Dr. Preet Kaur
Associate Professor, Electronics Engineering Department
JC Bose University of Science and Technology, Faridabad,India
E-Mail ID: preetmoar@gmail.com, preetkaur@jcboseust.ac.in
Area of specialization: Antenna Fabrication & Testing, Wireless Communication, IOT, Sensors

Academics/ Professional Credentials:

- B.E. in Electronics and communication Engineering, from DCRUST Murthal(Haryana), secured 78% marks in aggregate in 2002.
- Qualified Gate with 98.39 percentile
- M.Techin RF and Microwave Engineering ,from IIT Roorkee, secured 8.59 CGPA in aggregate in year 2006.
- Ph.D. in Electronics and communication (Metamaterial and Antenna Design) from YMCAUST, Faridabad,in year 2017.

Projects & Dissertation Work:

- Ph.D. (Electronics and communication): Topic of Research "Design and Analysis of microstrip patch antenna using metamaterial and active devices*"* Research Supervisor - Professor Asok DE, professor S.K.Aggarwal
- M.Tech. (RF and Microwave Engineering): Topic: "Design of reconfigurable square ring slot antenna using pin diodes "
- M.Tech. (Project): "Design of reconfigurable inverted circular patch antenna for Wi-Fi Applications*"*.

Thesis/ Projects Supervise:

Post-Graduation:

M.Tech. Project :

- **Topics: Comparative analysis of DCT,DWT& LWT for image compression.**
  Name of Student: Ms. GeetuLalit
- **Topics: Performance Enhancement of Graphene based Nanoantenna using PET.**
  Name of Student: Mr. Narbeer Yadav
- **Topics: Design of reconfigurable antenna array**
  Name of Student: Ms. Archana
- **Topics: Design of reconfigurable ring patch antenna using varactor diodes**
  Name of Student: Ms. RichaSorot
- **Topics: Design And Characterization of Fractal Antenna and Enhancement their Characteristics by Using DGS Technique**
  Name of Student: Mr. Sunny Sharma
- **Topics: Design of paper based cost PIFA antenna**
  Name of Student: Mr. Vishal
- **Topics:Design of mobile antenna with low SAR**
  Name of Student: Mr. Naval Singh
- **Topics: Performance enhancement of microstrip patch antenna using SRR**
  Name of Student: Ms. Rakhi
- **Topics: Design of compact and multiband antennas using metamaterials**

Name of Student: Mr. Rinku

- **Topics: Performance enhancement of microstrip patch antenna using artificial dielectric**
  Name of Student: Mr. Chandra Prakash
- **Topics:Design of mobile antenna with low SAR**
  Name of Student: Mr. Naval Singh
- **Topics: Design of Novel DGS Integrated MBPF for Bluetooth application**
  Name of Student: Mr. Rajiv Nehra

Subject Taught

UG: Microwave and Radar Engineering
Antenna and Wave propagation
Digital signal processing
Electromagnetic field theory
Communication system
Satellite system
Digital Electronics

PG: Antenna and Radiating system
Electronic System Design
Satellite System
Digital communication

Laboratory Developed

- Microwave Lab in YMCA University of Science and Technology, Faridabad
- Electromagnetic field and radiating system lab For B.Tech in YMCA University of Science and Technology, Faridabad
- Antenna and Radiating system lab for M.tech in YMCA University of Science and Technology, Faridabad

Professional Employment Scan:

- Working as an Assistant Professor (Electronics Engineering Department) at J C Bose University of Science & Technology, YMCA Faridabad since July 2008 to till date
- Assistant Professor (Electronics Engineering Department) at Manav Rachna International University, Faridabad since July 2007 to Dec. 2007.
- Design Engineer at ST, Microelectronics, Greater Noida, June 2006 to June 2007.

Publication in Journal:

1. Preetkaur,"A reconfigurable square ring slot antenna for operation in GSM and WLAN frequency bands", International journal of microwave and optical technology " Vol 7, N0.1, pp. 49-54, Jan. 2012, ISSN: 1553-0396..
2. Preetkaur, PallaviBhal,"Comparative analysis between DWT and WPD techniques of speech compression", IOSR Journal of Engineering (IOSRJEN) ISSN: 2250-3021 Volume 2, Issue 8 (August 2012), PP 120-128
3. Preetkaur, Geetulalit,"Comparative analysis of DCT,DWT and LWT for image compression", International Journal of Innovative Technology and Exploring Engineering (IJITEE) ISSN: 2278-3075, pp. 90-93, Volume-1, Issue-3, pp. 90-93August 2012
4. Preetkaur,devenderprakash and twinkle kundu," THE RFID TECHNOLOGY AND ITS APPLICATIONS: A REVIEW",International Journal of Electronics,Communication&

Instrumentation Engineering Research and development (IJECIERD)ISSN 2249-684XVol.2, Issue 3 Sep 2012 109-120.

