CURRICULUM VITAE

1.	**Name**	**DR. NITIN GUPTA**
	Designation:	**Associate Professor**
	Contact and Email:	+91-9694011227, 9549658136 nitingupta.ee@mnit.ac.in
2.	**Date of Birth:**	**22nd August, 1977**
3.	**Institution**	**Malaviya National Institute of Technology (MNIT) Jaipur, Rajasthan**
4.	**Department:**	**Department of Electrical Engineering**
5.	**Field of Specialization:**	**Power Electronics & Drives, Power Quality, Active Filters, Multi-Level Converters, Power Converters for PV Applications**

6. Academic Qualifications (High School onwards)

S. No	Degree	University/ Institute	Division / Grade	Year	Specialization/ Subjects
1.	Secondary Exam	Board of Sec. Education, Rajasthan, Ajmer	66	1992	-----
2.	Sr. Secondary	Board of Sec. Education, Rajasthan, Ajmer	63	1994	P.C.M
3.	B.E.	University of Rajasthan	67	2000	Electrical Engineering
4.	M.E.	Maharana Pratap Uni. of Ag. &Tech., (M.P.U.A.T), Udaipur.	7.81	2008	Power Electronics
5.	Ph.D.	Indian Institute of Technology (I.I.T.), Roorkee	--	2012	Power Quality

7. Sponsored Research Project

(1) "Design and Development of Advanced Control Techniques for Multifunctional Inverter based Grid-tied Solar Energy Systems", Sponsored by DST-Rajasthan, Duration 2017-2020.

(2) "Design and Implementation of Selective Harmonic Elimination Scheme using TMS320F28335 DSP for Single-phase Inverter", Student Project Sponsored by DST-Jaipur, Rajasthan, 2017-18 (Completed).

8. Publications

(A) Research Papers published in SCI/SCIE Indexed National/ International Journals

Total number of papers published in SCI/SCIE:

(1) M. Morey, **N. Gupta**, M. M. Garg, A. kumar and V. K. Gali, "Echo State Network Control Based Power Quality Enhancement in Grid-Interactive Solar Photovoltaic System," in **IEEE Transactions on Industry Applications**, vol. 61, no. 5, pp. 7766-7779, Sept.-Oct. 2025.
(DOI: 10.1109/TIA.2025.3554120)

(2) Vijayakumar Gali, **Nitin Gupta**, Prashant Kumar Jamwal, Manoj Kumawat, B. Chitti Babu, "Real-time performance enhancement of battery energy storage system in sustainable microgrids using Harris Hawks Optimization", **Sustainable Computing: Informatics and Systems (Elsevier)**, vol. 46, no.101110, June 2025.
(DOI:10.1016/j.suscom.2025.101110)

(3) V. Gali, P. K. Jamwal, **N. Gupta**, B. C. Babu, M. J. Ahmadi and M. S. Morey, "Grid-Interactive Novel Resilient Control of Solar PV-Wind-Battery Storage Microgrid Under Distorted and Unbalanced Grid Voltages," in **IEEE Transactions on Consumer Electronics**, vol. 71, no. 1, pp. 1744-1757, Feb. 2025.
(DOI: 10.1109/TCE.2025.3534676)

(4) V. Gali, **N. Gupta**, M. J. Ahmadi, M. S. Morey, A. Kural and P. K. Jamwal, "Experimental investigation of adaptive multi-generalized integrator-based controller for electronically interfaced hybrid microgrid system," **Renewable and Sustainable Energy Reviews (Elsevier)**, vol.207, no. 114965, Jan. 2025.
(DOI.org/10.1016/j.rser.2024.114965)

(5) N. Kishore, K. Shukla and **N. Gupta**, "Generalized Switched-Capacitor-Based Hybrid Multilevel Inverter With Reduced Components Count and Inrush Current," in **IEEE Transactions on Circuits and Systems I: Regular Papers**, vol. 71, no. 10, pp. 4887-4896, Oct. 2024.
(DOI: 10.1109/TCSI.2024.3443188)

(6) N. Kishore, K. Shukla and **N. Gupta**, "A Novel Three-Phase 13-Level Cascaded Hybrid-Module Based Multilevel Inverter With Level-Shifted Modified-PWM Algorithm," in **IEEE Transactions on Industry Applications,** vol. 60, no. 2, pp. 3263-3272, March-April 2024,
(DOI: 10.1109/TIA.2023.3331665)

(7) **N. Gupta**, M. Morey, M. M. Garg and A. Kumar, "An Experimental Investigation of Variable-Step-Size Affine Projection Sign Based Algorithm for Power Quality Enhanced Grid-Interactive Solar PV System", **Electric Power Systems Research (Elsevier)**, vol. 228 (110036), March 2024.
(DOI.org/10.1016/j.epsr.2023.110036)

(8) M. Morey, M. Golla, M. M. Garg, **N. Gupta** and A. Kumar, "A High Gain Z-source Boost DC–DC Converter with Common Ground for Solar PV Applications", **Electric Power Systems Research (Elsevier),** vol. 232 (110405), July 2024.
(DOI.org/10.1016/j.epsr.2024.110405)

(9) M. Morey, **N. Gupta**, M. M. Garg and M. Kumawat, "Modified Affine Projection Sign Algorithm for Power Quality Enhancement and Metaheuristic-based MPPT in Grid-Interactive Solar PV System: An Experimental Analysis," **Electrical Engineering (Springer),** July 2024.
(doi.org/10.1007/s00202-024-02601-7)

(10) M. Morey, **N. Gupta**, M. M. Garg, A. Kumar and V. Gali, "Experimental Investigation of ANFIS-PSO MPPT Control with Enriched Voltage Gain DC-DC Converter for Grid-Tied PV Applications", **Electrical Engineering (Springer),** March 2024.

(DOI.org/10.1007/s00202-023-02192-9)

(11) M. Morey, **N. Gupta**, M. M. Garg and A. Kumar, "A Comprehensive Review of Grid-connected Solar Photovoltaic System: Architecture, Control, and Ancillary Services", **Renewable Energy Focus (Elsevier),** vol. 45, pp. 307-330, June 2023.
(DOI. org/10.1016/j. ref.2023.04.009)

(12) V. K. Gali, P. K. Jamwal, **N. Gupta** and A. Kumar, "An adaptive dynamic power management approach for enhancing operation of microgrid with grid ancillary services", **Renewable Energy**, vol. 219 (119413), Dec. 2023.
(DOI: org /10.1016/j.renene.2023.119413)

(13) V. K. Gali, P. K. Jamwal, **N. Gupta** and A. Kumar, "Multimode control strategy to improve the power quality and autonomy of PV-Wind-BESS based microgrid using harmonic frequency adaptive observer filter", **Electric Power Systems Research**, vol. 225 (109786), Dec. 2023.
(DOI: org/10.1016/j.epsr.2023.109786)

(14) N. Patel, A. Kumar, H. R. Pota, R. C. Bansal and **N. Gupta**, "Adaptive qXE-LMF Filter for Improving Power Quality Using Grid-Supporting Photovoltaic System," **IEEE Systems Journal**, vol. 17, no. 2, pp. 2709-2720, June 2023.
(DOI: 10.1109/JSYST.2023.3241346)

(15) M. Morey, **N. Gupta**, M. M. Garg, A. Kumar, "A comprehensive review of grid-connected solar photovoltaic system: Architecture, control, and ancillary services," **Renewable Energy Focus (Elsevier),** vol. 45, pp. 307-330, June 2023.
(DOI: 10.1016/j.ref.2023.04.009).

(16) A. Kumar, N. Patel, **N. Gupta** and V. Gupta, "L2 Norm Enabled Adaptive LMS Control for Grid-Connected Photovoltaic Converters," **IEEE Transactions on Industry Applications**, vol. 58, no. 4, pp. 5328-5339, July-Aug. 2022.
(DOI: 10.1109/TIA.2022.3170292).

(17) A. Kumar, N. Patel, **N. Gupta**, and V. Gupta, "Design, analysis and implementation of electronically interfaced photovoltaic system using ARM Cortex-M4 microcontroller", **Computers & Electrical Engineering, an International Journal**, vol. 98, March 2022.
(DOI: doi.org/10.1016/j.compeleceng.2022.107701).

(18) N. Patel, **N. Gupta**, and B. C. Babu, "Design, development, and implementation of grid-connected solar photovoltaic power conversion system," **Energy Sources, Part A: Recovery, Utilization, and Environmental Effects**, vol. 43, no. 22, pp.2915-2934, Nov. 2021.
(DOI: doi.org/10.1080/15567036.2019.1668506).

(19) S. K. Jalan, B. C. Babu, N. Patel, A. Kumar, and **N. Gupta**, "A Novel Active Current Co-efficient Extraction based Control for Grid-tied Solar Photovoltaic System," **IET Power Electronics**, Vol. 14, no. 12, pp. pp. 2099-2114, Sept. 2021. (DOI: doi.org/10.1049/pel2.12108).

