Dr. Arvind Kumar
Associate Professor
Department of Electronics & Communication Engineering
National Institute of Technology Kurukshetra (Haryana), India
Email: arvind_sharma@nitkkr.ac.in

Experience: 26+ Years

Research Publications:

Conferences

1. Balla Pavan Kumar, Arvind Kumar, and Rajoo Pandey, "A single-image dehazing approach using brightness enhancement and double transmission maps," Proceedings of Third International Conference on Computational Electronics (2024).

2. A. Singh, A. Kumar and B. K. Kanaujia, "4 Port MIMO Antenna Enhanced Isolation And Gain By Using Frequency Selective Surface," 6th International Conference on Contemporary Computing and Informatics (IC3I), Gautam Buddha Nagar, India, 2023, pp. 737-741, doi: 10.1109/IC3I59117.2023.10397740.
3. Prakahr Gurjar, Balla Pavan Kumar, and Arvind Kumar, "A fast Image Dehazing using Encoder-decoder Deep Neural Network," Int. Conf. on Advances in Signal Processing and Communication Engineering, Department of ECE, MGIT, Hyderabad, India from 28 to 29 April 2023.
4. Jerubandi Raviteja, and Arvind Kumar, "Integration of BIST Module for Error Bit detection in SPI Protocol," Int. Conf. on Advances in Signal Processing and Communication Engineering, Department of ECE, MGIT, Hyderabad, India from 28 to 29 April 2023.
5. Balla Pavan Kumar, Arvind Kumar, and Rajoo Pandey, "A Very Deep Adaptive Convolutional Neural Network (VDACNN) for Image Dehazing," Int. Conf. on Artificial Intelligence of Things (ICAIoT) 2023, NITTTR Chandigarh, 30-31 Mar.2023.
6. Pujitha Karamalaputti and Arvind Kumar, "SPI Slave Controller Architecture Design and Implementation to Access Data from Registers," Int. Conf. on Microelectronics, Computing Systems, Machine Learning and Internet of Things -2022, 17 – 18 Sept. 2022, Ranchi.
7. Bandaru Jahnavi and Arvind Kumar, "Design and Simulation of Fast Multiplier based on Dadda Reduction," Int. Conf. on Microelectronics, Computing & Communication Systems-2022, 09 – 10July 2022, Ranchi.
8. Jerubandi Ravi Teja and Arvind Kumar, "Binary Multiplier Circuit based on Vedic Mathematics," Int. Conf. on Microelectronics, Computing & Communication Systems-2022, 09 – 10 July 2022, Ranchi.
9. Balla Pavan Kumar, Arvind Kumar, and Rajoo Pandey, "Fast Adaptive Image Dehazingand Details Enhancement of Hazy Images," Int. Conf. on Paradigm of Communication, Computing and Data Sciences (PCCDS 2022), 05-07 July 2022, MNIT Jaipur.
10. Akanksha Singh, Arvind Kumar, and Binod Kumar Kanaujia "Dual Band MIMO Antenna with Enhanced Isolation using Fractal Isolators," *Advances in Signal*

Processing and Communication Engineering. Lecture Notes in Electrical Engineering, vol. 929, pp. 83-94, 2022. Springer, https://doi.org/10.1007/978-981-19-5550-1_9 (Scopus Indexed)

