

RKDF University, Bhopal
Faculty Profile



Basic Information				
Name	Dr. Abhimanyu Kumar			
Date of Birth	26 April 1990			
Designation	Assistant Professor			
Department	Electrical Engineering			
Experience	8 Years			
Email ID	Ies.abhi@gmail.com , abhimanyurkdf@gmail.com			
Contact No	8109071121, 8103071121			
Educational Qualifications				
Description	Year	%	Institute/University	
(UG)-B.E. (EEE)	2013	68.41	RGPV Bhopal	
(PG)-M.E. (Power System)	2017	78.3	RGPV Bhopal	
M. Phil.	-	-	-	
(Ph. D.) Electrical Engineering	2023		RKDF University, Bhopal	
Post Doctorate	-	-	-	
NET Qualified/GATE	-	-	-	
Experience Detail				
Experience (Teaching/Research)	Designation	Duration		Name of Institute/University
		From	To	
Research	Ph. D Scholar	04.09.201 7	10.08.2022	RKDF University Bhopal
Teaching	Assistant Professor	11.08.202 2	Till date	RKDF University Bhopal
Publications				
No. of Papers Published		32		
No. of Books Published		-		

Books Chapters Published	-		
No. of Patents Published/Grant	02		
Ph. D/M. Phil Project supervised			
Research Program	Award	Under Supervision	Name of University
Ph. D (Provide detail i.e. name, title etc) 1.Ambrishpati Tripathi 2. Ami Shukla 3. Brijesh Kumar Pandey 4. Rohit Gedam	Nil	04	RKDF University, Bhopal
M. Phil.	-	-	-
PG Thesis/Dissertation	08	01	RKDF University, Bhopal
Area of Expertise (100 words)			
<p>Investigating novel multilevel inverter topologies, researching methods to reduce switching losses in multilevel inverters through soft-switching techniques, developing control algorithms for multilevel converters in grid-connected, designing intelligent micro grid architectures that can efficiently manage energy generation, storage and distribution within a stand-alone system. Optimization of Multilevel Inverter Topologies, Control Strategies for Hybrid Micro grids, Integration of Renewable Energy Sources, Energy Management and Storage Systems, Grid Interaction and Islanding Operations, Fault Detection and Resilience, Modeling and Simulation, Economic and Environmental Analysis, Smart Grid Integration.</p>			
Award and Achievement			
Name of Award	Description		
National	-		
International	-		
Conference/Seminar/Workshops/FDP			
Description	No.		
Conference/Seminar paper presentation	10		
Conference/Seminar attended/ organized	10		
Workshop attended/organized	2		
FDP Attended/organized	02		

