



Dr. Rakesh Kr. Kumawat

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DOB: December 1st, 1991

*om ajnana-timirandhasya jnananjana-salakaya
cakshur unmilitam yena tasmai sri-gurave namah*

Research Profile

Journal Paper	14
Conference Paper	29
Book and Book Chapter	5
Patent and Design	9
Google Scholar Citations	
<u>Citations till October 2024</u>	131
<u>h-index</u>	7
<u>i10-index</u>	5
Research Gate Score	185.5

Experiences

October 2024 to till date	Assistant Professor , Electrical Engineering, Collge of Technology, Sardar Vallabhbhai Patel University of Agriculture and Technology, Meerut, India
August 2023 to October 2024	Assistant Professor , Electrical Engineering Department, Maulana Azad National Institute of Technology, Bhopal, India.
Nov. 2020 to August 2023	Assistant Professor , Electrical Engineering Department, I K Gujral Punjab Technical University, Jalandhar, Punjab
Nov. 2019 to 30 August 2020	Senior Research Fellow , Electrical Engineering Department, Delhi Technological University, Delhi, 110042, India.
Title of Project Sponsoring Agency	Development and deployment of a motor controller for low and medium power Electric Vehicles Ministry of Electronics and Information Technology (Meity)
Nov. 2014 to Oct. 2019	Teaching Assistantship , Department of Electrical Engineering, Rajasthan Technical University, Kota, 324010, Rajasthan, India.
Sept. 2014 to Nov. 2014	Assistant Professor , Electrical Engineering Department, Maharshi Arvind College of Engineering and Technology, Kota, 325003, Rajasthan, India.

- Sept. 2012 to Aug. 2014 **Teaching Assistantship**, Electrical Engineering Department, Rajasthan Technical University, Kota, 324010, Rajasthan, India.
- July 2011 to Aug. 2012 **Lecturer**, Electrical Engineering Department, **Bhartiya Institute of Engineering & Technology, Sikar**, 332001, Rajasthan, India.

Professional Qualification

- Pursing Master of Business Administration (MBA)**, Specialization: Human Resource and Project Management, University of Mysore, Karnataka, India
- 2023: Post Graduate Diploma in Guidance and Counselling (PGDGC), **Vardhman Mahaveer Open University, Kota** (Formerly - Kota Open University, Kota) Rawatbhata Road, KOTA, India.
- 2014–2020 **Ph. D. (Electrical Engineering, Power Electronics and Electrical Drive)**, Department of Electrical Engineering, Rajasthan Technical University, Kota, Rajasthan, India.
- 2012–2014 **Masters of Technology (Power System Engineering)**, University College of Engineering, Rajasthan Technical University, Kota, Rajasthan, India
First Division. (Honors)
- 2007–2011 **Bachelor of Technology (Electrical Engineering)**, School of Engineering and Technology, Jaipur National University, Jaipur, Rajasthan, India. (First Division)
- 2006-2007 **Senior Secondary**, Bhartiya Sr. Sec School, Reengus, Sikar, Rajasthan Board of Secondary Education, Ajmer (Second Division)
- 2004-2005 **Secondary Education**, Gyanodaya V. Sec. School, Reengus, Sikar, Rajasthan Board of Secondary Education, Ajmer (First Division)

Ph. D Thesis

- Title Analysis of Reduced Switch Count Multilevel Inverter for Renewable Energy System
- Supervisor Dr. D. K. Palwalia, Professor, Department of Electrical Engineering, Rajasthan Technical University, Kota, Rajasthan, India
- Description
- It Include modeling and analysis of multilevel inverter topology to analyze performance parameters.
 - Analysis of Cascaded H-bridge multilevel inverter and compare the performance in terms of number of levels, total harmonic distortion, modulation strategy etc.
 - Analysis of selective harmonic elimination, mathematical formulation of selective harmonic elimination equation and solve it with modern optimization technique.

- Topological investigation of reduced switch count MLI and their application in renewable energy resources.
- Modeling, analysis and develop laboratory prototype of Reduced switch topology to analyze performance parameters.
- Application of Z-Source-networks based power converters to MLI.
- Model and develop Quasi Z-source (qZSI) based reduced switch count multilevel inverter (RSC-MLI).

RSC-MLI based active power filter topologies can be explored. The performance of qZS-RSC MLI can be enhanced by implementing a modified modulation scheme. Different topological strategies like Tapped-Inductor, Gamma-ZSI, Y-impedance etc. for qZSI and ZSI and their application to RES can be explored.

Master Thesis

Title	Modeling, Analysis and Implementation of Reduced Switch Count Multilevel Inverter Topology
Supervisor	Dr. D. K. Palwalia, Associate Professor, Department of Electrical Engineering, Rajasthan Technical University, Kota, Rajasthan, India
Description	In this thesis efforts have been made to simulate conventional and proposed multilevel inverters and a relative study of carrier wave modulation techniques is presented on the basis of THD under various modulating indices. Renewed 7-level and 5-level multilevel inverter topology are introduced incorporating the least number of unidirectional switches and gate trigger circuitry, thereby ensuring the minimum switching losses, reducing size and installation cost. The new topology is well suited for drives and renewable energy applications. Software packages MATLAB/SIMULINK is used to study and simulate inverter waveforms in off time and in real time, respectively. Hardware interface device DS1103 dSPACE is used to interface the hardware model with the software.