11. Chhavi Sharma**,** S.K Tomar, Arvind Kumar, "Performance Evaluation of GFDM with TWTA High Power Amplifier," in Global Conference on Recent Development in Computer and Communication Technologies (GC-RDCT 2021), Mangalore, Karnataka, 29-30, July 2021.
12. Pujitha Karamalaputti, and Arvind Kumar, "Design and Simulation of Serial Peripheral Interface Protocol using Pulsed Latches," Int. Conf. on Computational Electronics for Wireless Communications (ICCWC-2021), 11-12 June 2021, NIT Kurukshetra.
13. BallaPavan Kumar, Arvind Kumar, and Rajoo Pandey, "Image dehazing based on colour ellipsoid prior and low-light image enhancement," Int. Conf. on Computational Electronics for Wireless Communications (ICCWC-2021), 11-12 June 2021, NIT Kurukshetra.
14. BallaPavan Kumar, Arvind Kumar, and Rajoo Pandey, "Image Dehazing Based on Multi-Scale Optimal Fusion, Image Smoothening and Low-Light Image Enhancement," *Int. Conf. on Integrated Interdisciplinary Innovations in Engineering* (ICIIIE 2020), 28-30 Aug., 2020, UIET, Panjab University, Chandigarh.
15. DeepikaKalra, Arvind Kumar, "A Study of Serial Peripheral Interface (SPI) and Inter-Integrated Circuit (I2C) Communication Protocol,"*Int. Conf. on Recent Trends in Computers, Electronics and Electrical Engineering* (ICCEEE 2020), 23-25 Aug., 2020, St. Peter College Hyderabad.
16. DeepikaKalra, Arvind Kumar, "AMBA-Bus Based SoC Communication Protocols," *Nat. Conf. on Innovations in Computing, Electronics and Communication Engineering* (*NCICECE 2020*), 25-26 July, 2020, NIT Kurukshetra (**ISBN: 978-93-90178-00-1**).
17. Bhagyashree P Chafekar, Arvind Kumar, "PnR and Sign-off Correlation Improvement for performance Optimization," *Nat. Conf. on Innovations in Computing, Electronics and Communication Engineering* (*NCICECE 2020*), 25-26 July, 2020, NIT Kurukshetra (**ISBN: 978-93-90178-00-1**).
18. M. SrujanMitra, Arvind Kumar, "Sixtyfour Bit Vedic Multiplier Using Binary Tree Architecture," *Nat. Conf. on Innovations in Computing, Electronics and Communication Engineering* (*NCICECE 2020*), 25-26 July, 2020, NIT Kurukshetra (**ISBN: 978-93-90178-00-1**).
19. Sundeep Kumar, Arvind Kumar, "Design of Circular Patch Antenna Arrays at 28GHz Band for 5 G Applications," *2nd Nat. Conf. on Advanced Communication Technologies & Networks*, 20 – 21 June 2019, MNIT Jaipur, India.
20. R. Tripathy, J. Harmalkar and A. Kumar, "A Functionally Safe and Reliable High Voltage DC-Power Supply System Architecture for Safety Critical System", *Int. Conf. on Advances in Electronics, Electrical & Computational Intelligence*, May 31 – June 01, 2019, IIIT Allahabad, India.
21. Akanksha Singh, Arvind Kumar, "Isolation Enhancement of MIMO Antenna with Defective Ground Surface," *Int.Conf. on Inventive Communication and Computational Technologies (ICICCT 2019)*, 29 – 30 Apr. 2019, Gnanamani College of Technology, Tamilnadu, India. (Scopus Indexed)
22. Chhavi Sharma and Arvind Kumar, "A Power Efficient GFDM System," Int. Conf. on Advances in Electrical and Computer Technologies, 23 – 25 Apr. 2019, Tamilnadu India (Scopus Indexed).