Research Project		
Name of Project	Funding Agencies	Amount
-	-	-

- **Any other Achievement**

 Signature

List of Publications

1. Aman Kumar, **Abhimanyu Kumar**, Chirag Gupta, (2024) A Critical Review of Machine Learning-Based Adaptive Protection in Microgrids. *Research Journal of Engineering Technology and Medical Sciences*, 07 (04). http://www.rjetm.in/RJETM/Vol07_Issue04/A%20Critical%20Review%20of%20Machine%20Learning-Based%20Adaptive%20Protection%20in%20Microgrids.pdf
2. Aman Kumar, **Abhimanyu Kumar**, Chirag Gupta, (2024) Adaptive Protection in Microgrids Using Machine Learning for High Impedance Fault Detection. *SHODH SANGAM - A RKDF University Journal of Science and Engineering*, 08(01).
3. Sonu Sen, Chirag Gupta, **Abhimanyu Kumar**, (2024) Design and Implementation of a High-Performance Active Filter for Harmonic Mitigation in Inverters. *SHODH SANGAM - A RKDF University Journal of Science and Engineering*, 07(02). http://shodhsangam.rkdfuniv.in/Content/Documents/papers/sonu_5673.pdf
4. Sonu Sen, Chirag Gupta, **Abhimanyu Kumar**, (2024) Shunt Active Power Filter Control Algorithms for Mitigating Harmonics: A Review. *International Journal of Engineering Inventions*, 13(08). <https://www.ijejournal.com/papers/Vol13-Issue8/1308102108.pdf>
5. Vinod Maloniya, **Abhimanyu Kumar**, Chirag Gupta, (2024) Coordination and Control Strategies for Hybrid AC DC Microgrid Operation. *SHODH SANGAM - A RKDF University Journal of Science and Engineering*, 07(01).
6. Vinod Maloniya, **Abhimanyu Kumar**, Chirag Gupta, (2024) A Review on Hybrid AC-DC Microgrid Operation Strategies. *Research Journal of Engineering Technology and Medical Sciences*, 07 (01). http://www.rjetm.in/RJETM/Vol07_Issue01/A%20Review%20on%20Hybrid%20AC_DC%20Microgrid%20Operation%20Strategies.pdf
7. Chandra Bhushan Singh, **Abhimanyu Kumar**, Chirag Gupta (2023) Comparative performance evaluation of multi level inverter for power quality improvement. *Journal of Integrated Science & Technology (JIST)* 12 (2). (*Scopus Indexed*) <https://pubs.thesciencein.org/journal/index.php/jist/article/view/a748/472>
8. Rajesh Kumar, **Abhimanyu Kumar**, Chirag Gupta, (2023) GWO based Model

Predictive Control in Vehicle-to-Grid Systems *Research Journal of Engineering Technology and Medical Sciences*, 06 (04). https://rjetm.in/RJETM/Vol06_Issue04/GWO%20based%20Model%20Predictive%20Control%20in%20Vehicle-to-Grid%20Systems.pdf

9. Rajesh Kumar, **Abhimanyu Kumar**, Chirag Gupta, (2023) A Review on GWO based Model Predictive Control in Vehicle-to-Grid. *SHODHSANGAM-ARKDF University Journal of Science and Engineering*, 06(06). http://shodhsangam.rkdfuniv.in/Content/Documents/papers/Rajesh_5636.pdf
10. **Abhimanyu Kumar**, Sanjay Jain (2022) Multilevel Inverter with Predictive Control for Renewable Energy Smart Grid Applications. *International Journal of Electrical and Electronics Research (IJEER)* 10(3). (*Scopus Indexed*) DOI: <https://doi.org/10.37391/ijeer.100317>
11. **Abhimanyu Kumar**, Sanjay Jain (2022) Predictive Switching Control for Multilevel Inverter using CNN-LSTM for Voltage Regulation. *ADBU Journal of Engineering Technology* 11 (2). (*UGC Care*) <https://journals.dbuniversity.ac.in/ojs/index.php/AJET/article/view/3774>
12. **Abhimanyu Kumar**, Sanjay Jain (2022) Enhancement of Power Quality with Increased Levels of Multi-level Inverters in Smart Grid Applications. *SAMRIDDHI: A Journal of Physical Sciences, Engineering and Technology* 14 (04) (*UGC Care*) <https://doi.org/10.18090/samriddhi.v14i04.06>
13. **Abhimanyu Kumar**, Sanjay Jain (2022) Critical Analysis on Multilevel Inverter Designs for Renewable Energy Grid. *SAMRIDDHI: A Journal of Physical Sciences, Engineering and Technology* 14(03) (*UGC Care*) DOI <https://doi.org/10.18090/samriddhi.v14i03.22>
14. Ankit Raj, **Abhimanyu Kumar**, Chirag Gupta (2022) Shunt Active Filters: A Review on Control Techniques. *Research Journal of Engineering Technology and Medical Sciences*, 05(02). http://www.rjetm.in/RJETM/Vol05_Issue02/Shunt%20Active%20Filters%20A%20Review%20on%20Control%20Techniques.pdf
15. MS Khan, Chirag Gupta, **Abhimanyu Kumar**, (2021) A Comprehensive Review on Selection of Hybrid Vehicles and Power Converters for Hybrid Electric Vehicles. *Research Journal of Engineering Technology and Medical Sciences*, 04(04). http://www.rjetm.in/RJETM/Vol04_Issue04/A%20Comprehensive%20Review%20on%20Selection%20of%20Hybrid%20Vehicles%20and%20Power%20Converters%20for%20Hybrid%20Electric%20Vehicles.pdf
16. MS Khan, Chirag Gupta, **Abhimanyu Kumar**, (2021) An Analysis of Electric Vehicles Charging Technology and Optimal Size Estimation. *Research Journal of Engineering Technology and Medical Sciences*, 04(04). http://www.rjetm.in/RJETM/Vol04_Issue04/An%20Analysis%20of%20Electric%20Vehicles%20Charging%20Technology%20and%20Optimal%20Size%20Estimation.pdf
17. BB Khatua, Chirag Gupta, **Abhimanyu Kumar**, (2021) Harmonic Investigation Analysis of Cascade H Bridge Multilevel Inverter with Conventional Inverter using PSIM. *Research Journal of Engineering*