(20) V. Gali, **N. Gupta**, and R. A. Gupta, "Experimental investigations on single-phase shunt APF to mitigate current harmonics and switching frequency problems under distorted supply voltage," **IETE Journal of Research**, vol. 67, no. 3, pp.333-353, May 2021.
(DOI: doi.org/10.1080/03772063.2018.1542351)

(21) S. K. Jalan, B. C. Babu, K. Sridharan, and **N. Gupta**, "An improved control strategy of grid-tied solar photovoltaic system using active current detection method," **International Journal of Circuit Theory and Applications**, vol. 49, no. 3, pp. 602-615, March 2021.
(DOI: doi.org/10.1002/cta.2962)

(22) N. Patel, A. Kumar, and **N. Gupta**, "Electronically Coupled Photovoltaic System with Grey Wolf Optimizer Enabled DC-link Voltage Control Loop," **International Transactions on Electrical Energy Systems, Wiley,** vol. 30, no. 12, pp. 1-25, Dec. 2020.
(DOI: doi.org/10.1002/2050-7038.12648)

(23) A. Kumar, N. Patel, **N. Gupta**, V. Gupta, and P. Davari, "Performance Enhancement of PV System under Grid Voltage Distortion Utilizing Total Least Square Control Scheme," **IET Power Electronics,** vol. 13, no. 14, pp. 3044-3055, Nov. 2020.
(DOI: 10.1049/iet-pel.2020.0298).

(24) N. Patel, **N. Gupta**, A. Kumar, and BC. Babu, "Pseudo Affine Projection Assisted Multitasking Approach for Power Quality Improvement in Grid-Interactive Photovoltaic (PV) System", **IET-Power Electronics**, vol. 13, no. 13, pp. 2905-2916, Oct. 2020. (DOI: 10.1049/iet-pel.2019.1006).

(25) A. Kumar, N. Patel, **N. Gupta**, V. Gupta, and BC. Babu, "Improved robust-mixed-norm-based controller for grid-tied PV systems under voltage disturbances", **IET-Generation, Transmission & Distribution**, vol. 14, no. 13, pp. 2610-2619, July 2020. (DOI: 10.1049/iet-gtd.2020.0193).

(26) N. Patel, A. Kumar, **N. Gupta**, and B. C. Babu, "Experimental Investigations on Voltage Sourced Inverter Interfaced Photovoltaic Based Distributed Generation System," **Energy Sources, Part A: Recovery, Utilization, and Environmental Effects, Taylor and Francis**, pp. 1-22, June 2020. (DOI: doi.org/10.1080/15567036.2020.1781302).

(27) A. Kumar, N. Patel, **N. Gupta**, V. Gupta, and B. C. Babu, "Active Power Coefficient Control for Grid-tied Photovoltaic System under Voltage Distortions" **Energy Sources, Part A: Recovery, Utilization, and Environmental Effects, Taylor and Francis**, pp. 1-22, June 2020.
(DOI: doi.org/10.1080/15567036.2020.1788674).

(28) N. Patel, **N. Gupta**, and BC. Babu, "Photovoltaic System Operation as DSTATCOM for Power Quality Improvement Employing Active Current Control", **IET-Generation, Transmission & Distribution**, vol. 14, no. 17, pp. 3518-3529, May 2020. (DOI: 10.1049/iet-gtd.2019.1487)

(29) N. Patel, A. Kumar, **N. Gupta**, S. Ray, and BC. Babu, "Optimized PI-4VPI Current Controller for Three-Phase Grid-integrated Photovoltaic Inverter under Grid Voltage Distortions", **IET-Renewable Power Generation**, vol. 14, no. 5, pp. 779-792, April 2020.
(DOI: doi.org/10.1049/iet-rpg.2019.0507)

(30) N. Patel, N. Gupta, and R. C. Bansal, "Combined Active Power Sharing and Grid Current Distortion Enhancement Based Approach for Grid Connected Multifunctional Photovoltaic Inverter", **International Transactions on Electrical Energy Systems-Wiley**, vol. 30, no. 3, pp. 1-27, March 2020.
(DOI: doi.org/10.1002/2050-7038.12236)

(31) N. Gupta, N. Patel, R. Laddha, and D. Saini, "A Novel Auto-Scaling Variable Perturbation Size Maximum Power Point Tracker Applied to Photovoltaic (PV) System", **International Transactions on Electrical Energy Systems-Wiley**, vol. 30, no. 3, pp. 1-17, March 2020.
(DOI: doi.org/10.1002/2050-7038.12198)

(32) K. P. Bhatt, R. A. Gupta, and **N. Gupta, "**Design and Development of Isolated Snubber based Bidirectional DC-DC Converter for Electric Vehicle Applications," **IET Power Electronics**, vol. 12, no. 13, pp. 3378-88, Sept. 2019. (DOI: 10.1049/iet-pel.2019.0111).

(33) A. Kumar, **N. Gupta**, and V. Gupta, "Experimental Prototype of a Novel Feed Forward Compensation for DC Link Voltage Stabilization in Grid-Tied PV System" **International Transactions on Electrical Energy Systems, Wiley,** vol. 30, no. 1, pp. 1-26, July 2019.
(DOI: doi.org/10.1002/2050-7038.12172).

(34) S. Shaikh, R. Maurya, and **N. Gupta** "Modified Switching Table Based Direct Torque Control of Six-Phase Induction Motor Drive", **Electric Power Components and Systems (EPCS), Taylor& Francis,** vol. 47, no. 11/12, pp. 1077-89, July 2019. (DOI: doi.org/10.1080/15325008.2019.1637970)

(35) A. Kumar, **N. Gupta**, V. Gupta, and B. C. Babu, "A Novel Orthogonal Current Decomposition Control for Grid-connected Voltage Source Converter," **IEEE Transactions on Industry Applications**, vol. 55, no. 6, pp. 7628-41, June 2019. (DOI: 10.1109/TIA.2019.2925785)

(36) V. K. Gali, **N. Gupta,** and R. A. Gupta, "PTF based control algorithm for Three-phase Interleaved Inverter based SAPF", **International Journal of Electronics, Taylor & Francis,** vol. 106, no. 7. pp. 1060 –1084, March 2019. (DOI: doi.org/10.1080/00207217.2019.1582706).

(37) S. Ray, **N. Gupta,** and R. A. Gupta, "Mathematical and Experimental Investigation on Advanced PLL for Cascaded H-Bridge Multilevel Inverter in Active Filtering Application", **Electric Power Components and Systems (EPCS), Taylor & Francis,** vol. 47, no. 3, pp. 230 –247, March 2019**.** (DOI: doi.org/10.1080/15325008.2019.1582564).

(38) S. Ray, **N. Gupta,** and R. A. Gupta, "Hardware Realization of Proportional-Resonant Regulator Based Advanced Current Control Strategy for Cascaded H-Bridge Inverter Based Shunt Active Power Filter", **International Transactions on Electrical Energy Systems, Wiley**, vol. 29, no. 2, pp. 1 –27, February 2019. (DOI; doi.org/10.1002/etep.2714).

(39) V. K. Gali, **N. Gupta,** and R. A. Gupta, "Experimental Investigations on Multitudinal Sliding Mode Controller based Interleaved Shunt APF to Mitigate Shoot-through and PQ Problems under Distorted Supply Voltage Conditions", **International Transactions on Electrical Energy Systems, Wiley,** vol. 29, no. 1, pp. 1 –23, January 2019. (DOI; doi.org/10.1002/etep.2701).

(40) M. Kumawat, **N. Gupta**, N. Jain, and R. C. Bansal, "Optimal Planning of Distributed Energy Resources in Harmonics Polluted Distribution System**", Swarm and Evolutionary Computation, Elsevier,** vol. 39, pp. 99 – 113, April 2018. (DOI; doi.org/10.1016/j.swevo.2017.09.005).

(41) M. Kumawat, **N. Gupta**, N. Jain, and R. C. Bansal, "Swarm Intelligence Based Optimal Planning of Distributed Generators in Distribution Network for Minimizing Energy Loss", **Electric Power Components and Systems (EPCS), Taylor & Francis,** vol. 45, no. 6, pp. 589 –600, March 2017. (DOI: doi.org/10.1080/15325008.2017.1290713).

(42) S. Ray, **N. Gupta,** and R. A. Gupta, "A Comprehensive Review on Cascaded H-Bridge Inverter Based Large Scale Grid Connected Photovoltaic", **IETE Technical Review, Taylor & Francis,** vol. 34, no. 5, pp. 463 – 477, August 2016. (DOI: doi.org/10.1080/02564602.2016.1202792).