Trainings

2009: June	30 days Summer Training at 220KV G.S.S. Reengus , Sikar, Rajasthan during June 01-30, 2009.
2010: June	45 days Summer Training at Suratgarh Super Thermal Power Station , Suratgarh , Ganganagar, Rajasthan, India during June 14- July 28, 2010.
2010: October	Project Training and Develop a project " Computerized Equipment " at Contrivance IT solution Pvt. Ltd., Jaipur, Rajasthan, India (302017) during October 2010.
2011: March	Project Training and Develop a project " Multiplex Energy Distribution Management System " at Contrivance IT solution Pvt. Ltd., Jaipur, Rajasthan, India (302017) during March 2011.

- 2020: Online Training Program on “**Embedded Skill Development Program**” Under
 May Texas Instrument India University Program in association with EdGate
 technologies Pvt Ltd Bangalore during 15th to 17th May, 2020.
- 2020: Online Training Program on “**Advanced Embedded System Design using Tiva
 May C Series Microcontroller**” Under Texas Instrument India University Program
 in association with EdGate technologies Pvt Ltd Bangalore during 15th to 24th
 May, 2020.

Book Chapter

- 2019: Kuldeep Jayaswal, **Rakesh K. Kumawat**, D K Palwalia, "MPPT Construction",
 August ISBN: 978-81-9365-600-6, Edition: 2020.

Books

- 2020: **R. K. Kumawat**, D K Palwalia, "Multilevel Inverter for Renewable Energy
 November Application", ISBN: 978-620-3-02558-3, Edition: Nov, 2020,
- 2024: **Dr. R. K. Kumawat**, Prof. D. K. Palwalia, and Dr. Ujjwal Kumar Kalla, “Basics
 Feburary Electrical Machines: Theory and Practicals”, AICTE e-KUMBH,
 ISBN : 978-93-6027-982-0
- 2024: Dr Bharat Gothania, **Dr R K Kumawat**, Induction Machine: Analysis and
 Feburary Performance Using Fuzzy Logic Controller,
 ISBN-13 979-8879571714, Publication date, February 14, 2024
- Septmber: **Dr. R. K. Kumawat**, Dr. R. A. Kapgate, Dr. Sunita Bhosle, Mr. S. Manoj Kumar,
 2024 Automation in Agrilculture,
 ISBN: 9789348020505

Phd Supervised

Name of Student	Title of Thesis	Year of Registration	Status
Mr. Bharat Gothania	Analysis and Performance of Asynchronous Machine Using Fuzzy Logic Controller	2017	Awarded
Ms. Pranjal Amit Jog	Wireless Power Transfer with Inductive Coupling for EVs: A Parametric Optimization based Approach	2019	Submitted
Ms. Suvarna Santosh Shete	Battery Management System for SOC Estimation of Lithium-Ion Battery in Electric Vehicle	2019	On-Going

Patent and Design Publications

Indian Patent App. No.202341035634 A Published	Artificial Intelligence-Based Maintenance of Electric Vehicle Battery Charging Systems, Date of filing of Application :23/05/2023 Publication Date: 01/09/2023
Indian Patent App. No. 202311045255A Published	Implementation of Hybrid Machine Learning Models for Sensor Fault Detection and Management of Battery in Electric Vehicles Date of filing of Application :06/07/2023 Publication Date: 04/08/2023
UK Design Design number: 6351809 Granted	Smart Device to Detect Happiness of A Teacher Design number: 6351809 Grant date: 18 March 2024 Registration date: 07 March 2024
Indian Design Grant Design No.: 413103-001 Granted	AI Based Wireless Electricity Consumption Monitoring Device Design number: 413103-001 Grant date: 09 April 2024
Indian Patent App. No. 202421055890A Published	AI Driven Exploration of Bismuth Based Double Perovskites for Enhanced Solar Cell Performance Date of filing of Application :22/07/2024 Publication Date:16/08/2024
Indian Design Grant Design No.: 422967-001 Granted	IoT Assisted Environmental Pollution Deceting Device Design No.: 422967-001 Grant date: 11 July 2024
Indian Design Grant Design No.: Communicated	AI-Driven Plant Health Moniter Device Design No.: Grant date:
Indian Patent App. No. 202421079637A Communicated	Accurate Prediction of Student Learning Date of filing of Application :20/10/2024 Publication Date:
Indian Patent App. No. 202421079637A Communicated	A Critical Analysis of Machine Learning and Modern Pedagogy in Improving Teaching Practices in Higher Education Date of filing of Application :20/10/2024 Publication Date:

Journal and Conferences Publications

- [1] **R. K. Kumawat**, D. K. Palwalia “Reduced Switch Count Multilevel Inverter: A Comprehensive Analysis” in Journal of Power Technology, **accepted for publication.**
- [2] Pallavi Jarewal & R. K. Kumawat, “Green HRM Practices Followed by Public and Private Sector Banks”, Int. J. of Management Concepts and Philosophy, Inderscience Publication, **Accpected for Publication.**

- [3] Pranjal Jog & **R. K. Kumawat**, 2022. "**Wireless Power Transfer With Inductive Coupling for EVs: A Parametric Optimization-Based Approach**," International Journal of Swarm Intelligence Research (IJSIR), IGI Global, vol. 13(1), pages 1-22, January.
- [4] **R. K. Kumawat** & D. K. Palwalia, "A Comprehensive Analysis of Reduced Switch Count Multilevel Inverter", *Australian Journal of Electrical and Electronics Engineering*, vol.17 Issue 1, pp. 13-27, November 2019.
- [5] Pranjal Amit Jog & **R. K. Kumawat**, "A Hybrid Optimization-Based Artificial Neural Network Model for Wireless Power Transfer in Electric Vehicles", International Journal of High-Speed Electronics and Systems, <https://doi.org/10.1142/S0129156424500022>
- [6] Suwarna Shete, **R. K. Kumawat**, " Statistical cumulative error-based state of charge estimation for electric vehicle applications", *Intelligent Decision Technologies*, vol. Pre-press, no. Pre-press, pp. 1-14, September, 2024 DOI: 10.3233/IDT-24073
- [7] Amit Kumar Sharma, **Rakesh Kumar Kumawat** & Ashok Kumar Sharma, "Simulation of AC to AC Converter Fed Induction Motor for Fault Detection and Reduced Harmonic Content", International Journal of Electrical and Electronics Engineering Research, Vol. 4, Issue 5, pp 53-62, Oct 2014.
- [8] Bharat Gothania, **R. K. Kumawat**, "Full Order Adaptive Observer Based Vector Controlled Induction Motor Drive at No Load Condition", International Research Journal of Modernization in Engineering Technology and Science Volume:04/Issue:08/August-2022, pp..1359-1366.
- [9] Bharat Gothania, **R. K. Kumawat**, "Field Orient Controlled Induction Motor Drive at Load Condition", International Research Journal of Modernization in Engineering Technology and Science Volume:04/Issue:08/August-2022, pp..1367-1378.
- [10] **Rakesh Kumar Kumawat**, Seema Agrawal, Seemant Chourasiya, D. K. Palwalia, "A Comparative Study of Power Inverter Topology and Control Structures for Renewable Energy Recourses", *International Advanced Research Journal in Science, Engineering and Technology*, Vol. 2, Special Issue 1, May 2015, pp 350-354.
- [11] **R. K. Kumawat**, Seemant Chourasiya, Seema Agrawal, D. K. Palwalia, "Self-excited induction generator: A review", *International Advanced Research Journal in Science, Engineering and Technology*, Vol. 2, Special Issue 1, May 2015, pp 37-42.

- [12] Seema Agarwal, Seemant Chourasiya, **Rakesh Kumar Kumawat**, Dr. D. K. Palwalia, "Performance Analysis of Standalone Hybrid PVSOFC- BATTERY Generation System", *International Advanced Research Journal in Science, Engineering and Technology*, Vol. 2, Special Issue 1, May 2015, pp 49-53, ISSN (Online) 2393-8021, ISSN (Print) 2394-1588.
- [13] **R. K. Kumawat** and D. K. Palwalia, " Optimization Techniques Based Selective Harmonic Elimination for Multilevel Inverter with Reduced Number of Switches," *International Journal of Scientific Engineering and Technology*, Volume No. 6, Special Issue 3. PP: 215-220, Dec. 2017.
- [14] **Rakesh Kumar Kumawat**, "Analysis for an Efficient Wireless Power Transmission", *International Journal of Scientific & Engineering Research*, Volume 3, ISSUE 9, ISSN 2229-5518, September-2012.
- [15] **R. K. Kumawat** and D. K. Palwalia, "Half bridge module asymmetric multilevel inverter based on novel PWM control strategy," *IEEE 6th International Conference on Computer Applications in Electrical Engineering-Recent Advances (CERA)*, Roorkee, 2017, pp. 303-307.
- [16] **R. K. Kumawat** and D. K. Palwalia, "A novel PWM control for asymmetric multilevel inverter based on half bridge module," *IEEE 7th Power India International Conference (PIICON)*, Bikaner, 2016, pp. 1-5.
- [17] G. Vijay, **R. K. Kumawat**, and D. K. Palwalia, "Source Conditioning of AC-DC Cuk Converter Using PFC Control Technique", *Second International Conference on Smart Systems and Inventive Technology (ICSSIT 2019)*, Tamil Nadu, India, 2019, pp. 1207-1211.
- [18] Annu Govind, Vijay Kumar Tayal, Prakash Kumar and **R. K. Kumawat**, "Modernistic Synchronization Technique during Adverse Grid Conditions using Shunt Active Power Filter," *IEEE 4th International Conference on Recent Developments in Control, Automation & Power Engineering (RDCAPE)*, Noida, India, pp. 304-308, 7-8 Oct. 2021.
- [19] **R. K. Kumawat** and D. K. Palwalia, " Optimization Techniques Based Selective Harmonic Elimination for Multilevel Inverter with Reduced Number of Switches," 2nd International Conference on "Advances in Power Generation from Renewable Energy Sources" APGRES 2017, Banswara, India, Volume No. 6, Special Issue 3. PP: 215-220, Dec. 2017.

