & Ranjan, P. (2019a). A low profile pentagonal shape zeroth order resonator antenna for k_{a} band applications, In *2019 photonics & electromagnetics research symposium-spring (piers-spring)*. IEEE.

10 Mahto, S. K., Choubey, A., Sinha, R., & Ranjan, P. (2019). Sidelobe minimization of uniform linear array by position-and amplitude-only control using wdo technique, In *Advances in computer communication and computational sciences: Proceedings of ic4s 2017, volume 2*. Springer Singapore.

11 Sinha, R., Choubey, A., Mahto, S. K., & Ranjan, P. (2019). Quantum behaved particle swarm optimization technique applied to fir-based linear and nonlinear channel equalizer, In *Advances in computer communication and computational sciences: Proceedings of ic4s 2017, volume 1*. Springer Singapore.

12 Sinha, R., Choubey, A., Mahto, S. K., Ranjan, P., & Barde, C. (2019). Synthesis of linear array antenna using hybrid iwo/wdo algorithm, In *2019 photonics & electromagnetics research symposium-spring (piers-spring)*. IEEE.

13 Mahto, S. K., Choubey, A., & Suman, S. (2016). Non-uniform circular array geometry synthesis using wind driven optimization algorithm, In *Microelectronics, electromagnetics and telecommunications: Proceedings of icmeet 2015*. Springer India.

14 Mahto, S. K., Choubey, A., & Kumar, R. (2015). A novel compact multi-band double y-slot microstrip antenna using ebg structure, In *2015 international conference on microwave and photonics (icmap)*. IEEE.

15 Mahto, S. K., Choubey, A., & Suman, S. (2015). Linear array synthesis with minimum side lobe level and null control using wind driven optimization, In *2015 international conference on signal processing and communication engineering systems*. IEEE.

16. Mahto, S. K., Choubey, A., Suman, S., & Sinha, R. (2015). Synthesizing broad null in linear array by amplitude-only control using wind driven optimization technique, In *2015 sai intelligent systems conference (intellisys)*. IEEE.

17. Sinha, R., Choubey, A., & Mahto, S. K. (2015). A novel and efficient hybrid least mean square (hlms) adaptive algorithm for system identification, In *2015 sai intelligent systems conference (intellisys)*. IEEE.

Books and Chapters

1. Kumar, R., Sinha, R., Choubey, A., Mahto, S. K., Pal, P., Kumar, P., & Singh, A. K. (2024). Material characterization of graphene-based circular patch terahertz (thz) antenna for biomedical applications, In *Microwave devices and circuits for advanced wireless communication*. CRC Press.

2. Pal, P., Sinha, R., Kumar, R., Kumar, P., & Mahto, S. K. (2024). Filter synthesis-based compact dual-band filtenna for c-band applications, In *Advances in microwave engineering*. CRC Press.

3. Kumar, P., Sinha, R., Choubey, A., Mahto, S. K., Pal, P., & Kumar, R. (2022). Design of wideband metamaterial absorber for x-band application, In *Smart energy and advancement in power technologies: Select proceedings of icseapt 2021, volume 2*. Springer Nature Singapore Singapore.

4. Kumar, R., Sinha, R., Choubey, A., Mahto, S. K., Pal, P., & Kumar, P. (2022a). A microstrip line fed hexagonal square shaped fractal monopole antenna for ultra-wide band applications, In *Smart energy and advancement in power technologies: Select proceedings of icseapt 2021, volume 2*. Springer Nature Singapore Singapore.

5. Kumar, R., Sinha, R., Choubey, A., Mahto, S. K., Pal, P., & Kumar, P. (2022b). Miniaturization of dual shaped monopole antenna for uwb application, In *Advances in communication, devices and networking: Proceedings of iccdn 2021*. Springer Nature Singapore Singapore.

6. Ranjan, P., Barde, C., Choubey, A., Mahto, S. K., & Vazquez, H. P. (2022). A novel pixelated approach for synthesis of wideband metamaterial cross polarizer using wind-driven optimization algorithm, In *Soft computing: Theories and applications: Proceedings of socta 2021*. Springer Nature Singapore Singapore.

7. Singh, A. K., Mahto, S. K., Kumar, P., & Sinha, R. (2022). High-efficiency hexagonal-shaped quad element mimo antenna for terahertz applications, In *Terahertz devices, circuits and systems: Materials, methods and applications*. Springer Nature Singapore Singapore.

8. Barde, C., Choubey, A., Sinha, R., Mahto, S. K., & Ranjan, P. (2019b). A novel zor-inspired patch antenna for vehicle mounting application, In *Ambient communications and computer systems: Racccs-2018*. Springer Singapore Singapore.

Skills

Languages — Strong reading, writing and speaking competencies for English, & Hindi.

Coding — MATLAB, HFSS, Python & LaTeX

Misc. — Academic research, teaching, training, consultation, LaTeX typesetting and publishing.

References

Dr. Arvind Choubey,
Professor & Director
Indian Institute of Information Technology Bhagalpur
achoubey.ece@nitjsr.ac.in

Dr. Rashmi Sinha,
Associate Professor
Dept. of Electronics and Communication Engineering
National Institute of Technology Jamshedpur
rsinha.ece@nitjsr.ac.in

Dr. Nisha Gupta,
Professor
Dept. of Electronics and Communication Engineering
Birla Institute of Technology Mesra Ranchi
ngupta@bitmesra.ac.in

Declaration

I hereby declare that the above particulars are true to the best of my knowledge and belief.

Santosh Kumar Mahto