(43) P. Anjana, V. Gupta,H. P. Tiwari, **N. Gupta,** and R. C. Bansal, "Hardware Implementation of Shunt APF using Modified Fuzzy Control Algorithm with STM32F407VGT Microcontroller," **Electric Power Components and Systems (EPCS), Taylor & Francis,** vol. 44, no 13, pp. 1530 – 1542, June 2016. (DOI: doi.org/10.1080/15325008.2016.1172683).

(44) **N. Gupta**, S. P. Singh, and R. C. Bansal, "A Digital Signal Processor based performance evaluation of three-phase four-wire active filter for harmonic elimination, reactive power compensation and balancing of nonlinear loads under non-ideal mains voltages," **Electric Power Components and Systems (EPCS), Taylor & Francis,** vol. 40, no. 10, pp. 1119–1148, July 2012.

(DOI: doi.org/10.1080/15325008.2012.682248).

Total number of papers published in SCOPUS indexed journals: 21

(1) Mukur Gupta, Man Mohan Garg, **Nitin Gupta**, " IMC based robust and innovative control strategies for higher-order DC-DC converter in DC microgrid applications", **e-Prime - Advances in Electrical Engineering, Electronics and Energy (Elsevier)**, vol. 9, Sept. 2024.

(2) Gupta, M., **Gupta, N.**, Garg, M.M. and Kumar, "Robust control strategies applicable to DC–DC converter with reliability assessment: A review", **Advanced Control for Applications: Engineering and Industrial Systems (Wiley)**, vol. 6, no. 3, Sept. 2024.

(3) M. Gupta, **N. Gupta**, A. K. Sahoo, and M. Morey, "Contemporary Patterns and Progressions in Topologies of DC–DC Converters with Control Methodology", **Guidance, Navigation and Control**, vol. 04, No. 01, 2430001, Nov. 2024.

(DOI.org/10.1142/S2737480724300014)

(4) M. S. Morey, **N Gupta**, M. M. Garg, and A. Kumar, "Performance Analysis of Voltage Sensorless Based Controller for Two-Stage Grid-Connected PV System", **International Journal of Power Electronics and Drive System (IJPEDS),** vol. 14, no. 1, pp. 444~452, March 2023.

(5) V. K. Gali, **N. Gupta,** and R. A. Gupta, "Experimental Investigations on Three-Phase Interleaved SAPF with Modified Indirect Current Control Algorithm" **International Journal of Power Electronics, Inderscience,** vol. 13, no. 4, pp. 481-501, 2021.

(6) S. Ray, **N. Gupta,** and R. A. Gupta, "Power Quality Improvement using Multilevel Inverter Based Active Filter for Medium-Voltage High-Power Distribution System: A Comprehensive Review", **International Journal of Power Electronics, Inderscience,** vol. 14, no. 1, pp. 1-36. 2021.

(7) N. Patel, **N. Gupta,** and A. K. Verma, "Present Status, Energy Policies and Future Perspective of Solar Photovoltaic in India", **International Journal of Energy Technology and Policy, Inderscience,** vol. 16, no. 5/6, pp. 449-469, April 2020.

(8) A. Kumar, **N. Gupta**, and V. Gupta, "Dynamic Performance Improvement of Grid Interfaced Solar Photovoltaic System using Feed Forward Compensation", **Recent Advances in Electrical & Electronic Engineering, Bentham Science,** vol. 13, no. 1, pp. 53-63, March 2019.

(9) N. Patel, **N. Gupta**, A. Kumar, and A. K. Verma, "Multifunctional Grid Interactive Solar Photovoltaic Systems: A Comprehensive Review", **International Journal of Renewable Energy Research,** vol. 8, no. 4, pp. 2116 –2130, Dec. 2018**.**

(10) A. Kumar, N. Patel, **N. Gupta**, and V. Gupta, "Photovoltaic Power Generation in Indian Prospective Considering Off-gird and Grid-connected Systems", **International Journal of Renewable Energy Research,** vol. 8, no. 4, pp. 1936 – 1950, Dec. 2018.

(11) **N. Gupta** and J. Nama, "An Experimental Investigation of Scalar Control-Based Induction Motor Drive using Digital Signal Processor", **International Journal of Power Electronics, Inderscience,** vol. 10, no. 1/2, pp. 102 – 132, Nov. 2018.

(12) K. P. Bhatt, R. A. Gupta, and **N. Gupta**, "Design and Simulation of Bidirectional DC-DC converter with Dual Switch Forward Snubber", **International Journal of Power Electronics, Inderscience,** vol. 10, No. 1/2, pp. 82 – 101, Nov. 2018.

(13) V. K. Gali, **N. Gupta,** and R. A. Gupta, "Enhanced Particle Swarm Optimization based DC-link Voltage Control Algorithm for Interleaved SAPF", **Journal of Engineering Science and Technology,** vol. 13, no. 10, pp. 3393 –3418, Oct. 2018.

(14) K.P. Bhatt, R. A. Gupta, and **N. Gupta**, "Design and Simulation of Modified Flyback Snubber Circuit for Isolated Bidirectional DC-DC Converter", **International Journal of Emerging Electric Power Systems (IJEEPS),** vol. 19, no. 5, pp. 1 – 13, Oct. 2018.

(15) S. Ray, **N. Gupta,** and R. A. Gupta, "A Novel Non-linear Control for Three-Phase Five-Level Cascaded H-Bridge Inverter Based Shunt Active Power Filter", **International Journal of Emerging Electric Power Systems (IJEEPS),** vol. 19, no. 5, pp. 1 – 11, Oct. 2018.

(16) S. Ray, **N. Gupta,** and R. A. Gupta, "Prototype Development and Experimental Investigation on Cascaded Five-level Inverter based Shunt Active Power Filter for Large-Scale Grid-tied Photovoltaic", **International Journal of Renewable Energy Research,** vol. 8, no. 3, pp. 1800 – 1811, Sept. 2018.

(17) A. Kumar, **N. Gupta,** and V. Gupta, "A Comprehensive Review on Grid-tied Solar Photovoltaic System", **Journal of Green Engineering, River Publications,** vol. 7, no. 1, pp. 213 – 254, Sept. 2017.

(18) P. Anjana, A. Kumar, **N. Gupta,** V. Gupta, and H. P. Tiwari, "Optimisation Based Shunt APF Controller to Mitigate Reactive Power, Burden of Neutral Conductor, Current Harmonics and Improve cosφ", **Journal of Electrical System,** vol. 13, no. 1, pp. 131 – 142, March 2017.

(19) **N. Gupta**, S. P. Singh, S. P. Dubey, and D. K. Palwalia, "Digital signal processor-based performance investigation of indirect current controlled active power filter for power quality improvement," **International Journal of Emerging Electric Power Systems, Berkeley Electronic Press,** vol. 13, no. 2, pp. 1 – 28, July 2012.

(20) **N. Gupta**, S. P. Dubey, and S. P. Singh, "Neural network-based shunt active filter with direct current control for power quality conditioning," **International Journal of Power Electronics, Inderscience,** vol. 3, no. 6, pp. 597 – 620, Oct. 2011.

(21) **N. Gupta**, S. P. Singh, and S. P. Dubey, "Digital signal processor based single phase power quality compensator under distorted supply voltage," **UTM-Journal of Electrical Engineering (Elektrika),** vol. 13, no. 1, pp. 24 – 34, June 2011.

(22) **N. Gupta**, S. P. Singh, and S. P. Dubey, "DSP based adaptive hysteresis-band current controlled active filter for power quality conditioning under non-sinusoidal supply voltages," **International Journal of Engineering, Science and Technology (IJEST)**, vol. 3, no. 4, pp. 236 – 252, July 2011.

(23) **N. Gupta**, S. P. Singh, S. P. Dubey and D. K. Palwalia, "Fuzzy logic controlled three-phase three-wired shunt active power filter for power quality improvement," **International Review of Electrical Engineering (IREE)**, vol. 6, no. 3, pp. 1118 – 1129, June 2011.

(24) **N. Gupta** and S. P. Singh, "Design of hybrid active power filter to improve power quality in three-phase electrical distribution systems," **International Review of Modelling and Simulations (IREMOS),** vol. 4, no. 4, pp. 1760 – 1732, Aug. 2011.

(C) Research papers published in National / International conferences:

(1) G. K. Chaturvedi, K. Shukla, and **N. Gupta**, "Frequency Adaptive Circular Limit Cycle Oscillator based Control and Operation of Dynamic Voltage Restorer" in proc of **IEEE 11th Power India International Conference (PIICON)** 2024**,** 10-12 Dec. 2024, MNIT Jaipur, India, 2024.