5. Sanjeev Sharma, Bharat Bhushan, Shailender Gupta And Preet Kaur " Performance Comparison of Micro-strip Antennas with Different Shape of the Patch" International Journal of u- and e- Service, Science and Technology, ISSN: 2005-4246, Vol. 6, No. 3, pp. 13-22, June, 2013
6. Sanjeev Sharma, Bharat Bhushan, Shailender Gupta And Preet Kaur" Impact of Patch Shape on Performance of Micro-strip Patch Antenna" accepted in WSEAS ,International journal on communication.
7. Preet Kaur, Rajiv Nehra, ManjeetKadian, Dr. Asok De, Dr. S.K.Aggarwal " Design of Improved Performance Rectangular Microstrip Patch Antenna Using Peacock And Star Shaped DGS", International Journal of Electronics Signals And Systems (IJESS), ISSN: 2231- 596, vol-3, issue-2, pp. 76-80, 2013.
8. Preet Kaur, Asok De, S.K.Aggarwal," Design of A Novel Reconfigurable Fractal Antenna for Multi-Band Application" International Journal of Advanced Science and Technology, ISSN: 2207-6360, Vol.62, pp.103-112, Jan 2014.
9. Preet Kaur, Rajiv Nehra, S.K.Aggarwal, Asok De", Design of Novel DGS Integrated MBPF for Bluetooth application", YMCAUST International journal of research, ISSN: 2319-9377, Vol.2, pp. 19-24, Jan 2014.
10. Preet Kaur, S. K. aggarwal and Asok De, " Reconfigurable Inverted Circular Patch Antenna for Wireless Applications", International Journal of Advanced Science and Technology, ISSN: 2207-6360, Vol.70 , pp.55-64, 2014.
11. Preet Kaur, Rakhi Rani , "Design and Parametric Analysis of Circular Shaped Split Ring resonator," International journal on Advanced Research in Electrical and Electronic Engineering, ISSN: 2278-8948 ,Volume 2, Number 7 April-June (2015) pp. 44-47.
12. Rakhi Rani, Preet Kaur and Neha Verma , " Metamaterial and their application in patch antenna: A Review,"International Journal of Hybrid information Technology,ISSN:17389968, Vol.8, No. 11,pp. 199-212, 2015.
13. Preet Kaur, S. K. aggarwal and Asok De, " A survey of techniques for performance enhancement of patch antenna using metamaterial," IOSR journal of Electronics and Communication Engineering, ISSN: 2278-2834 , Vol.10, issue 6, pp.98-109, dec.2015.
14. Preet Kaur, S. K. aggarwal and Asok De, "Design and Investigation of Circularly Polarized RMPA with Chiral Metamaterial Cover", International Journal of Wireless and Microwave Technologies,ISSN: 2046-1449, Vol.6, issue 3,pp. 61-70, 2016.
15. Preet Kaur, S. K. aggarwal and Asok De, "Performance Enhancement of RMPA using Double H shaped Metamaterial", Springer, Radio Electronics and Communication Systems, Vol.59, N0. 11, pp. 29-36, 2016.
16. RituDagar, Preet Kaur. Optimization of a Digital Adder Design Using MOSFET and FinFET Technology. Journal of Electronic Design Technology. 2018; 9(2): 30–33p.
17. Manoj Kumar, Preet Kaur. A Review on Chiral Metamaterials and its Applications in Antennas. Journal of Microwave Engineering & Technologies. 2018; 5(2): 5–16p.
18. Preet Kaur and P. R. Prajapati, "Design of Circular Polarized Antenna Using Gammadion Chiral Metamaterial as Linear-to-Circular Polarization Transformer," Progress In Electromagnetics Research M, Vol. 96, 69-78, 2020.(ESCI)
19. Shao, Chonglei, Kaur, Preet and Kumar, Rajeev. "An Improved Adaptive Weighted Mean Filtering Approach for Metallographic Image Processing" *Journal of Intelligent Systems*, vol. 30, no. 1, 2021, pp. 470-478.