- [20] **R. K. Kumawat**, Seema Agrawal, Seemant Chourasiya, D.K. Palwalia, “Modeling & Simulation of PV Array with Single-Phase Reduced Switch Count Five-Level PWM Inverter for Renewable Energy Application” International conference on “Advances in power generation from renewable energy sources” (APGRES2015), June 15-16 2015, PP—162-172.
- [21] **R. K. Kumawat**, Seemant Chourasiya, Khushboo Gupta, Seema Agarwal, D. K. Palwalia, “A Review: Multilevel Inverter Topologies”, 4th International Conference on Advanced Trend in Engineering, Technology and Research, pp-204-208, ISBN: 978-81-930823-0-0, June-2015.
- [22] Khushboo Gupta, Seemant Chourasiya, **R. K. Kumawat**, Seema Agarwal, Dr. D. K. Palwalia, “A Review: Modulation Technique for Neutral Point Clamped Inverter”, 4th International Conference on “Advanced Trend in Engineering, Technology and Research”, pp-213-217, ISBN: 978-81-930823-0-0, June-2015.
- [23] **Rakesh Kumar Kumawat**, Seema Agrawal, Seemant Chourasiya, D. K. Palwalia, “A Comparative Study of Power Inverter Topology and Control Structures for Renewable Energy Recourses”, *National Conference on Renewable Energy and Environment*, pp 350-354, May 2015.
- [24] **R. K. Kumawat**, Seemant Chourasiya, Seema Agrawal, D. K. Palwalia, “Self-excited induction generator: A review”, *National Conference on Renewable Energy and Environment*, pp 37-42, May 2015.
- [25] Seema Agarwal, Seemant Chourasiya, **Rakesh Kumar Kumawat**, Dr. D. K. Palwalia, “Performance Analysis of Standalone Hybrid PVSOFC- BATTERY Generation System”, *National Conference on Renewable Energy and Environment*, pp 49-53, May 2015.
- [26] **R. K. Kumawat**, D. K. Palwalia, Annu Govind, “Harmonic Elimination in Multilevel Inverter using Soft Computing Technique: A Comparison” Published in conference proceeding of International Conference on Latest Trends in Civil, Mechanical and Electrical Engineering, pp.60, APRIL 12-13, 2021.
- [27] Annu Govind, Vijay Kumar Tayal, Prakash Kumar and **R. K. Kumawat**, “Comparative Analysis of Current Controlling Techniques for Shunt Active Power Filter for Power Quality Enhancement”, Published in conference proceeding of International Conference on Latest Trends in Civil, Mechanical and Electrical Engineering, pp.61, APRIL 12-13, 2021.

- [28] Bharat Gothania and **R K Kumawat**, "A New Approach to Control of Induction Motor Drive", Published in conference proceeding of Recent Innovations in Engineering & Technology for Sustainable Living, Career Point University, Kota, India, pp. 160, 08-09 Sep, 2021. ISSN: 2583-1895
- [29] Suwarna Shete, Pranjal Jog, **R. K. Kumawat**, D K Palwalia "Battery Management System for SOC Estimation of Lithium-Ion Battery in Electric Vehicle: A Review", 6th IEEE International Conference on Recent Advances and Innovations in Engineering (ICRAIE), Malaysia Section, pp. 1-4, 1-3 December, 2021.
- [30] Pranjal Jog, Suwarna Shete, **R. K. Kumawat**, D K Palwalia "Electric Vehicle Charging Station Infrastructure: A Review", 6th IEEE International Conference on Recent Advances and Innovations in Engineering (ICRAIE), Malaysia Section, pp. 1-7, 1-3 December, 2021.
- [31] Annu Govind, Vijay Kumar Toyal, Prakash Kumar and **R. K. Kumawat**, D K Palwalia "Phase Synchronization Control Techniques Under Adverse Grid Conditions Using Shunt Active Power Filter", 6th IEEE International Conference on Recent Advances and Innovations in Engineering (ICRAIE), Malaysia Section, pp. 1-5, 1-3 December, 2021.
- [32] S. Shete, P. Jog, R. Kamalakannan, J. T. A. Raghesh, S. Manikandan and **R. K. Kumawat**, "Fault Diagnosis of Electric Vehicle's Battery by Deploying Neural Network," 6th IEEE International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC), Dharan, Nepal, pp. 346-351, 2022.
- [33] A. Govind, V. Kumar Tayal and **R. K. Kumawat**, "Comparison of Current Controlling Methods for Shunt Active Power Filters to Improve Power Quality," 10th IEEE International Conference on Reliability, Infocom Technologies and Optimization (Trends and Future Directions) (ICRITO), Noida, India, pp. 1-5, 2022.
- [34] Bharat Gothania, **R. K. Kumawat**, Gaurav Jain and Annu Govind, "A Novel Fuzzy Direct Control of Induction Motor Drive", Presented at Second International Conference on Sustainable Energy, Environment, and Green Technologies (ICSEEGT 2022) organized by Poornima College of Engineering, Jaipur, India, during June 24-25, 2022.
- [35] Suwarna Shete, Pranjal Jog, **R. K. Kumawat**, Sonali Nandanwar, N. P. Patidhar, D. K. Palwalia, "Fault Diagnosis and State of Charge Estimation of Battery for Electric Vehicle Applications" 3rd International Conference on Energy, Power and Electrical Engineering (EPEE 2023), pp.712-719, 15-17 September, 2023.
- [36] Pranjal Jog, Suwarna Shete, **R. K. Kumawat**, Rakhee Oka, Sonali Nandanwar, D. K. Palwalia, "A parametric based approach to Wireless Power Transfer with Inductive