(2) N. Kishore, K. Shukla, **N. Gupta**, "Single Source Three-Phase 13-Level Transformer-Based Cascaded Hybrid Multi-level Inverter" in Proc. of **IEEE 10th International Conference on Power Electronics, Drives and Energy Systems – PEDES 2022**, 14-17 December 2022, MNIT Jaipur, India.

(3) N. Kishore, K. Shukla, **N. Gupta**, "A Novel Three-Phase 13-Level Cascaded Hybrid-Module Based Multilevel Inverter with Level-Shifted PWM" in Proc. of **IEEE 10th International Conference on Power Electronics, Drives and Energy Systems – PEDES 2022**, 14-17 December 2022, MNIT Jaipur, India.

(4) M. S. Morey, M. Golla, **N. Gupta**, M. M. Garg, "Mathematical Modelling and Experimental Validation of a 6th order High Gain Z-source DC-DC Converter using ARM based Microcontroller" in Proc. of **Power India International Conference 2022 – PIICON 2022**, 25 – 27 November 2022 NIT Delhi, India.

(5) M. S. Morey, M. Golla, **N. Gupta**, Man Mohan Garg, "PV Connected off-Grid 2-Stage Conversion System with Proposed High Gain Z-Source DC-DC Converter", in Proc. of **IEEE 19th India Council International Conference INDICON 2022**, 24th - 26th November Kochi Kerala, India.

(6) N. Kishore, K. Shukla, **N. Gupta**, "A Novel Three-Phase Multilevel Inverter Cascaded by Three-Phase Two-Level Inverter and Two Single-Phase Boosted H-Bridge Inverters" in Proc. of **2022 IEEE ISGT ASIA 11th International Conference on Innovative Smart Grid Technologies (Asia),** 1st-5th November, Singapore.

(7) M. S. Morey, **N. Gupta**, M. M. Garg, Ajay Kumar, "Performance Analysis of Grid Connected SPCS under Unbalanced Grid Voltage, Frequency Deviation and Harmonics," in proc. of **2022 IEEE ISGT ASIA 11th International Conference on Innovative Smart Grid Technologies (Asia),** 1st-5th November, Singapore.

(8) K. Tank, M. M. Garg, **N. Gupta**, B. L. Narasimharaju, "Performance Evaluation of Differential Mode Zeta Inverter Using Various Modulation Schemes", in Proc. of **IEEE Int. Conf. on Sustainable Energy and Future Electric Transportation (SEFET-2022),** 04 – 06 Aug. Hyderabad, India, 2022.

(9) S. Sharma, **N. Gupta**, "An Overview on Topology and Control Techniques for Solar PV System in Proc. of **1st IEEE Int. Conf. on Sustainable Technology for Power and Energy Systems (STPES)**, 04 July – 06 July, NIT Srinagar, 2022.

(10) M. Gupta, **N. Gupta**, M. M. Garg, "Performance Analysis of IMC-PID Controller Designed for Cuk Converter with Model Reduction" in Proc of **1st IEEE Int. Conf. on Sustainable Technology for Power and Energy Systems (STPES)**, 04 July – 06 July NIT Srinagar, 2022.

(11) S. Sharma, **N. Gupta**, M.M. Garg, and A. Kumar, "Comparative Analysis of PI and PR Controller for Grid-tied Solar Photovoltaic System," in Proc. of **4th IEEE Int. conf. on Energy, Power and Environment (ICEPE)**, pp. 1-6, 29 April – 01 May, NIT Meghalaya, 2022.
M. Gupta, **N. Gupta**, M. M. Garg and A. Kumar, "Analysis and Design of PI-Lead Compensator for DC-DC Boost Converter," in Proc. of **4th IEEE Int. Conf. on Energy, Power and Environment (ICEPE)**, pp. 1-6, 29 April – 01 May, NIT Meghalaya, 2022.

(12) A. K. Sahoo, N. Patel, **N. Gupta** and P. Jamwal, "Modeling and Analysis of Modified Ultra-Lift Luo Converter Equipped with Voltage Multiplier Cell," in Proc. of **IECON 2021 – 47th Annual Conference of the IEEE Industrial Electronics Society**, 2021, pp. 1-6

(13) Akash Kumar Sahoo, Nirav Patel, **Nitin Gupta**, Mohammad Hashmi, Prashant Jamwal, "Mathematical Modeling of Ultra-Lift Luo Converter Under Non-Ideal Scenario," in Proc. of **13th IEEE PES Asia-Pacific Power and Energy Engineering Conference 2021 (APPEEC),** November 21st – 23rd 2021.

(14) Akash Kumar Sahoo, Nirav Patel, **Nitin Gupta**, Prashant Jamwal, "Modeling and Analysis of Modified Ultra-Lift Luo Converter Equipped with Voltage Multiplier Cell", in Proc. of **2021 IEEE 47th Annual Conf. of the IEEE Industrial Electronics Society (IECON), Toronto,** October 13th - 16th, 2021.

(15) N. Patel, A. Kumar, and **N. Gupta**, "Real-time Harmonic Filtering in Grid Interfaced Photovoltaic System Based on Adaptive NLMLS," in Proc. of **2020 IEEE Power Electronics, Drives, and Energy System (PEDES 2020), MNIT Jaipur**, December 16-19, 2020.

(16) A. Kumar, N. Patel, **N. Gupta**, and V. Gupta, "L2 Norm based Adaptive LMS Control for Grid Connected Converters," in Proc. of **2020 IEEE Power Electronics, Drives, and Energy System (PEDES 2020), MNIT Jaipur**, December 16-19, 2020.

(17) **N. Gupta**, R. K. Garg, N. Patel, and A. K. Sahoo "Design and Implementation of Modified MERS Based PFC Approach Applied to Multi-Port SMPS," in Proc. of **2020 IEEE 46th Annual Conference of the IEEE Industrial Electronics Society (IECON 2020), Singapore,** October 18th-22nd, 2020.

(18) A. Kumar, N. Patel, V. Gupta, and **N. Gupta**, "Regularized NLMS Control for Power Quality Improvement in Grid-connected PV Systems," in Proc. of **2020 IEEE 46th Annual Conference of the IEEE Industrial Electronics Society (IECON 2020), Singapore,** October 18th-22nd, 2020.

(19) N. Patel, **N. Gupta**, and B. Chitti Babu, "Multifunctional VSC Controlled Solar Photovoltaic System with Active Power Sharing and Power Quality (PQ) Improvement Features" in Proc. of **2019 IEEE**

1st International Conference on Energy, Systems and Information Processing (ICESIP), IIITD&M, Kancheepuram, Chennai, July 4th– 6th, 2019.

(20) A. Kumar, N. Gupta, and B. Chitti Babu, "Active Power Coefficient based Control for Grid-connected PV Systems" in Proc. of **2019 IEEE 1st International Conference on Energy, Systems and Information Processing (ICESIP), IIITD&M, Kancheepuram, Chennai**, July 4th – 6th, 2019.

(21) K. Bhatt, R. A. Gupta, and **N. Gupta**, "Comparative Analysis and Control of Bidirectional DC-DC Converter" in Proc. of **2019 IEEE 1st International Conference on Energy, Systems and Information Processing (ICESIP), IIITD&M, Kancheepuram, Chennai**, July 4th– 6th, 2019.

(22) S. Jalan and **N. Gupta**, "Bridgeless Boost Rectifier as Front-End Converter (FEC) in Uninterruptible Power Supply (UPS) Application for Improving Power Quality Issues" in Proc. of **2019 IEEE 1st International Conference on Energy, Systems and Information Processing (ICESIP), IIITD&M, Kancheepuram, Chennai**, July 4th– 6th, 2019.

(23) N. Patel and **N. Gupta**, "Three-Phase Single-Stage VSC Controlled Solar Photovoltaic System with Harmonic Filtering Capability Applied to DG" in Proc. of **2019 IEEE 2nd International Conference on Power and Energy Applications, NTU Singapore**, April 27th – 30th, 2019.

(24) A. Sharma and **N. Gupta**, "GCDSC-PLL and PAC Based Control of Three-Phase Four-Wire UPQC for Power Quality Improvement", in Proc. of **2019 IEEE 5th International Conference on Electrical Energy Systems, SSN College of Engineering, Kalavakkam, Chennai**, February 21st –22nd, 2019.

(25) O. P. Mehela, P. Gupta, S. Ali, and **N. Gupta**, "Power Quality Improvement in Renewable Energy Sources Based Power System Using DSTATCOM Supported by Battery Energy Storage System", in Proc. of **2019 IEEE 5th International Conference on Electrical Energy Systems, SSN College of Engineering, Kalavakkam, Chennai**, February 21st– 22nd, 2019.

(26) K. P. Bhatt, R. A. Gupta, and **N. Gupta**, "Average Model of Isolated Bidirectional DC-DC Converter with Auxiliary Isolated Clamp," in Proc. of **2018 IEEE 8th Int. Conf. on Power Electronics (IICPE), MNIT Jaipur**, December 13th – 15th, 2018.