23. R. Tripathy, J. Harmalkar and A. Kumar, "A Functionally Safe Dual-bus Platoon Architecture for Future Smart Cities", *3rd Int. Conf. on Trends in Electronics and Informatics*, ICOEI-2019, 23-25 Apr. 2019, Tirunelveli, India.
24. Sundeep Kumar, Arvind Kumar, "Design of Circular Patch Antennas for 5 G Applications," *2nd Int. Conf. on Innovation in Electronics, Signal Processing and Communication*, 1 – 2 Mar. 2019, NIT Meghalaya.
25. Chhavi Sharma**,** S.K Tomar, Arvind Kumar, "Performance of clipped and filtered GFDM with polynomial model of HPA", *IEEE Int.Conf. on Opportunities and Challenges in Engineering Management and Science (OCEMS2019)*,Feb.15-16 2019 at RIMT, Bareilly.
26. Anchal Rani and Arvind Kumar, "A Study on the Effect of Chlorophyll Concentration on Under Water Optical Communication Channels", *4th Int. Conf. on Convergence in Technology*, SDM Institute of Technology Ujire, Manglore, India, Oct. 27-28, 2018.
27. Anchal Rani and Arvind Kumar, "Study on Scattering Models for UWOC Channel using Monte Carlo Simulation", *3rd Int. Conf. on Contemporary Computing and Informatics*, Amity University, Gurgaon, Oct. 10-12, 2018.
28. Chhavi Sharma, Arvind Kumar, and S.K Tomar, "GFDM: A new waveform candidate for 5G,"*All India seminar on Electronics Design Technologies &Applications (EDTA-2K18)* under the aegis of Institution of Engineers (India) organized by MIT Moradabad, 20-21April 2018.
29. P.Nijhawan, A. Kumar, and Y. Dwivedi, "Effect of Flexible Polymer Substrates on Overall Size and Performance of Modified Vivaldi Antenna Design," *6th National Conf. on Nano Science and Instrumentation Technology (NCNIT-2018)*, NIT Kurukshetra, Mar. 29 – 30, 2018.
30. P. Nijhawan, A. Kumar, and Y. Dwivedi, "A Flexible Corrugated Vivaldi Antenna for RADAR and See-through Wall Applications" *3rdIEEE Int. Conf. on Microwave and Photonics (ICMAP)*, ISM Dhanbad, Feb. 9 – 11, 2018.(**ISBN/ISSN No.: 978-1-5386-0933-0**).
31. P. Nijhawan, A. Kumar, and Y. Dwivedi, "Effect of Metallic Thin Film on the Gain Performance of Vivaldi Antenna" in *Int. Conf. on Multifunctional Materials: Analytecal Techniques and Diverse Applications (MMAD-2018)*, NIT Kurukshetra, Jan. 20, 2018.
32. Arvind Kumar and Ankita Sharma, "A 5x16 Gbps DWDM system for ground-to-satellite using RZ signaling scheme under different turbulences" *Procedia Computer Sciences* (*Elsevier*), vol. 115, pp. 115-122, Aug. 2017. Scopus Indexed(**ISBN/ISSN No. 1877-0509**).
33. Ankita Sharma and Arvind Kumar, "Effect of Receiver Aperture on DWDM FSO Satellite Uplink under Adverse Conditions," *Int. Conf. on Research Trends in Engineering, Applied Science and Management*, IETE, Pune (India), 28 May 2017.
34. Ankita Sharma and Arvind Kumar, "Establishment of Earth-to-Satellite Link in Presence of Turbulence," *Int. Conf. on Academic Research in Engineering, Management and Information Technology*, MJP Rohilkhand University, Bareilly (India), 9-11 Dec. 2016.
35. Sadhana Singh and Arvind Kumar, "Performance Analysis of Adaptive Clipping Technique for Reduction of PAPR in Alamouti Coded MIMO-OFDM Systems" *Procedia Computer Sciences* (*Elsevier*), vol. 93, pp. 609-616, Sept. 2016. Scopus Indexed(ISBN/ISSN No. 1877-0509)
36. Anirudh, Arvind Kumar, "An Improved Weighted Assignement Strategy for Cooperative Spectrum Sensing in Cognitive Radio Network," *4th National Conf. on*

Nanoscience and Instrumentation Technology, NIT Kurukshetra, Jun. 4- Jun. 5, 2016. (Conference Proceeding **ISBN- 0976-903X**).