Technology and Medical Sciences, 04(03).

http://www.rjetm.in/RJETM/Vol04_Issue03/Harmonic%20Investigation%20Analysis%20of%20Cascade%20H%20Bridge%20Multilevel%20Inverter%20with%20Conventional%20Inverter%20using%20PSIM.pdf

18. Sandeep Kumar, **Abhimanyu Kumar**, (2020) Single Phase Seventeen Level Fuzzy-PWM Based Multicarrier Multilevel Inverter with Reduced Number of Switches. *SHODHSANGAM-ARKDF University Journal of Science and Engineering*, 03(05). https://www.shodhsangam.rkdf.ac.in/vol3_issue5.php
19. Sandeep Kumar, **Abhimanyu Kumar**, (2020) A Review on PWM Based Multicarrier Multilevel Inverter with Reduced Number of Switches. *Smart Moves Journal Ijoscience*, 06(07). DOI: [10.24113/ijoscience.v6i7.309](https://doi.org/10.24113/ijoscience.v6i7.309)
20. Prashant Ahirwar, **Abhimanyu Kumar**, (2020) Study of Optimization in Economical Parameters for Hybrid Renewable Energy System. *SHODH SANGAM --ARKDF University Journal of Science and Engineering*, 03(05). <http://shodhsangam.rkdfuniv.in/Content/Documents/papers/SS0296.pdf>
21. **Abhimanyu Kumar**, Vikash Mohan (2017) Synchronization & Control of Grid Connected Inverter for Standalone Power Supply System. *International Journal Of Engineering Sciences & Management* 07(03).