(27) A. Kumar, **N. Gupta,** and V. Gupta, "Indirect Current Control of Single-stage Grid-tied Photovoltaic using PSO Assisted PI Controller," in Proc. of **2018 IEEE8th Int. Conf. on Power Electronics (IICPE), MNIT Jaipur**, December 13th – 15th, 2018.

(28) V. Gali, **N. Gupta,** and R. A. Gupta, "Predictive Tuned Filter based Reference Current Generation for Shunt Active Power Filter under Distorted and Unbalanced Supply Voltage," in Proc. of **2018 IEEE National Power Engineering Conference (NPEC), Madhurai,** pp. 188-193, March 8th – 10th, 2018.

(29) V. Gali, **N. Gupta,** and R. A. Gupta, "Enhanced Particle Swarm Optimization Technique for Interleaved Inverter tied Shunt Active Power Filter", in Proc. of **2017, 7th Int. Conf. on Soft Computing for Problem Solving (SocProS-2017) at Indian Institute of Technology Bhubaneswar, Bhubaneswar,** December 23rd – 24th, 2017.

(30) K. P. Bhatt, R. A. Gupta, and **N. Gupta**, "Optimized design Parameters for the Bidirectional Isolated Boost DC-DC Converter using Particle Swarm Optimization Optimized design Parameters for the Bidirectional Isolated Boost DC-DC Converter using Particle Swarm Optimization", in Proc. of **2017, 7thInt. Conf. on Soft Computing for Problem Solving (SocProS-2017) at Indian Institute of Technology Bhubaneswar, Bhubaneswar,** December 23rd – 24th, 2017.

(31) S. Ray, **N. Gupta,** R. A. Gupta, "Modified Three-Layered Artificial Neural Net-work based Improved Control of Multilevel Inverters for Active Filtering," in Proc. of **2017, 7th Int. Conf. on Soft Computing for Problem Solving (SocProS-2017) at Indian Institute of Technology Bhubaneswar, Bhubaneswar,** December 23rd – 24th December, 2017.

(32) V. Gali, **N. Gupta,** and R. A. Gupta, "Distortion free Improved Reference Current Generation Algorithm for Interleaved Inverter based Shunt APF", in Proc. of **2017IEEE9th PES Asia-Pacific Power and Energy Engineering Conference (APPEEC), Bangalore,** November 8th – 10th, 2017.

(33) S. Ray, **N. Gupta**, R. A. Gupta, "Improved Single Phase SRF Algorithm for CHB Inverter Based Shunt Active Power Filter under Non-ideal Supply Conditions," in Proc. of **2017 IEEE9th PES Asia-Pacific Power and Energy Engineering Conference (APPEEC), Bangalore,** November 8th – 10th, 2017.

(34) V. K. Gali, **N. Gupta,** and R. A. Gupta, "Real-Time Implementation of Shunt Active Power Filter with Enhanced Control Algorithm using dPSACE1104 Controller", in Proc. of 2017, **dSPACE Academic Conference, Indian Institute of Technology (IIT), Delhi,** September 16th, 2017.

(35) N. Pushpraj, N. Gupta, V. Gupta and M. A. Mulla, "Solar Energy Harvesting for Irrigation Water Pumping System", in Proc. of **2017 IEEE Int. Conf. on Power, Control, Signals & Instrumentation Engineering (ICPCSI-2017), Saveetha Engineering College, Chennai,** September 21st – 22nd, 2017.

(36) M. Kumawat, **N. Gupta**, N. Jain and R. C. Bansal, "Optimally Allocation of Distributed Generators in Three-Phase Unbalanced Distribution Network", in Proc. of **2017, 8thInt. Conf. on Applied Energy (ICAE2017), Cardiff, United Kingdom,** August 21st – 24th, 2017.

(37) D. Kumar, R. A. Gupta, and **N. Gupta**, "Minimization of Current Ripple and Overshoot in Four Switch Three-phase Inverter fed BLDC Motor using Tracking Anti-windup PI Controller", in Proc. of**2017 IEEE Int. Conf. on Signal Processing, Informatics, Communication and Energy Systems (SPICES), TKM College, Kollam, Kerala,** August 8th – 10th, 2017.

(38) V.K. Gali, **N. Gupta,** and R. A. Gupta, "Mitigation of Power Quality Problems using Shunt Active Power Filters: A Comprehensive Review", in Proc. of **2017 IEEE 12th Conf. on Industrial Electronics and Applications (ICIEA 2017), Cambodia,** June 18th – 20th, 2017.

(39) S. Ray, N. Gupta, and R. A. Gupta, "Active and Reactive Power Management of Photovoltaic Fed CHB Inverter Based Active Filter with Improved Control under Normal/Distorted Supply", in Proc. of **2017 IEEE 12th Conf. on Industrial Electronics and Applications (ICIEA 2017), Cambodia,** June 18th – 20th, 2017.

(40) K. P. Bhatt, R. A. Gupta, and **N. Gupta**, "Design & Simulation of Bidirectional DC-DC Converter for Wide Voltage Variation in Discharging Mode", in Proc. of **2017 IEEE 12th Conf. on Industrial Electronics and Applications (ICIEA 2017), Cambodia,** June 18th – 20th, 2017.

(41) N. Dwivedy, S. S. Rao, T. Kumar, and N. Gupta, "Design and Hardware Implementation of 8051 Micro-controller based Single-phase Inverter", in Proc. of **2017 IEEE International Conference on Innovations in Power and Advanced Computing Technologies (i-PACT-2017),VIT University, Vellore,** April 21st – 22nd, 2017.

(42) R. K. Garg, J. K. Nama, **N. Gupta,** and V. Gupta, "Novel Closed loop Control for Power Factor Correction using Magnetic Energy Recovery Switch", in Proc. of **2017 IEEE Int. Conf. on**

Innovations in Power and Advanced Computing Technologies (i-PACT-2017), VIT University, Vellore, April 21st – 22nd, 2017.

(43) D. Kumar, R. A. Gupta, and **N. Gupta**, "Modeling and Simulation of Four Switch Three-Phase BLDC Motor using Anti-windup PI Controller", in proc. of **2017 IEEE International Conference on Innovations in Power and Advanced Computing Technologies (i-PACT-2017), VIT University, Vellore,** April 21st – 22nd, 2017.

(44) S. Ray, **N. Gupta,** and R. A. Gupta, "Comparative Analysis of Conventional and Modified Peak-detection Based Control Technique for Cascaded H-Bridge Multilevel Inverter based Shunt Active Power Filter", in proc. of **2017 IEEE Int. Conf. on Innovations in Power and Advanced Computing Technologies (i-PACT-2017), VIT University, Vellore,** April 21st – 22nd, 2017.

(45) A. Kumar, **N. Gupta,** and V. Gupta, "A Synchronization of PV Source by Using Bacterial Foraging Optimization Based PI Controller to Reduce Day-Time Grid Dependency", in Proc. of **2017 IEEE Int. Conf. on Intelligent Techniques in Control, Optimization & Signal Processing**, **Kalasalingam University**, **Srivilliputtur,** pp. 512 – 519, March 23rd – 25th, 2017.

(46) V. Gali, **N. Gupta,** and R. A. Gupta, "Improved Dynamic Performance of Shunt Active Power Filter using Particle Swarm Optimization", in Proc. of **2017 IEEE Int. Conf. on Intelligent Techniques in Control, Optimization & Signal Processing, Kalasalingam University, Srivilliputtur,** pp. 505 – 511, March 23rd – 25th, 2017.

(47) V. Gali, **N. Gupta,** and R. A. Gupta, "Application of Shunt Active Power Filters in Medical Diagnosis and Critical Lab Equipment", in Proc. of **2017 IEEE Int. Conf. on Power and Embedded Drive Control (ICPEDC- 2017), SSN College of Engineering, Chennai,** March 16th – 18th, 2017.

(48) K. P. Bhatt, R. A. Gupta, and **N. Gupta**, "A Comparative Analysis between Three Stage and Two Stage Bidirectional DC-DC Converter in Battery Storage Application", in Proc. of **2017 IEEE Int. Conf. on Power and Embedded Drive Control (ICPEDC- 2017), SSN College of Engineering, Chennai, March 16th – 18th, 2017.**

(49) M. Kumawat, **N. Gupta,** and N. Jain, "Analyzing the impacts of optimally allocated distributed energy resources on harmonics in radial distribution networks," in Proc. of **2016 National Power Systems Conference (NPSC), IIT Bhubaneswar,** pp. 1 – 6, December 19th – 21st, 2016.