37. Anirudh, Arvind Kumar, "Comparative Evaluation of Improved Cooperative Spectrum Sensing Algorithms in Cognitive Radio," *4th National Conf. on Nanoscience and Instrumentation Technology*, NIT Kurukshetra, Jun. 4- Jun. 5, 2016. (Conference Proceeding **ISBN- 0976-903X**).
38. Vikas Kumar, Jagjit Singh, and Arvind Kumar, "A Review on Low Power Design Techniques for Wireless Sensor Techniques," *3rd DAV National Congress on STEHM*, May 20 –May 21, 2016, (Conference Proceeding vol. 1).
39. Sadhana Singh, Arvind Kumar, "On the PAPR Reduction Techniques of OFDM Systems," *Int. Conf .onCommu. Control, Instrumentation & Computational Technologies*, R. L. Jalappa Institute of Technology, Doddaballapur, Bengluru, India, Dec. 17 – 18, 2015.
40. Sadhana Singh, Arvind Kumar, "A Modified Clipping Algorithm for Reduction of PAPR in OFDM Systems," *IEEE Int. Conf .on Computational Intelligence and Computing Research*, Vikram College of Engineering, Madurai, Tamilnadu, India, Dec. 10 – 12, 2015 (ISSN-**978-1-4799-7848-9**).
41. Garima Singh, Arvind Kumar, "Pragmatic Coded MIMO-OFDM Systems" *Int. Conf. on Telecommunication Technology& Management* (*ICTTM*-2015), IIT Delhi, India, April 11-12, 2015 (Proceeding of ICTTM, pg. 2, ISSN-**978-0-9926800-5-3**).
42. Arvind Kumar and Rajoo Pandey, "On the ICI Self-Cancellation Schemes for OFDM Systems" *Int. Conf. on Academic Research in Engg., Management and Information Technology*, (ICAREMIT-2015), MJPRU, Bareilly, Feb. 21-23, 2015.
43. Garima Singh, Arvind Kumar, "Study of various Space-Time-Codes for MIMO Systems" *IEEEInt. Conf. on Computational Intelligence &Commun Technology* (*CICT*), ISM Dhanbad, India, pp. 604 -607, Feb. 13-14, 2015 (ISBN- **978-1-4799-6023-1**).
44. SubairAhmmed Km and Arvind Kumar, "Improved Cooperative Spectrum Sensing for Cognitive Radio with Energy Detection" *National Conf. on VLSI, Signal Processing and Communication Engineering*, (VSPCE-14), NIT Hamirpur, pp. 205-209, Aug. 16-17, 2014.
45. SubairAhmmed Km and Arvind Kumar, "Cooperative Spectrum Sensing for Cognitive Radio with Improved Probability of False Alarm" *Int. Conf. on Innovative Advancements in Engineering and Technology*, (ICIAET-2014), , pp. 78, Apr. 14, 2014.
46. Singh N., Bhadu A., Kumar A., "Combined SLM and tone reservation for PAPR reduction in OFDM systems" *Confluence 2013: The Next Generation Information Summit* (*IET 4th Int. Conf.*), pp. 274-277, Sept. 26-27, 2013.
47. UmeshGhanekar, Arvind Kumar, and Rajoo Pandey, "Denoising of Digital Images Corrupted by Fixed Valued Impulse Noise" *Int. Conf. on Emerging Trends in Engineering and Technology*, (ICETET-2013), New Delhi, pp. 28-32, Apr. 14, 2013. (**ISBN- 978-1-4577-0697-4**)
48. Rajoo Pandey, Arvind Kumar, and UmeshGhanekar, "Local Pixel Statistics and Correlation Based Impulse Detection for Denoising for Digital Images" *Int. Conf. on Emerging Trends in Engineering and Technology*, (ICETET-2013), New Delhi, pp. 23-27, Apr. 14, 2013. ISBN-**978-1-4577-0697-4**)
49. Arvind Kumar and SumitGugnani, "Synthesis of 4 to 16 Decoder" *Int. Conf. on Emerging Trends in Engineering and Technology*, (ICETET-2013), New Delhi, pp. 45-48, Apr. 14, 2013.**ISBN- 978-1-4577-0697-4**)