20. Kaur, P. Design of compact and broad-bandwidth rectangular patch antenna using cylindrical rods artificial dielectric. *International journal of information technology* vol. 14, 1405–1414 (2022). https://doi.org/10.1007/s41870-021-00624-y
21. Kaur, Preet and Prajapati, Pravin R.. "Bilayer split-ring chiral metamaterial based reconfigurable antenna for polarization conversion" *Frequenz*, vol. 75, no. 9-10, 2021, pp. 357-368. https://doi.org/10.1515/freq-2020-0182
22. Meng, Junhong, Singh, Maninder, Sharma, Manish, Singh, Daljeet, Kaur, Preet and Kumar, Rajeev. "Online Monitoring Technology of Power Transformer based on Vibration Analysis" Journal of Intelligent Systems, vol. 30, no. 1, 2021, pp. 554-563.
23. Shao, Chonglei, Kaur, Preet and Kumar, Rajeev. "An Improved Adaptive Weighted Mean Filtering Approach for Metallographic Image Processing" Journal of Intelligent Systems, vol. 30, no. 1, 2021, pp. 470-478.
24. Sharma, M, Kumar, R, Kaur, P, Dhasarathan, V, Nguyen, TK. Design and analysis of on-demand reconfigurable WiMAX/WLAN high isolation 2 × 2 MIMO antenna oriented adjacent/orthogonally for imaging applications in UWB-X band. International Journal of RF Microwave- Computer Aided Eng. 2022; 32(1):e22928. doi:10.1002/mmce.22928
25. Gautam, Vinay, Naresh K. Trivedi, Aman Singh, Heba G. Mohamed, Irene Delgado Noya, Preet Kaur, and Nitin Goyal. 2022. "A Transfer Learning-Based Artificial Intelligence Model for Leaf Disease Assessment" *Sustainability* 14, no. 20: 13610. https://doi.org/10.3390/su142013610
26. Kaur, P., Bansal, S. & Kumar, N. SRR metamaterial-based broadband patch antenna for wireless communications. J. Eng. Appl. Sci. 69, 47 (2022). https://doi.org/10.1186/s44147-022-00103-6
27. Nain, Mamta & Goyal, Nitin & Rani, Shikha & Popli, Renu & Kansal, Isha & Kaur, Preet. (2022). Hybrid optimization for fault-tolerant and accurate localization in mobility assisted underwater wireless sensor networks. International Journal of Communication Systems. 35. 10.1002/dac.5320.
28. Kuldeep Choudhary, Sunil Jadav, Shubham Tayal, Preet Kaur, Lalit Rai & Rajneesh Sharma (2022) Power efficient multiplier using Vedic algorithm and self bias transistor technique, International Journal of Electronics, DOI: 10.1080/00207217.2022.2143575

Short-Term Courses & Workshops Attended:

1. Workshop on " Digital signal processing & its application" , organized by Department of Electronics & communication Engg. IGIT delhi held on 20th-24th June 2011.
2. FDP on "Information security & cyber forensic" from 9th- 14th June 2012 at YMCAUST Faridabad.
3. FDP on " Taguchi : A statistical techniques" at Gautam Buddha University held on 26th - 30th Dec 2011.
4. Workshop on " Nanotechology& embedded system" at YMCAUST Faridabad, from 23rd July -3rd August 2012.
5. FDP on " Quality assurance in teaching learning process" held on 14th may-27th June 2012 at BVIMR, New Delhi.
6. FDP on " Design & analysis of engineering Experiments" held on 4th July to 8thjuly 2011 at GBU, Greater Noida(U.P).
7. Workshop on "Analog electronics" ,held on 4th June to 8th June 2013, held under national mission on education through ICT conducted by IIT karaghpur at HCTM kaithal.
8. Workshop on "Indian Antenna week (IAW-2014) , held on 26th -30th May 2014 at J.W.Marriot, chandigarh.
9. FDP on " An Insight of Matlab in Research", held on 19th -23rd Jan 2015 at YMCAUST, Faridabad.
10. FDP on " Emerging Behaviour aspects in technical Education", held on 20th April-1st May 2015 at YMCAUST, Faridabad.