(50) R. Shyam, B. Dubey, **N. Gupta**, D. K. Sambariya, A. S. Parira, and M K Lodha, "Performance and feasibility analysis of integrated hybrid system for remote isolated communities", in proc. of **2016 Int. Conf. on Electrical Power and Energy Systems (ICEPES), MANIT Bhopal,** pp. 305 – 309, December 14th – 16th, 2016.

(51) N. Gotherwal, J. Nama, S. Ray, and **N. Gupta**, "Performance Comparison of Reference Current Extraction Techniques for Indirect Current Control Based Shunt Active Filter," in Proc. of **2016IEEE 7th Power India International Conference (PIICON), Govt. Engineering College Bikaner,** November 25th – 27th, 2016.

(52) R. Garg and **N. Gupta**, "Experimental Analysis of Power Factor Correction using Magnetic Energy Recovery Switch," in Proc. of **2016 IEEE 7th Power India International Conference (PIICON), Govt. Engineering College Bikaner,** November 25th – 27th, 2016.

(53) R. Shyam, D. Nigam, **N. Gupta,** and M. K. Lodha, "Control Strategy of a Stand-Alone Hybrid Renewable Energy System for Rural Home Application", in Proc. of **2016 IEEE 7th India International Conference on Power Electronics (IICPE 2016),** November 17th – 19th, 2016.

(54) N. Gotherwal, S. Ray, **N. Gupta**, and D. Saxena, "Performance Comparison of PI and Fuzzy Controller for Indirect Current Control Based Shunt Active Power Filter", in Proc. of **2016 IEEE 1st Int. Conf. on Power Electronics, Intelligent Control and energy Systems (ICPEICES), DTU Delhi,** July 4th – 6th, 2016.

(55) R. Garg, S. Ray, and **N. Gupta**, "Reactive Power Compensation and Power Factor Improvement using Fast Active Switching Technique", in Proc. of **2016 IEEE 1st Int. Conf. on Power Electronics, Intelligent Control and energy Systems (ICPEICES), DTU Delhi,** July 4th – 6th, 2016.

(56) A. Baitha and **N. Gupta**, "A Comparative Analysis of Passive Filters for Power Quality Improvement", in Proc. of **2015 IEEE Int. Conf. on Advancements in Power and Energy (TAP Energy)**, **Amrita Vishwa Vidyapeetham,** pp. 327 – 332, June 24th – 26th, 2015.

(57) P. Anjana, H. P. Tiwari, V. Gupta, and **N. Gupta**, "PV source integrated micro-grid for power quality improvement", in Proc. of **2016 IEEE/PES Transmission and Distribution Conference and Exposition (T&D), Dallas, TX, USA,** pp. 1 – 5, May 3rd – 5th, 2016.

(58) M. Kumawat, **N. Gupta**, N. Jain, and D. Saxena, "Optimal Distributed Generation Placement in Power Distributed Networks: A Review", in Proc. of **2015 IEEE Int. Conf. on Electrical, Electronics, Signals, Communication and Optimization-2015, Vignan's Institute of Information technology, Visakhapatnam, India**, pp. 1 – 6, January 24th – 26th, 2015.

(59) G. Raval, D. Patel, T. Patel and **N. Gupta**, "Simulation and Hardware Implementation of Impedance Source DC-DC Converter using Microcontroller", in Proc. of **2015 IEEE Int. Conf. on Electrical, Electronics, Signals, Communication and Optimization-2015**, **Vignan's Institute of Information technology, Visakhapatnam, India,** pp. 1 – 5, January 24th – 25th, 2015.

(60) P. Goyal, D. Patel, and **N. Gupta**, "Solar Energy in India: Present Scenario and future perspectives", in Proc. of **2014, 2nd Int. Conf. on Advance Trends in Engineering & Technology (ICATET-2014), Arya College of Engineering & IT Jaipur,** pp. 282 – 287, April 18th – 19th, 2014.

(61) R. Malav, I. Lal and **N. Gupta**, "Role of Power Electronics in Renewable Energy Sources", in Proc. of **2013 AICTE Sponsored National Electrical Engineering Conference on Power System Operation & Energy Management: Vision 2020, SKIT Jaipur,** pp. 15 – 19, February 16th – 17th, 2013.

(D) Book Chapter

(1) Bhatt Kunalkumar, R. A. Gupta, Nitin Gupta, **"**Optimized Design Parameters for the Bidirectional Isolated Boost DC-DC Converter Using Particle Swarm Optimization", **Soft Computing for Problem Solving, Advances in Intelligent Systems and Computing,** Springer Nature Singapore Pte Ltd. 2019.

9. List of Ph.D. Thesis Guided/ Guiding:

(1) "Investigation on Distributed Generation Planning Considering Power Quality Issue of Distribution System" **Candidate Name: Manoj Kumawat, Status: Awarded- 24 March 2018.**

(2) "Design, Development of Inverter Topologies and Control Techniques to Enhance the Operation of Shunt APF for Power Quality Improvement", **Candidate Name: Vijayakumar Gali, Status: Awarded –15 February 2019.**

(3) "Investigation on cascaded H-Bridge Five-Level Inverter-based Active Power Filter" **Candidate Name: Soumydeep Ray, Status: Awarded-27 January 2019.**

(4) "Design and Development of Isolated Bidirectional DC-DC Converter", **Candidate Name: Bhatt Kunalkumar Prakashbahi, Status: Awarded-29 June 2020.**

(5) "Investigations on Grid Interfaced Solar Photovoltaic Power Generating System", **Candidate Name: Ajay Kumar, Status: Awarded- 08/12/2020.**

(6) "Investigations on Grid Integrated Multifunctional Inverter Based Solar Photovoltaic Power Conversion System", **Candidate Name: Patel Nirav Jayantibhai**, **Status: Awarded 22/04/2021.**

(7) **"**Design, development and implementation of control techniques for grid tied PV system", **Candidate Name: Meghraj Morey (QIP)**, **Status: Awarded 09/05/2025.**

(8) "Some investigations on Stability Analysis and Control Design of DC-DC Converter", **Candidate Name: Mukur Gupta**, **Status: Awarded 25/08/2025.**

(9) "Design and control of custom power devices for mitigation of power quality problems", **Candidate Name: Gaurav Kumar Chaturvedi**, **Status: Ongoing.**

(10) **Candidate Name: Balwant Singh Kuldeep: Ongoing (1st year)**

10. List of M. Tech Dissertations Guided:

(1) "Improvement of Power Quality using Hybrid Active Power Filter in Distribution System", by Anil Baitha (2015).

(2) "Comparative Analysis and Performance Improvement of Shunt Active Power Filter using Fuzzy Logic Controller", by Niharika Gotherwal (2016).

(3) "Design and Implementation of Scalar Control based Induction Motor Drive using Digital Signal Processor TMS320F28335", by Jitendar Kumar Nama (2017).

(4) "Design and Fabrication of Magnetic Energy Recovery Switch for Power Factor Correction in Switched Mode Power Supplies", by Rahul Kumar Garg (2017).

(5) "Modelling and Simulation of Converter Topologies for PV fed Water Pumping System", by Nandikesh Pushpraj (2018).

(6) "Simulation and Modelling of Unified Power Quality Conditioner for Power Quality Improvement", by Ajay Sharma (2018).

(7) "Design and Fabrication of Bridgeless Boost Rectifier as Front-End Converter in UPS Application for Improving Power Quality Issues", by Shubham Kumar Jalan (2019).

(8) "Design and Modelling of High Voltage Gain Boost Converter for Renewable Energy Systems", by Chinna Babu Elubudi (2020).

(9) "Modelling, Analysis and Control of Modified Ultra Lift Lou Converter," by Akash Kumar Sahoo (2021).

(10) "Investigations on Controller for Grid-Tied Two Stage Solar Photovoltaic system," by Shnatanu Sharma (2022).

(11) "Modeling & Analysis of Modified High Gain Z-source DC-DC Converter," by Manikanta Golla (2022).

11. Reviewer of National/ International Journals:

(1) International Transactions on Electrical Energy Systems, Wiley.

(2) International Journal of Power electronics, Inderscience.

(3) International Journal of Electrical Power & Energy Systems, Elsevier.

(4) International Journal of Electric Power Components & Systems, Taylor and Francis.

(5) International Journal of Emerging Electric Power Systems.

12. List of Expert Lecture delivered/ Invited Talk in STTP/ STC/ FDP/ Seminar:

(1) "Power Quality Improvement using Shunt Active Power Filter" in Two days All India Seminar on **Optimal Use of Power Electronics in Modern Power System & Renewable Energy**, at CTAE Udaipur (Rajasthan) during 9th – 10th March 2013.

(2) "Power Electronics Converters", in Faculty Development program on **Advanced Power Electronics and Drives**, at Walchand College of Engineering, Sangli (MH) during 9th -20th December, 2013.