- Coupling” 3rd International Conference on Energy, Power and Electrical Engineering (EPEE 2023), pp. 1362-1373, 15-17 September, 2023.
- [37] Tanmay Shukla, N. P. Patidhar, **R. K. Kumawat**, Gaurav Jain & Rachit Saxena "A Real Time Implementation of PF Enhanced Two-Stage Battery Charging Solution for Battery Powered Automobile", 2024 IEEE International Students' Conference on Electrical, Electronics and Computer Science, Bhopal Section, pp. 25-26 February, 2024.
- [38] Tanmay Shukla, **R. K. Kumawat**, Gaurav Jain & Rachit Saxena "Reduced Switch Count Asymmetrical Seven-Level Inverter", 2024 IEEE International Students' Conference on Electrical, Electronics and Computer Science, Bhopal Section, 25-26 February, 2024.
- [39] Tanmay Shukla, N. P. Patidhar, **R. K. Kumawat**, Ekata Kaushik & Sonali Nandanwar " Variable Frequency Waves at Different Level Deposited PBM Technique for Seven-Level Inverter ", 2024 IEEE International Students' Conference on Electrical, Electronics and Computer Science, Bhopal Section, 25-26 February, 2024.
- [40] Tanmay Shukla, N. P. Patidhar, Pankaj Gakhar, Gautav Jain and **R. K. Kumawat**, " A Fuel-cell Powered Brushless-Direct Current Electric Motor Drive for Clean Transport Applications", 5th Electric Power and Renewable Energy Conference (EPREC-2024), NIT Jamshedpur, 24th - 26th May 2024.
- [41] Sonali Nandanwar, **R. K. Kumawat**, N.P. Patidar, Rajarammohanrao Chennu, Ritu Verma, "Classification of Power Transient Signals Using Probabilistic Neural Network" Presented at 3rd IEEE International Conference on Electrical Power And Energy Systems June 21-22, 2024, MANIT Bhopal.
- [42] Rachit Saxena, Dr. Nagendra Kumar Swarnkar, Dr. Gaurav Jain, Rajnandani Yadav and **R. K. Kumawat**, "Different Computational Techniques for Identification of Faults in SPV", Presented at The 10th International Symposium on Hydrogen Energy, Renewable Energy and Materials (HEREM 2024), Bangkok, Thailand
- [43] R. K. Kumawat, Pravin Sonwane, Gaurav Jain, Pranjal Jog, N. P. Patidhar, and Mohan Lal Kolhe, "Harmonic Elimination in Multilevel Inverter for Renewable Energy system using soft computing Technique", Presented at The 10th International Symposium on Hydrogen Energy, Renewable Energy and Materials (HEREM 2024), Bangkok, Thailand

Communicated Publications

1. R. K. Kumawat, D. K. Palwalia, "Quasi-Z-Source Based Reduced Switch Count Multilevel inverter for Photovoltaic system", submitted to International Journal of Ambient Energy,

Taylor Francis Journal, submitted on June 05, 2019, Minor Revision Submitted on 9 August 2021.

2. Suwarna Shete & R. K. Kumawat, "State of Charge Estimation Based on Cumulative Error Based-Extended Kalman Filter for Electric Vehicle Applications", **Journal of Energy Storage, Revision Submitted.**
3. Suwarna Shete & R. K. Kumawat, "Statistical Cumulative Error-based State of Charge Estimation for Electric Vehicle Applications", **Submitted to Intelligent Decision Technologies**
4. **R. K. Kumawat**, D. K. Palwalia, Sonali Nandanwar, N. P. Patidar , Wattala Fernando, Ababay K. Worku , and Mohan Lal Kolhe, "Performance Analysis and Control Strategy for a Single-Stage Quasi-Z-Source Reduced-Switch-Count Multilevel Inverter in Photovoltaic Systems", submitted to International Journal of Energy Research, Wiley online library.