11. STC on "New Trends in Electronics and Communication", held on 17th -21st August 2015 at YMCAUST, Faridabad.
12. FDP on "Communication skill through ICT", held on 11th -15th Jan 2016 at YMCAUST, Faridabad.
13. FDP on "Big data analysis and data text mining using SPSS", held on 19th -24th Dec2016 at YMCAUST, Faridabad.
14. STC on "Real time data acquisition and analysis using LABVIEW", held on 8th -12th May2017 at YMCAUST, Faridabad.
15. FDP on "Recent Development in application based technologies in engineering", held on 30thNov-6th Dec 2017 at YMCAUST, Faridabad
16. STC on "Life Skill Development", held on 9thJuly-12th July2018 at YMCAUST, Faridabad
17. FDP on " Digital transformation in Teaching learning Process, held on 14 th March to 6 thapril 2020 at IIT Bombay(online).
18. FDP on "Industry-Academia convergence " Bridging the skill gap" , held on 22nd june to 26th june 2020 at JC bose university of Science And Technology Faridabad(online).

Publications in Conferences:

1. Twinkle Kundu, Davinder Parkash, Preetkaur,"A Novel CPW-Fed slotted microstrip patch antenna for 5.8 GHz RFID tag," International Conference ICEEE (Organized by Astar India), 29th July 2012, Jaipur.
2. Preet Kaur, ManjeetKadian, Dr. S.K.Aggarwal" Performance Enhancement Technique Of Patch Antenna" Symposium On Nanotechnology: Interdisplinary Aspects, YMCAUST, 2012.
3. Preet Kaur, Pavitra Kumar, Dr.S.K.Aggarwal "Reconfigurable Antenna: A Review" Symposium On Nanotechnology: Interdisplinary Aspects, YMCAUST, 2012.
4. Preet Kaur, Kamal Yadav " A Barbell Shaped Fractal Antenna For Satellite Application" , International Conference On Electronics And Communication Engineering(ICECE-2012) held at 3rd June 2012.
5. Preet Kaur, Twinkle Kundu, "A Printed Microstrip Tag Antenna At 2.4 Ghz For RFID Application", Workshop on Nanotechnology And Embedded Systems ,YMCAUST, 23july-3rdaugust 2012.
6. Preet Kaur, Rajiv Nehra, ManjeetKadian," Performance enhancement of patch antenna using peacock shaped defected ground structure", International Conference on Electrical, Electronic &. Computer Science Engineering **(**EECS**),** May 26th, 2013.
7. Preet Kaur, Richa, "Design Of Rectangular Patch Antenna For Wireless Application Using Varactor Diode", National Conference On Recent Advances In Science, Engineering &Management ,(NCRASEM), 29 March 2014.
8. Preet Kaur, S. K. aggarwaland Asok De, "Double H Shaped Metamaterial Embedded Compact RMPA", IEEE International conference on advances in computing, communication and informatics (ICACCI),pp. 483-486, September 2014.
9. Preet Kaur, S. K. aggarwal and Asok De, " Design of compact rectangular patch antenna using square grid and I shaped metamaterial" , IEEE International conference on signal processing and communication(ICSC), March 2015.
10. Preet Kaur, S. K. aggarwal and Asok De," Design and analysis of subwavelength RMPA using double folded I shaped ENG metamaterial", IEEE International conference on power electronics, intelligent control and Energy system, July 2016.

11. Preet Kaur, Rakhi, “Design and Parametric Analysis of Circular Shaped Split Ring resonator” , International conference on innovative research in mechanical, electrical and electronics,civil computer science and information technology, JNU, new delhi, May 2015.
12. Preet Kaur, “ A Survey of techniques for SAR reduction in mobile handsets ” National conference on role of science and technology towards „Make in India“ , March 2016.
13. Preet Kaur, “Design and analysis of PIFA antenna for mobile communication” National conference on role of science and technology towards „Make in India“ , March 2016.
14. Preet Kaur, “Design of paper based antenna” International conference on sustainable development through research in engineering and management, Dec. 2016.
15. Preet Kaur, “Design of PIFA based mobile antenna” International conference on sustainable development through research in engineering and management, Dec. 2016.
16. A. K. Singh and Preet Kaur, "Design of Graphene based Antenna for 5G MIMO System," 2019 International Conference on Computing, Power and Communication Technologies (GUCON), NCR New Delhi, India, 2019, pp. 503-507.
17. Preet Kaur, "Design of subwavelength patch antenna using I shaped metamaterial", 2nd International conference on research and innovation in Science, Engineering and Technology, ICRISET 2020.
18. Preet Kaur," Design of Slotted RMPA Using Defected Ground Structure for Mobile Applications" , IEEE India council international conference(INDICON) 2020, NSIT Delhi, 11-13dec.
19. Preet Kaur, Maninder Singh, Manish Sharma and Rajeev Kumar, “Analysis of novel 15Gbps WDM-FSO system employing hybrid amplifier under various weather conditions” International e-Conference on Intelligent Systems and Signal Processing (Springer)- CVM university, Dec. 28- 30, 2020.
20. Manish Sharma, Rajeev Kumar, Shivani Malhotra and Preet Kaur, "Dual Filter Characteristics UWB 2×2 MIMO Antenna Analysis with Adjacent/Orthogonal orientations” IEEE International Conference on Advance Computing and Innovative Technologies in Engineering (Accepted)
21. Kaur, P., Singh, M., Sharma, M., Kumar, R. (2022). Analysis of Novel 15Gbps WDM–FSO System Employing Hybrid Amplifier Under Various Weather Conditions. In: Thakkar, F., Saha, G., Shahnaz, C., Hu, YC. (eds) Proceedings of the International e-Conference on Intelligent Systems and Signal Processing. Advances in Intelligent Systems and Computing, vol 1370. Springer, Singapore. https://doi.org/10.1007/978-981-16-2123-9_34