50. Arvind Kumar, Rajoo Pandey, and UmeshGhanekar, "ICI Cancellation in MIMO-OFDM Systems" *Int. Conf. on Emerging Trends in Engineering and Technology,* (ICETET-2013), New Delhi, pp. 49-54, Apr. 14, 2013. **ISBN- 978-1-4577-0697-4**)
51. Umesh Sharma, Arvind Kumar, "Performance Evaluation of Different Space-Time-Codes for MIMO Systems" *IEEE1st Int. Conf. on Recent Advances in Information Technology,* (RAIT-2012), ISM Dhanbad, India, pp. 816 -820, Mar. 15-17, 2012 (**ISBN- 978-1-4577-0697-4**).
52. Arvind Kumar and Rajoo Pandey, "Blind Estimation of Carrier Frequency Offset in Multicarrier Communication Systems" *Int. Conf. on Advances in Computer Science,* (ACS'2010), Trivandrum, Kerla, pp. 104-106, Dec. 20-21, 2010.
53. Arvind Kumar and Rajoo Pandey, "A General Blind Estimation of Frequency Offset in OFDM Systems" *Int. Conf. on Emerging Trends in Engineering and Technology,* (IETET'10), GIMT, Kurukshetra, pp.666-668, Oct. 14-16, 2010. (**ISBN- 978-93-80697-22-2**).
54. Krishna Kumar and Arvind Kumar, "Adaptive-Step Reverse Link Closed Loop Power Control CDMA System" *IEEEInt. Conf. on Computer and Communication Technology,* (ICCCT'10), MNNIT, Allahabad, pp. 56-59, Sep. 17-19, 2010. (**ISBN-978-1-4244-9031-8)**
55. Arvind Kumar and Rajoo Pandey, "Selective ICI Self-cancellation scheme for OFDM Systems" *Int. Conf. On Applied Computing Conference,* (ACC'08), Istanbul, Turkey, pp. 156-159, May27-30, 2008. (**ISBN-978-960-6766-67-1**)
56. Arvind Kumar and Rajoo Pandey, "An improved ICI Self-cancellation scheme for Multi-carrier Communication Systems" *Int. Conf. On Computer, Electrical and System Science and Engineering* (CESSE07), Proceedings of WASET, vol., 26,Bangkok, Thailand, pp. 119-122, 14-16 Dec.2007.
57. Arvind Kumar &Rajoo Pandey, "An Efficient Intercarrier Interference Cancellation Method in OFDM Systems By Frequency Offset Estimation", *Int. Conf. on Information Technology*, Haldia Institute of Technology, Haldia, West Bengal, pp.326-329, 19-21 March 2007.
58. Arvind Kumar &Rajoo Pandey, "Intercarrier Interference Cancellation in OFDM Systems by Interference Coefficients Equalization", *IEEE Int. Conf. on Signal & Image Processing* (IEEE ICSIP-06), B. V. Bhoomaraddi College of Engineering & Technology, Hubli, Karnataka, pp. 1089-1093, 7-12 Dec.2006.
59. Arvind Kumar &Rajoo Pandey, "Self ICI Cancellation & Zero-Forcing Equalization for OFDM Systems", *Recent Advances in Process Control & Instrumentation Engineering* (RAPCIE-2006), Institute of Instrumentation Engineering, Kurukshetra University, Kurukshetra, pp. 62-66, 23-25 Feb., 2006.
60. Arvind Kumar &Rajoo Pandey, "Performance Evaluation of ICI cancellation schemes of OFDM systems", *Wireless Communication and Sensor Networks* (WCSN-2005), IIIT Allahabad, 5-6 March 2005.

Journals

1. Balla Pavan Kumar, Arvind Kumar, and Rajoo Pandey, "MF-MSCNN: Multi-feature based Multi-Scale Convolutional Neural Network for Image Dehazing Via Input Transformation," *IETE Jour. of Research*, vol. , pp. , 2025 (**SCIE-Indexed**).