Expert Lectures

- 2014: Delivered expert lecture on "Present Scenario of MATLAB & It's Application November (PSMIA-2014) " on November 9th, 2014 in one day workshop organized by the Department of Electrical Engineering held at Engineer's Point, Kota, India.
- 2017: Delivered expert lecture on "Present Scenario of MATLAB & It's Application March (PSMIA-2017) " on March 29th, 2017 in one day workshop organized by the Department of Electrical Engineering held at Engineer's Point, Kota, India.
- 2024: Delivered expert lecture on "Improved Reliable Multilevel Inverter for Renewable May Energy System" on May 8th to 13th, 2024 in five days national faculty development programme "RF Microwave, Power Electronics and Industrial Automation" organized by Modi Institute of Technology, Kota, India.
- 2024: Delivered expert lecture on "Artificial Intelligence for Power Electronics and May Renewable Energy System" on May 8th to 13th, 2024 in five days national faculty development programme "RF Microwave, Power Electronics and Industrial Automation" organized by Modi Institute of Technology, Kota, India.

Workshop and STTP

Time and Duration	Faculty Development Programme/Conferences/Summer Schools
2024: May	Five days national faculty development programme on " RF Microwave, Power Electronics and Industrial Automation " on May 8 th to 13 th , 2024 organized by Modi Institute of Technology, Kota, India.
2023: December	30 Days Master Class on "Embedded System and IoT" Organized by
2023: December	IEEE sponsored One Week short-term training program on "Lab-Market 1.0, Recent Trends in Engineering", Organized by Department of Electrical Engineering Poornima College of Engineering, Jaipur, India on December 9 th , to 13 th , 2023.

- 2022: Half-Day Workshop on “Electric Vehicle Integration-impact and Challenges”,
March Organized by Qatar University on March 1, 2022.
- 2022: Online faculty development Program on “Leadership and Excellence”, organized
February by ATAL Academy and IES’s Management College and Research Centre on
February 21 to 25, 2022.
- 2022: Online faculty development Program on “Union Budget 2022”, organized by
February Department of Commerce and Economics, Sant baba Dalip Singh Memorial Khalsa
College, Kapurthala, Punjab, India, February 8th, 2022.
- 2021: One-week AICTE-ISTE approved Orientation/Refresher Programme on,
December “Advanced in power Generation from Renewable Energy Sources”, Organized by
Poornima College of Engineering, Jaipur, India on December 06 to December 11,
2021.
- 2021: National Webinar on “Career Opportunities in EV Industry”, Organized by
July Department of Electrical and Electronics Engineering & IIC, MSAJCE, Chennai on
July 12th, 21021.
- 2021: Online faculty development Program on " Current Trends of Power Electronics
June Applications in Electric Vehicles", organized by ATAL Academy and Government
Engineering College Valsad on June 07 to 11, 2021.
- 2021: The Webinar on “Best Parenting Tips During Covid19” By Parikshit Jobanputra,
May Organized by Career Counselling & Placement Cell (CCPC) Maharaja Ganga Singh
University, Bikaner, India on May 27, 2021
- 2021: Five-day faculty development Program on, “Contemporary Trends in Science and
April Technology”, Organized by Amity University, Patna, India on April 5 to 9, 2021.
- 2021: Online faculty development Program on "Internet of Things (IoT)", organized by
March ATAL Academy and Government College of Engineering, Dharmapuri on March
15 to 19, 2021.
- 2021: Online faculty development Program on "Visual Communication", organized by
March ATAL Academy and S R Engineering College on March 1 to 5, 2021.
- 2021: Faculty Development Program on “Renewable Energy Technology” Organized by
February Rajasthan Technical University, Kota and B K BIET Pilani Sponsored by TEQIP-
March III on February 26 to March 02, 2021.
- 2021: Online faculty development Program on "Energy Storage", organized by ATAL
February Academy and MNIT, Jaipur on February 22 to 26, 2021.
- 2021: Online faculty development Program on "Wearable Devices", organized by ATAL
February Academy and Anna University on February 15 to 19, 2021.
- 2021: Online faculty development Program on "Energy Engineering", organized by
February ATAL Academy and Rajasthan Technical University, Kota on February 5 to 9,
2021.
- 2021: The Workshop on “Current Trends in Solar and Wind Technologies" organized by
January Poornima College of Engineering held from January 16th to 20th 2021.
- 2021: Virtual Programme on “Outreach programme on COVID 19:
January Awareness and Understanding”, Organized by Gujarat Council on Science and
Technology, Department of Science and Technology, Government of Gujrat,
Gandhinagar, on January 1st, 2021.
- 2020: One Day Webinar on “Design and Implementation on Digital Control Scheme for
November Power Electronics Interface of Solar PV System” Organized by Rajasthan Technical
University, Kota Sponsored by TEQIP-III on November 26, 2020.