Book Chapters Publications

1. Manish Sharma, Rajeev Kumar and Preet Kaur, “Design, Isolation Analysis, and Characterization of 2×2/4×4 MIMO Antennas for High-Speed Wireless Applications” for the book, "Next-Generation Antennas: Advancements and Challenges” **WILEY Scrivener**

2. Manish Sharma, Rajeev Kumar and Preet Kaur, “UWB and Multiband Reconfigurable Antenn**as”,** for the book, "Next-Generation Antennas: Advancements and Challenges” **WILEY Scrivener**

Patents Filed

1. **Low profile antenna for Ku-band applications**

   Inventors- Rajeev Kumar**,** Gurpreet Singh Saini, Manish Sharma, Dhawan Singh, Daljeet Singh, P. R Prajapati and **Preet Kaur**

   Application No- 335030-001

2. **Circular polarized antenna using gammadion chiral metamaterial as linear-to-**

circular polarization transformer

Inventors-, **Preet Kaur,** Pravin R. Prajapati, Manish Sharma, Rajeev Kumar,Gurpreet Singh Saini, Daljeet Singh, Suresh Kumar

Application No-202011056842

3. **Compact Tri band patch antenna for Ku band applications**

Inventors- Rajeev Kumar, Gurpreet Singh Saini, Daljeet Singh, **Preet Kaur**, Manish Sharma and Suresh Kumar

Application No-202011055819

Conferences/ Seminars/ Symposium/ FDP/Activities Organized/Organising Member

1. Convene Short Term Course on New trends in Electronics and Communication sponsored by ISTE, New Delhi, from 17th August to 21st August 2015 at YMCAUST, Faridabad.
2. Organizing committee member the seminar on Luminous-16 under the UNESCO celebration of International Year of Light and Light Based Technologies on 29th -30th Jan. 2016 at YMCA University of Science and Technology, Faridabad.
3. organizing committee member of National Conference on Role of Science and Technology Toward „Make in India" sponsored by The Indian Science Congress (ISCA), Department of Science and Technology(DST), Haryana and The Defence Research and DevelopmentOrganisation (DRDO), Delhi from 5th – 7th March 2016 at YMCAUST, Faridabad.
4. Organizing committee member of "Youth Conclave" from 19th March to 20th March 2016 Inter University activity at YMCAUST, Faridabad.
5. Organizing committee member of Two-days International Conference on „Sustainable Development through Research in Engineering and Management" (SDREM 2016) at YMCAUST, Faridabad in association withInternational Society for Productive Enhancement, USA from 26th -27th Dec. 2016.*
6. Organizing committee member of Two-Day Science Conclave-17 has been organized in collaboration with Department of Science and Technology, Haryana to mark the Swarna Jayanti Celebrations on 25th -26th Oct. 2017 at YMCAUST, Faridabad.
7. Organizing committee member of The two day Youth Conclave was organised on 10th – 11th March 2018 at YMCAUST, Faridabad

4. Research Grant Received:

SN.	Sponsorship Projects(Carried out/Ongoing)	Duration (Years)	Agency
1	SAR reduction in human head from mobile radiation and designing of low cost paper antenna	2	UGC-YMCAUST

Declaration & Signature:

I hereby affirm that the above mentioned information is accurate and true to the best of my knowledge.

Preet Kaur