2. Akanksha Singh, Arvind Kumar, Binod Kumar Kanaujia, "MIMO antenna with improved isolation for 5G millimeter wave applications," *Eng. Res. Express7* (2025) 015302, (**Web of Science-Indexed**).
3. Balla Pavan Kumar, Arvind Kumar, and Rajoo Pandey, "A Novel Three Stage Dehazing Model Using Improved Auto-Color Transfer Method, Adaptive Dehazing, and Adaptive Contrast Enhancement," *Int. Jour. of Image and Graphics*, vol., pp. , 2024 (**SCIE, Scopus**).
4. Akanksha Singh, Arvind Kumar, Binod Kumar Kanaujia, FSS inspired two port CP MIMO antenna with enhanced gain for X-band applications, *Optics Communications*, Volume 566, Sept. 2024, 130698, ISSN 0030-4018, 2024 https://doi.org/10.1016/j.optcom.2024.130698. (**SCIE-Indexed**).
5. Balla Pavan Kumar, Arvind Kumar, and Rajoo Pandey, "A 4-channelled hazy image input generation and deep learning-based single image dehazing," *Journal of Visual Communication and Image Representation*, vol. 100, Apr. 2024. (**SCIE, Scopus, Web of Science**).
6. Akanksha Singh, Arvind Kumar, and Binod Kumar Kanaujia, "High Gain and Enhanced Isolation MIMO Antenna with FSS And Metasurface," *Optik* (*Elsevier*) vol. 286, 2023 September. (**SCI, Scopus, Web of Science**).
7. Balla Pavan Kumar, Arvind Kumar, and Rajoo Pandey, "A generic post processing framework for image dehazing," *Signal Image and Video Processing* (*Springer*), vol.17, pp. 3183-3191, 2023 March. (**SCIE, Scopus**).
8. Balla Pavan Kumar, Arvind Kumar, and Rajoo Pandey, "Region-based adaptive single image dehazing, details enhancement and pre-processing using auto-color transfer method," *Signal Processing: Image Communication* (*Elsevier*), vol. 100, Jan. 2022 (**SCI, Scopus, Web of Science indexed journal**).
9. Neelesh Kumar Verma and Arvind Kumar, "Impact on Capacity Bounds Under Higher Order Hardware Impairments for MIMO Configurations: A Novel Approach," *Int. J on Emerging Technologies*, vol. 11, no. 5, pp. 68-75, Aug. 2020 (**Scopus Indexed ISSN: print: 0975-8364, online: 2249-3255**).
10. Vikas Kumar, Jagjit Singh, Arvind Kumar, "Non Volatile Power Wake up Radio Transceiver for Wireless Sensor Network," *Int. J. of Innovative Technology and Exploring Engineering*, vol. 8, no. 9S, pp. 687-691, July 2019. (**Scopus indexed ISSN: 2278-3075**).
11. Chhavi Sharma, S.K Tomar, Arvind Kumar "Out of band leakage performance of Generalized frequency division multiplexing,''*J of Network Security Computer Network*, vol. 5, no. 1, pp. 8-14, Jan.2019 (**e-ISSN: 2581-639X**).
12. Chhavi Sharma, S. K. Tomar, and Arvind Kumar, "Nonlinearity mitigation in IM/DD Optical OFDM using New SLM Scheme" APRN *J. of Engineering & Applied Science*, vol. 13, no. 24, pp. 9728-9733, Dec. 2018 (**Scopus indexed ISSN: 1819-6608**).
13. Chhavi Sharma, S. K. Tomar, and Arvind Kumar, "Nonlinearity mitigation in adaptive coded OFDM system," *J of Advanced Research in Dynamical and Control Systems*, vol. 10, no. 15, pp. 177-182, Nov. 2018 (**Scopus indexed ISSN:1943-023X**).

14. Vikas Kumar, Jagjeet Singh, Arvind Kumar, "Low Power ID matching Wake-up Receiver for Wireless Sensor Networks," *Int. Journal of Advance Research in Computer Science*, vol. 8, no. 3, pp. 536-540, Mar.-April 2017. (E-ISSN:0976-5697)
15. Sadhana Singh and Arvind Kumar, "On the PAPR Reduction Techniques of OFDM Systems" *Australian Journal of Basic and Applied Sciences*, vol. 9, no. 36, pp. 377-382, Dec. 2015(ISSN: 1991-8178, print, 2309-8414, online).
16. Arvind Kumar and Rajoo Pandey, "A Spectrally Efficient ICI Reduction Scheme for OFDM Systems in Low SNR Environment" *IETE J. of Research*, vol. 59, no. 1, pp. 82-90, Jan. – Feb. 2013. **SCI Indexed (ISBN/ISSN No. 0977-2063)**.
17. Arvind Kumar, Rajoo Pandey and Umesh Ghanekar, "ICI Cancellation in MIMO-OFDM Systems" *ITSI Transactions on Electrical and Electronics Engineering (ITSI-TEEE)*, vol. 1, no. 5, pp. 23-28, 2013.
18. Saurabh Kamboj, Arvind Kumar, "A Low Voltage Bulk Driven Feed Forward OTA" *International J. of Engineering Research and Technology*, vol. 1, no. 6, pp. 1-5, Aug. 2012.
19. Arvind Kumar and Rajoo Pandey, "Blind Estimation of Carrier Frequency Offset in Multicarrier Communication Systems" ACEEE International journal on Network Security, vol. 1, no. 3, pp. 50-52, Dec. 2010.
20. Arvind Kumar and Rajoo Pandey, "A Bandwidth Efficient Method for Cancellation of ICI in OFDM Systems" *Int. J. of Electronics and Communications, ELSEVIER*, vol. 63, no. 7, pp. 569-575, July 2009. **SCI Indexed (ISBN/ISSN No. 1434-8411)**
21. Arvind Kumar and Rajoo Pandey, "An improved ICI Self-cancellation scheme for Multi-carrier Communication Systems" *Int. J. of Electronics and Communication Engineering*, vol. 1, No. 8, pp. 1126-1129, 2007.
22. Arvind Kumar and Rajoo Pandey, "ICI Cancellation Schemes in OFDM Mobile Communication Systems" *International journal HIT Trans. On ECCN (Electronics, Communication, Computer & Networks)*, vol. 1, no. 4, pp. 205-216, 2006.