- 2020: The Webinar on “Recent Development in Solar Based Renewable Energy System”
 October By Prof. (Dr.) Frede Blaabjerg, President IEEE-PELS, Organized by Government Engineering College, Bharuch, India on October 20, 2020
- 2020: The Online Session Organized for Student/Faculty/Researcher/Other on “Voltage and Frequency Control of Three Phase Induction Generator in Distributed Generation”, Organized by Government Engineering College, Valsad, Gujrat, India on October 01st, 2020.
- 2020: Online webinar on "High Impact Online Lecturer", organized by Govt. polytechnic September College, Barmer, India on 15th September 2020.
- 2020: Online faculty development Program on "Renewable Integration, Challenges & September Opportunities", organized by Electrical Engineering Department, Vedant College of Engineering and Technology, Kota, India during 01st to 05th September 2020.
- 2020: Attend Online National Seminar on “Recent Trends in Solar Power” organized by August Raj Kumar Goel Institute of Technology, Ghaziabad, India with Bhartiya Skill Development University, Jaipur, India on 4th August 2020.
- 2020: Online faculty development Program on "Power Quality and Reactive Power July Management", organized by Electrical Engineering Department, Delhi Technological University, Delhi, India during 06th to 10th July 2020.
- 2020: Attend National Webinar on “Live Launch of Artificial Intelligence and Data June Science” Organized by Modi Institute of Technology, Kota India on June 30 ,2020.
- 2020: Online Training Program on "Machine Learning using Python- Beginner’s Level", June organized by Computer Science Engineering Department, JIS College of Engineering, West Bengal, India held from 08th to 24th June 2020.
- 2020: Attend Webinar on “Role of PLC Scada in Industrial Automation & Future June Aspects” Organized by Electrical Engineering Department, Modi Institute of Technology, Kota India in collaboration with SIAT and Reaktech Scientronix System, Kota on June 14,2020.
- 2020: Attend national Webinar on “Phasing and Unlock: Post Covid 19, Precaution and June Measure to be taken” Organized by Civil Engineering Department, JIET, Jodhpur, India on June 05,2020 under Unnat Bharat Abhiyan.
- 2020: Online faculty development Program on "Theory and Simulation in Robotics ", June organized by Department of Electrical Engineering, NIT Patna under Electronics and IT Academy held from 1st to 07th June 2020.
- 2020: Attend International Webinar on “Environment and Sustainable Development” June Organized by Government Polytechnic College, Jhalawar, India on June 05,2020.
- 2020: Attend International Webinar on “Enhancing the Upbring of Learning in Technical May Education with Digital Platform for Conductive Outcome” Organized by Government Polytechnic College, Jhalawar, India on May 24, 2020.
- 2020: Online Internship Program on “Advanced Embedded System Design Using Tiva C May Series Microcontroller” Organized by EDGate Technologies Pvt. Ltd. Bangalore, India on May 15th to 24th 2020.
- 2020: Online Internship Program on “Embedded Skill Development Program” Organized May by EDGate Technologies Pvt. Ltd. Bangalore, India on May 15th to 17th 2020.
- 2020: One Day online module on, “Conference Skill for Researchers” at Researchers May Academy presented by Taraka Dale on May 18, 2020.

- 2020: Professional development Course on "SAK5-Fundamental of Electrotechnology " at IDC technologies on 18th May 2020.
- 2018: Short term training program On, "Digital Control", at Rajasthan Technical University, Kota, during April 23-24, 2018.
- 2017: One Day Workshop On, " Power System Laboratory (PSL-2017) at Rajasthan Technical University, Kota, during November 14, 2017.
- 2017: Two Days Workshop On, "Intellectual Property Rights (IPR) and Indian Patent System", at Rajasthan Technical University, Kota, during September 28-29, 2017.
- 2017: One Day training program On, "Real Time Simulator for Power Electronics", at Rajasthan Technical University, Kota, during May 09, 2017.
- 2017: One Day Workshop On, " How to write and Publish Scientific Articles and Manuscript", at Rajasthan Technical University, Kota, during April 20, 2017.
- 2017: One Day Workshop On, " Incubator Eco-System for Start-ups", at Rajasthan Technical University, Kota, Rajasthan, during February 25, 2017.
- 2017: Three Days Skill Development Program On, "Thermal Power Plant Kota Familiarization (TPPKF-2017)", at Rajasthan Technical University, Kota, during January 11-13, 2017.
- 2016: Short term training program On, "Advance Trends in Reliability Solution for Engineering Application (ATRSEA-2016)" at Rajasthan Technical University, Kota, during December 17-21, 2016.
- 2016: Short term training program On, "Embedded System Practices using ICT" at Rajasthan Technical University, Kota, during May 22-26, 2017.
- 2016: One Day Workshop On, " Startup India for Young Entrepreneurs (SIYE-2016) at Rajasthan Technical University, Kota, during March 18, 2016.
- 2016: One Week Faculty Development Programme, "Matlab and Latex Tools for Research" at Rajasthan Technical University, Kota, held on February 08th to 12th 2016.
- 2014: Two Days National Workshop On, " Advancement in Image Processing using MATLAB (AAYAM-2014)", at Maharishi Arvind College of Engineering and Technology, Kota, during November 07-08, 2014.
- 2013: Short term training program On, " Power Electronic, Drive & MATLAB Applications (PEDMA-2013)", at Rajasthan Technical University, Kota, during March 18-22, 2013.
- 2013: One Day Workshop On, " Higher Order Sliding Mode Control (IWHOSMC-2013)", at Rajasthan Technical University, Kota, during January 19, 2013.