(3) "Power Quality Improvement using Active Power Filter with a Case Study", in workshop on **Advanced Power Electronic Converters**, at Zakir Husain College of Engineering and Technology, Aligarh Muslim University, Aligarh (UP) during 4th – 6th April, 2014.

(4) "Automatic Code Generation for Power Electronics Converters Algorithms", in workshop on **Advanced Power Electronic Converters** at Zakir Husain College of Engineering and Technology, Aligarh Muslim University, Aligarh (UP) during 4th – 6th April, 2014.

(5) "Electric Drives and Associated Problems", in Workshop on **Industrial Automation & Drives,** at Department of Electrical and Electronics Engineering, School of Electrical, Electronics and Communication Engineering, Manipal University Jaipur on 27th May 2016.

(6) "Power Quality: An Introduction", in STTP on **Electrical Power System Basics: Conventional & Non-conventional,** at Department of Electrical Engineering, Govt. Women Engineering College, Ajmer during 20th – 25th September 2016.

(7) "Active Power Filter and its Implementation", in STTP on **Power Electronics for Smart Grid and Renewable Energy Control**, at Department of Electrical Engineering, MNIT Jaipur on 18th May 2017.

(8) "Power Quality Improvements Techniques and its Implementation using DSP", in FDP on **Power Electronics & Drives**, at Department of Electrical Engineering, ABESIT, Ghaziabad during 12th – 16th June 2017.

(9) "Micro Grid and Power Quality Problems and Solutions" in National Workshop on **Modern Micro-grid and SCADA** at Department of Electrical Engineering, Government Engineering College, Banswara on 14th October 2017.

(10) "Design Methodology for Power Converter Circuit" in AICTE Sponsored Two week FDP on **Power Converters, Control and Grid Integration of Renewable Energy Sources**, at Dept. of Electrical & Electronics Engg., SSN Chennai during 15th– 29thNovember 2017.

(11) "Power Electronics Converters-Part 1" in TEQIP-III Sponsored Expert Talk at Dept. of Electrical Engg., Govt. Engineering College, Jhalawar on 24th September 2018.

(12) "Power Electronics Converters-Part 2" in TEQIP-III Sponsored Expert Talk at Dept. of Electrical engg., Govt. Engineering College, Jhalawar on 5th – 6th October 2018.

(13) "Introduction of MATLAB & Simulink" in National Workshop on **Modelling, Stability Analysis and Controller Design using MATLAB & Simulink**, at Dept. of Electrical Engineering, University College of Engineering & Tech, Bikaner on 17th& 18th December 2018.

(14) An expert lecture on "**Power Supply under Advanced Power Electronics**" in Department of Electrical Engineering, Government Engineering College Banswara during March 25th -26th, 2019.

(15) "Smart Grid Technology" in a TEQIP-III sponsored three-day workshop on "**Smart Grid Technology and Recent Advances in Power Engineering**" at B.T.K.I.T Dwarahat, Distt. Almora, Uttarakhand during May 29th -31st, 2019.

(16) "Application of Internet of Things (IoT) in Electrical Engineering" in TEQIP-III sponsored two-days Faculty Development Program on "**Internet of Things**" at Chartered Institute of Technology (CIT), Abu Road, Sirohi Distt., Rajasthan during June 07th -08th, 2019.

(17) "Smart Grid Technology from Active Filtering Prospective" in five days STC on "**Smart Grid Technologies and its Application**" in Electrical Engineering of Engineering College Ajmer, Rajasthan during December 17th-21st, 2019.

(18) "MATLAB & LabVIEW: Application in Engineering & Sciences" in TEQIP-III Sponsored one-week Short Term Training Program on "MATLab & LabVIEW: Applications in Engineering & Sciences" at Department of Electrical Engineering, NIT Uttarakhand during January 20th -24th, 2020.

(19) "Recent Trends of Active Power Filter in Modern Electrical Distribution System" in one-week AICTE sponsored STTP on "Recent Trends in Internet of Things (IoT) and Embedded System Based Monitoring and Control of Distributed Generation" at Narula Institute of Technology, Kolkata, West Bengal, during August 24 – 29th, 2020.

(20) "Smart Grid: An Introduction" in TEQIP-III sponsored three-days Faculty Development Program on "Advance Microgrids, Smart Renewable & Distributed Energy System" at Shrinathji Institute of Technology & Engineering, Nathdwara, Rajasthan during September 24th -26th, 2020.

(21) "Power Quality: Problems and Solutions for Electrical Systems" in a TEQIP-III sponsored five days STTP on "Recent Advancements and Trends in Electrical Engineering" at B.T.K.I.T Dwarahat, Distt. Almora, Uttarakhand during September 23rd -27th, 2020.

(22) "Harmonics: Problems and Solutions" in one week AICTE sponsored STTP on "Digitally Controlled Power Converters for Industrial and Renewable Applications" at SSBT's College of Engineering and Technology, Jalgaon, Maharashtra, during November 23rd – 28th, 2020.

(23) "Power Quality Problems in Grid Integration of Renewable Energy Part 1 and Part 2" in AICTE ATAL online FDP on "Integration of Alternate Energy Resources in Smart Grid" at NIT Delhi during December 25th – 29th 2020.

(24) "Active Power Filter Design using MATLAB" in TEQIP-III sponsored five days online Workshop on "MATLAB and its Application'at Sri Balaji College of Engineering and Technology, Jaipur during January 4th – 8th, 2021.

(25) "Active Power Filter for Power Quality Improvement" in AICTE ATAL Sponsored five days FDP on "Modern Trends in Power Electronics & Drives" at University College of Engineering, Kota during February 5th – 9th, 2021.

(26) "Power Electronics Converters and Associated Power Conditioning Devices" in TEQIP-III sponsored five days online FDP on "Power Electronics Converters in Smart Grid" at Geetanjali Institute of Engineering and Technical Studies, Udaipur during February 8th – 12th, 2021.

(27) "Utilization of Power Filter in Distribution System with Simulation and Hardware realization using dSPACE 1104" in one-week TEQIP-III sponsored Faculty Development Program on "Advance Trends in Electrical Engineering" at Arya College of Engineering & IT, Kukas, Jaipur, Rajasthan during February 24th -28th, 2021.

(28) "Renewable Energy Policies in India: An Introduction" in AICTE-ISTE Sponsored six days Online Induction Program on "Advances in Renewable Energy Technologies" at Jodhpur Institute of Engineering and Technology, Jodhpur, Rajasthan during March 2nd- 8th, 2021.

13. List of Short-Term Courses Coordinated:

(1) Staff Development Program on "**Emerging Technologies for Power Systems Operation & Energy Management**", at MNIT Jaipur, during 17th-23rd June, 2013.

(2) Faculty Development Program on "**Real Time Implementation of Power Electronics Technologies**", at MNIT Jaipur, during 24th-28th June, 2013.

(3) Short Term Training Program on "**Role of Power Electronics in Modern Electrical System**" at MNIT Jaipur, during 23rd-27th December, 2013.

(4) Faculty Development Program on "**Advancement and Application of Power Electronics in Present Scenario**" at MNIT Jaipur, during 22nd-26th December, 2014.

(5) Short term Course on "**Application of Custom Power Devices for Power Quality Improvement**", at MNIT Jaipur, during 6th-8th October, 2016.

(6) Summer Internship Program on "**Designing & Fabrication of Power Electronic Circuits**", at MNIT Jaipur, 17th May to 2nd July 2017.

(7) Winter Faculty Development Programme on "**Power Electronics**" at MNIT Jaipur jointly organized by Electronics and ICT Academics from 11th December to 20th December 2017.

(8) Faculty Development Programme on "**Electric Vehicle**" at MNIT Jaipur jointly organized by Electronics and ICT Academics from 28th May to 1st June 2018.

(9) Summer Internship Program on "**Design & Fabrication of Power Electronic Circuits**" at MNIT Jaipur, 15th May to 2nd July 2018.

(10) Faculty Development Programme on "**Modeling and Simulations of Custom Power Devices for Power Quality Improvement**" at MNIT Jaipur jointly organized by Electronics and ICT Academics from 19th November to 23rd November 2018.

(11) Summer Internship Program on "**Design, Modeling & Implementation of Power Electronic Circuits for Renewable Energy and Electric Vehicle Chargers**", at MNIT Jaipur during 20th May to 5th July 2019.

(12) A NaMPET Sponsored STC on "**Power Electronic Converters in Grid Integration of Renewable Energy Sources**" at MNIT Jaipur during 27th December to 31st December 2019.

(13) A '**VRITIKA**' scheme by SERB New Delhi on "**Hands-on Training on Design, Simulation and Fabrication of Power Electronics Circuits**" at MNIT Jaipur during 20th June 2022 to 15th July 2022.

(14) A **'KARYASHALA**' scheme by SERB New Delhi on "**Hands-on Training and Real-time Implementation of Power Electronics Converter**s" from 21st November 2022 to 27th November 2022.