Book

Bhavani R., Thenmozhi E., Dilip Kumar Sharma, Shashidhar T. M., and Arvind Kumar, Data Communication Network, NItya Publications 2023.

Book Chapters

1. Jerubandi Raviteja, and Arvind Kumar, "Integration of BIST Module for Error Bit detection in SPI Protocol," Advances in Signal Processing and Communication Engineering, *Lecture Notes in Electrical Engineering*, vol. , pp. , 2024. Springer, https://doi.org/10.1007/978-981-97-0562-7_18 (Scopus Indexed)
2. Akanksha Singh, Arvind Kumar, and Binod Kumar Kanaujia "Dual Band MIMO Antenna with Enhanced Isolation using Fractal Isolators," *Lecture Notes in Electrical Engineering*, vol. 929, pp. 83-94, 2022. Springer, https://doi.org/10.1007/978-981-19-5550-1_9 (Scopus Indexed)
3. Arvind Kumar, Rajoo Pandey, Orthogonal Frequency Division Multiplexing for IoT, Electronics Devices and Circuit Design: Challenges and Applications in the Internet

of Things, Apple Academic Press (CRC Press), 243-268, 2022 (**Hard ISBN:** 9781771889933 **E-Book ISBN:** 9781003145776).

4. Chhavi Sharma, S.K Tomar, Arvind Kumar,**"**A comparison of GFDM and OFDM at same and different spectral efficiency condition"**,** Springer Lecture Notes on Data Engineering and Communications Technologies, (**Scopus Indexed, ISSN: 2367-4512**), 2019.
5. Chhavi Sharma, S.K Tomar, Arvind Kumar, "A Power efficient GFDM system" Springer lecture notes in Electrical Engineering (LNEE) Series, (**Scopus Indexed, ISSN: 1876-1100**), Sep 2020.

Awards:

- Topper of M. E. (1999) and silver medalist at MNREC Allahabad.

Best paper award

- Fellow of Institution of Engineers (India) (F-1273139) granted on 13.12.2020

Affiliation with the professional bodies:

Member of IEEE, ISTE, and IETE
Member Editorial Board of "International Journal of Electrical, Electronics & Computer Science Engineering (E-ISSN: 2348-2273, P-ISSN: 2454-1222)"

Patent:
A patent on "Multi-Screen Portable Device for Display" published on 16.10.2020 by Indian Patent office. (Ist review report submitted)

Any Research/ Innovation measure:

I have organized a number of events (Conferences/Workshops/STCs) for research scholars/scientists and academician working in the field of Communication Engineering.

Conferences/Workshops Organized

1. Organized one-day National Level Technical Paper Presentation on "*Evolution Towards Next Generation Technologies*", April 5'2008 in the ECE Dept. NIT Kurukshetra, under COMMUNE'08.
2. Conducted Six-week summer training on "Applications of MATLAB in Communication Engineering" for U.G. students at ECE department, NIT Kurukshetra from 09.06.2014 to 18.07.2014.
3. Conducted one-week short-term course on "Signal Processing for Communications" at ECE department, NIT Kurukshetra from 25.02.2015 to 01.03.2015.
4. Conducted Six-week summer training on "Applications of MATLAB in

Communication Engineering" for U.G./P.G. students at ECE department, NIT Kurukshetra from 08.06.2015 to 18.07.2015.