Professional Membership

1. Institute for Engineering Research and Publications (IFERP)
Member Ship Id: PM56817942
2. International Association of Engineers (IAENG),
Member Ship Id: 270586
3. Institute of Research Engineers and Doctors (IRED)
Member Ship Id: SNM2020102466

Reviewer of the Journals

IEEE Access	Manus. No: Access-2019-08795
IEEE Access	Manus. No: Access-2019-01460
Elsevier	Manus. No: REF-D-19-00108
Taylor and Francis	Manus. No: TAUT-2019-0355
Taylor and Francis	Manus. No: TAUT-2020-0285
Taylor and Francis	Manus. No: TAUT-2021-0012

Activities and Achievements

2006: February	Award of "Rajya Puraskar" from Governor of Rajasthan for service of mankind in February 2006.
2010: October	Co-Ordinator in "Techno Quiz-2010" at CompuCom Institute of IT and Management, Jaipur During October 3, 2010.
August 2011- July 2012	In-charge of admission cell and chief warden at Bhartiya institute of Engineering and Technology, Sikar
2012 March	GATE 2012 exam qualified
2013: 1-Week	Volunteer in Short term training programme On, " Power Electronic, Drive & MATLAB Applications (PEDMA-2013)", at Rajasthan Technical University, Kota, during March 18-22, 2013.
2014: November	Co-Secretory in Two Days National Workshop on " Advancement in Image Processing using MATLAB (AAYAM-2014)", at Maharishi Arvind College of Engineering and Technology, Kota, during November 07-08, 2014.
2014: April	Co-Ordinator in "Anukriti-2014" for Stunt Mania at University College of Engineering, Rajasthan Technical University, Kota, during April 21, 2014.
2018: March	Co-Ordinator in "Thar-2018" for Racing Mania at Rajasthan Technical University, Kota, during March 09-11, 2018.
2018: September	Volunteer in Two Days Workshop On, "Intellectual Property Rights (IPR) and Indian Patent System", at Rajasthan Technical University, Kota, during September 28-29, 2017.
2019: August	Participated in "DST & Texas Instruments India Innovation Challenge Design Contest 2019" powered by AICTE and anchored by NSRCEL@IIMB.
2019: August	Active member and work as "public Relation Manager" at Inspire club, Rajasthan Technical University, Kota, India
2021: April	Best Paper Award for Research Paper at International Conference on Latest Trends in Civil, Mechanical and Electrical Engineering, APRIL 12-13, 2021 <ul style="list-style-type: none"> • Harmonic Elimination in Multilevel Inverter using Soft Computing Technique: A Comparison • Comparative Analysis of Current Controlling Techniques for Shunt Active Power Filter for Power Quality Enhancement
Feurary: 2024	Best Academian of the Year at International Conference on Recent Innovation in Engineering, Technology & Science for Sustainable Living Feb. 23-24 2024.

Technical Skill

- Matlab, Basic Embedded System, IAR EW, Microsoft Visio, Coral Draw
- Knowledge of System Hardware Design and Development
- Working experience with Texas and ST microelectronics Controller, DSP, FPGA
- Work Experience of PCB Design and Development
- HTML, CSS, Web Design and Development

References

- 1. Prof. D. K. Palwalia (Professor)**
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Email: dkpalwalia@rtu.ac.in
- 2. Prof. (Dr.) Amit Sarin (Director & Professor)**
Department of Applied Science
I K Gujral Punjab Technical University, Amritsar campus, Punjab
Contact: +91- 987-299-8760
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- 3. Prof. N. P. Patidhar (Professor)**
Department of Electrical Engineering,
Maulana Azad National Institute of Technology,
Contact: +91- 88394 77653
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- 4. Dr. Vivek Shrivastava (Professor)**
Department of Electrical Engineering,
National Institute of Technology, Utrakhand
Contact: +91-8851061034
Email: shvivek@nitdelhi.ac.in

The above statements are true to the best of my knowledge and belief.

Date: October, 28 2024

Place: Meerut

(Dr. R. K. Kumawat)