14. List of Short-Term Courses Participated:

(1) IEEE PES-IAS Delhi Chapter sponsored workshop on "Deregulated Power System and Distributed Generation", at Department of Electrical Engg., IIT Delhi, during 14th – 15th September, 2005.
(2) IEEE PES-IAS Delhi Chapter sponsored workshop on "Recent Advances in Power Quality", at Department of Electrical Engg., IIT Delhi, during 20th -21st December, 2005.
(3) IEEE PES-IAS Delhi Chapter sponsored workshop on "Recent Advances in Direct Torque Control and Vector Control of AC Motor Drives", at Department of Electrical Engg., IIT Delhi, during 26th -27thDecember, 2005.
(4) One-week short-term course on "MATLAB", at Department of Electrical Engg., NITTTR, Chandigarh, during 6th -10th February 2006.
(5) One-week short-term course on "Repair & Maintenance of UPS, SMPS, INVERTER", at Department of Electrical Engg., NITTTR, Chandigarh, during 5th -9th June 2006.
(6) One week short-term course on "Matlab, Simulink & Labview for Engineering Applications", at Department of Electrical Engg., National Institute of Technology, Rourkela, during 19th -23rd February, 2007.
(7) IEEE PES-IAS Delhi Chapter sponsored work shop on "Power quality", at Department of Electrical Engg., IIT Delhi, during 21st – 22nd November, 2008.
(8) QIP Sponsored work shop on "Improved Quality AC/DC Converters", at Department of Electrical Engg, I.I.T. Roorkee, during 15th -19th June, 2009.
(9) One week workshop on "Digital Signal Processing", at Department of Electrical Engg, I.I.T. Roorkee, during 26th-2nd February, 2011.
(10) Effective Quality Up gradation Assistance for Technical Education (EQUATE) on "Induction Training", at MNIT Jaipur, during December 14th – 16th 2012.
(11) One week short-term course on "Operation and Control of Modern Power Systems (OCMPS)", at Department of Electrical Engg., Malaviya National Institute of Technology, Jaipur, during March 7th – 11th 2013.
(12) One week short-term course on "Power Electronics, Drives & MATLAB Applications (PEDMA-2013)", at Department of Electrical Engg., Rajasthan Technical University, Kota, during 18th-22nd March, 2013.
(13) Short-term, course on "Enterprise Resource Planning (ERP) Systems: Technology Planning and Implementation", at Indian Institute of Management, Ahmedabad, during December 9th – 11th 2013.
(14) Education and Educational Management Department, of NITTTR Chandigarh sponsored "Induction Training Programme", at MNIT Jaipur, during December 16th – 20th 2013.
(15) Two day programme on "In-house Training Program to learn the policies, rules and regulations of service in MNIT" at Malaviya National Institute of Technology, Jaipur, during July 08th – 09th 2014.
(16) IEEE Delhi Section sponsored One day programme on "How to Publish a Technical paper with IEEE", at IIT Delhi on 11th August, 2014.
(17) MathWorks® India Pvt. Ltd sponsored one day programme on "MATLAB®& Simulink® for Engineering Education" at Jaipur, on 21st November, 2014.
(18) Continue Education Program on "Grid Integration of Renewable Energy Sources", at Department of Electrical Engineering, IIT Delhi, during 18th-19th April, 2015.

(19) One week workshop on "Implementation of Power electronics Systems", at Department of Electrical Engineering, National Institute of Technology, Surat, Gujarat, 29th December -2nd January, 2015.
(20) One week workshop on "Integrated Automation Technologies", at Department of Mechanical Engineering, Indian Institute of Technology (IIT) Delhi, during 1st – 6th, June 2015.
(21) Summer Faculty Research Fellow Programme at Department of Electrical Engineering, Indian Institute of Technology (IIT) Delhi during 18th May-24th June, 2015.
(22) Two day workshop on "National Workshop on Power Electronics", at Department of Electrical Engg., DTU Delhi, during 6th – 7th November, 2015.
(23) Short-term course on "Advanced Power Electronics & Electrical Drives", at Department of Electrical Engineering, National Institute of Technology, Bhopal, MP, during 3rd– 07th January, 2016.
(24) Short-term course on "Embedded System Design", at Department of Electrical & EC Engineering, Indian Institute of Technology (IIT) Kharagpur, during 20th – 24th June, 2016.
(25) Short-term course on "Research Perspectives on Solar PV System: Design, Simulation and Application", at Department of Electrical and Electronics Engineering, PSG College of Technology, Coimbatore, during 27th -28th July, 2017.
(26) Seminar on "Electric Vehicle Technology" by PWSIM (Solutions for Electrification), Bangalore during February 27th -28th, 2019.

15. Teaching and Research Experience:

(1) Served as a Lecturer from 6th August 2003 to 11th June 2004 in the Department of Electrical Engg., Vira College of Engineering, Bijnore (U.P.), India.
(2) Served as a Lecturer from 26th June 2004 to 08th July 2006 in the Department of Electrical Engg., Geetanjali Institute of Technical Studies, Udaipur (Raj.), India.
(3) Served as Asst. Professor from 12th July 2006 to 25th July 2008, in the Department of Electrical Engg., Institute of Technology & Management, Bhilwara (Raj.), India.
(4) Worked as a Research Scholar form 2nd August 2008 to 31st January 2012, in the Department of Electrical Engg., Indian Institute of Technology (IIT), Roorkee (UK), India.
(5) Served as Asst. Professor from 1st February 2012 to 06th July 2012, in the Department of Electrical Engg., National Institute of Technology (NIT), Hamirpur (H.P.), India.
(6) Served as Asst. Professor – Grade II from 16th July 2012 to 11th May 2018 in the Department of Electrical Engg., Malaviya National Institute of Technology (MNIT) Jaipur (Raj.), India.
(7) Served as Asst. Professor –Grade I from 12th May 2018 to till now, in the Department of Electrical Engg., Malaviya National Institute of Technology (MNIT), Jaipur (Raj), India.

16. Assignment carried out at Departmental Level:

(1) Program Advisor of M. Tech IIIrd to IVth Semester (Power Electronics & Drives) from 27th April 2018 to 30th June 2020.
(2) PG Coordinator of M. Tech (Power Electronics & Drives) from 18/06/18 to 22/07/19.
(3) Electrical Drives laboratory in-charge from 1st July 2018 to till now.
(4) DPGC Committee Member from 18th June 2018 to 22th July 2019.
(5) Power Electronic Laboratory Coordinator from 1stJuly 2015 to till now.
(6) DUGC Committee Member from 15th May 2014 to 30th June 2016.
(7) Program Advisor of B.Tech Second Year from 3rd July 2014 to 31st December 2016.

(8) Faculty Coordinator of Basic Electrical Engg., from 7th August 2012 to 30th June 2013.

17. Assignment carried out at Administrative Level:

(1) External members for DPGC, DSC, and Guest Faculty selection for the year 2019-20 in Department of Metallurgical and Materials Engineering.
(2) Faculty Coordinator, NSS from 22nd July 2016 to 30th May 2018.
(3) Hostel Warden from 8th August 2016 to 31st August 2017.
(4) Transportation Coordinator from 11th December 2013 to 22nd July 2014.

18. Award / Prize / Certificates etc.

(1) Successfully Organized a Special Session on "**Challenges in Harmonic Mitigation and Reliable Operation of Power Electronic Converters in Industrial Applications**" in the 46th Annual Conference of the IEEE Industrial Electronics Society (IECON 2020), which is going to be held in Marina Bay Sands Expo and Convention Centre Singapore during October 18-22, 2020.
(2) Best reviewer award by International Transaction on Electrical Energy Systems, Wiley.
(3) Best reviewer award by Int. Journal of Power Electronics, Inderscience Publishers.
(4) Best reviewer award by International Journal of Electrical Power and Energy Systems, Elsevier.
(5) Best reviewer award by Sustainable Cities and Society, Elsevier.
(6) Best Paper Award in SocPros-2017.
(7) Received 20,000/- pm. scholarship as Research Scholar (M.H.R.D.) in Department of Electrical Engineering, Indian Institute of Technology (I.I.T) Roorkee.

19. International Academic Visit

(1) International Academic Visit to Singapore for presenting research papers in **11th International Conference on Innovative Smart Grid technologies (Asia)** during 1st -5th November, 2022.
(2) International Academic Visit to NTU, Singapore for presenting a research paper in **2nd International Conference on Power and Energy Applications** during April 27th -30th, 2019.
(3) International Academic Visit to Taichung (Taiwan) for presenting two research papers in **5th IEEE Conference on Industrial Electronics and Applications** during 15th – 17th June 2010 partially funded by IIT Roorkee and Alumni Association.

Date: (Dr. Nitin Gupta)