5. Conducted one-week short-term course on "Modeling and Simulation of Wireless Communication Systems" at ECE department, NIT Kurukshetra from 20.06.2016 to 24.06.2016.
6. Conducted two weeks **MHRD sponsored GIAN course** on "Next generation MIMO and OFDM wireless technologies" at ECE department, NIT Kurukshetra from 08.12.2017 to 17.12.2017.
7. Organised one-day workshop on Consultation on Siemens Centre of Excellence for Industry Relevant Skill Development as Coordinator, March 10, 2018, NIT Kurukshetra.
8. Conducted one-week faculty development program on "Recent Advancements in Communications and Wireless Networks" at ECE department, NIT Kurukshetra from 10.02.2020 to 15.02.2020.
9. Organized a National Conference on Innovations in Computing, Electronics and Communication Engineering 2020 (NCICECE 2020) at ECE Department NIT Kurukshetra during 25 – 26 July 2020.
10. Organized an International Conference on Computational Electronics for Wireless Communications 2021 (ICCWC- 2021) at ECE Department NIT Kurukshetra during 11 – 12 June 2021.
11. Organized an International Conference (in the capacity of secretary) on Computational Electronics for Wireless Communications 2022 (ICCWC- 2022) at ECE Department NIT Karnataka Surathakal during 09 – 10 June 2022.
12. Organized one-week short term program (STP) on "Image Processing and Its Applications Using MATLAB at ECE department, NIT Kurukshetra during 27.05.2023 to 31.05.2023.
13. Organized an International Conference on Computational Electronics for Wireless Communications 2023 (ICCWC- 2023) as secretary at ECE Department B R Ambedkar NIT Jalandhar during 23 – 24 Dec. 2023.
14. Conducted one-week faculty development program on "Functional Hybrid Materials for Clean Energy & Healthcare Applications (SMART- NANO-2024)" at ECE department, NIT Kurukshetra during 22.07.2024 to 26.07.2024.

Webinars Organized

1. Organized an online webinar on Emerging Wireless Technologies during 29 – 30 May 2020: (i) OFDMA Communication Systems (ii) Future Trends of Multiple Access Schemes, jointly with HBTU Kanpur (UP).

2. Organized one day online International webinar on Opportunities Post Covid -19 in Startup and Jobs on16 May 2020, jointly with Punjab University, Chandigarh.

Workshops attended

Attended ~ 20 STP/FDPs

Details of Ph. D. Scholars

Sr. No.	Reg. No. and Reg. Date of the Scholar (s) Full time/ part time	Thesis Title (Area of research)	Name of co-supervisor, if any	Status
1.	2K11/PhD/1391, 05.04.2011 Ms. Chhavi Sharma (Part Time)	Communication	Dr. S K Tomar	**Awarded**
2.	6170021, 16.01.2017 Ms. Akanksha Singh (Part Time)	Antenna Design for Wireless Comm.	Dr. B K Kanaujiya	Thesis submitted Viva-voce exam is pending
3.	6180103, 01.10.2018 Pawan K Balla (Full Time)	Signal & Image Processing	Dr. Rajoo Pandey	**Awarded**
4.	62210021, 20.01.2023 Shrimali	2D Materials for Energy Storage and Optoelectronic Applications	Dr. Shweta Meena	In Progress

Details of M. Tech. Scholars

Guided 40 projects

Research Projects: A project titled "Study and Design of Prototype for Data Acquisition and Transmission over short Distance (~1Km) for Smart Vest Application" under CSR Initiative by Siemens is recently sanctioned (Financial assistance Rs. 5 lac).

One M. Tech. project titled "Design and Fabrication of Vivaldi Antenna for Ultra Wideband Applications" has been completed with the financial assistance of NIT Kurukshetra.

I have been associated with Institution's Innovation Council (IIC) to support activities suggested by MHRD Innovation Cell (MIC) at NITK.

Arvind Kumar