List of Conferences/FDPs/Patents

Conferences

22. Sanatan Kumar, **Abhimanyu Kumar**, Chirag Gupta, AbhayChaturvedi, AmbrishPatiTripathi(2025) Synergy of AI and PMBLDC Motors: Enhancing Efficiency in Electric Vehicles. *IEEE International Conference on Computational, Communication and Information Technology (ICCCIT-2025)*, Department of Computer Science & Engineering, IPS Academy, Institute of Engineering and Science, Indore. (M.P) 07–08 February 2025.
23. **Dr.Abhimanyu Kumar**, AmbrishPatiTripathi, Brijesh Kumar Pandey, RohitGedam(2025) Integration of Wind and Solar Energy with Fuzzy Logic Control MPPT for Grid-Connected Hybrid Renewable Power Generation. *Annual International Conference On Recent Advances in Engineering Technology, Healthcare & Management (AIC-RATHEM 2025) Organized By Vidyapeeth Institute of Science and Technolog Bhopal (M.P) Jan 10-11 2025.*
24. Brijesh Kumar Pandey, **Dr.Abhimanyu Kumar**, RohitGedam,AmbrishPatiTripathi (2025) Modeling and Simulation of a Grid-Connected Solar-Wind Hybrid Renewable Energy System with Controlled Inverter. *Annual International Conference On Recent Advances in Engineering Technology, Healthcare & Management (AIC-RATHEM 2025) Organized By Vidyapeeth Institute of Science and Technolog Bhopal (M.P) Jan 10-11 2025.*
25. AmbrishPatiTripathi, **Dr.Abhimanyu Kumar**, RohitGedam, Brijesh Kumar Pandey,(2025) Fault Detection in Solar PV Systems Integrated with the Power Grid: Evaluating Logistic Regression through Confusion Matrix Analysis. *Annual International Conference On Recent Advances in Engineering Technology, Healthcare & Management (AIC-RATHEM 2025) Organized By Vidyapeeth Institute of Science and Technolog Bhopal (M.P) Jan 10-11 2025.*
26. RohitGedam, **Dr.Abhimanyu Kumar**, Brijesh Kumar Pandey, AmbrishPatiTripathi (2025) Improvement in Output Power by Designing Adaptive Reference Control for Boost Converter in Solar System. *Annual International Conference On Recent Advances in Engineering Technology, Healthcare & Management (AIC-RATHEM 2025) Organized By Vidyapeeth Institute of Science and Technolog Bhopal (M.P) Jan 10-11 2025.*
27. Sanatan Kumar, **Abhimanyu Kumar**, Chirag Gupta, AbhayChaturvedi(2024) Future Trends in Fault Detection Strategies for DC Microgrid. *16th IEEE International Conference on Computational Intelligence and Communication Networks (CICN-2024) Organized By Oriental University Indore (M.P) 22–23 December 2024.*
28. Sanatan Kumar, AbhayChaturvedi, **Abhimanyu Kumar**, Chirag Gupta(2024) Optimizing BLDC Motor Control in Electric Vehicles Using Hysteresis Current Controlled Boost Converters. *16th IEEE International Conference on Computational Intelligence and Communication Networks (CICN-2024) Organized By Oriental University Indore (M.P) 22–23 December 2024.*

29. **Abhimanyu Kumar**, Anshul Singh Bhadoriya,(2024) Multilevel Inverter-Based Smart Grid IoT Integration: Enhancing Power Quality and Energy Efficiency. *International Journal of Innovative Research in Technology and Science*,11(02).
30. **Abhimanyu Kumar**, Sanjay Jain (2022) Power Quality Improvement using MLI Topologies: A Review. *National Conference on Advance in Computing in Science &Technology (ACST-2022)* by Rajiv Gandhi University, Arunachal Pradesh March 24-25 2022.
31. **Abhimanyu Kumar**, Sanjay Jain (2019) A Review on Cascaded Multilevel InverterwithDifferentLevels.2ndInternationalConferenceOn"ContemporaryTechnological Solutions Towards Fulfillment Of Social Needs" BY RKDF UniversitySeptember28-29, 2019.

Participation in Faculty Development Programs (FDPs):

1. Participated and completed successfully AICTE Training And Learning (ATAL) Academy Online Elementary FDP on "Emerging Trends and Challenges in Next Generation Semiconductor Technologies" from 30/09/2024 to 05/10/2024 at Prestige Institute of Management & Research, Bhopal.
2. Participated and completed successfully AICTE Training And Learning (ATAL) Academy Faculty Development Program on Clean Energy Technologies for Sustainable Development at School of Energy and Environment Management, RGPV, Bhopal from 12/02/2024 to 17/02/2024.

Patents Published / Filed:

1. Dr. Ravi Kumar Singh Pippal, Dr. Sunil Patil, Chirag Gupta, Ajay Kumar Barapatre, **Abhimanyu Kumar** “ *Method and System for Secure Key Exchange in Internet Protocol Television (IPTV) Network* ” **2022. APPLICATION NO.202221007499**
2. Dr.Sanjay Jain, **AbhimanyuKumar**,PriyankaMaheshwari,VarshaMehar,Mr.Nitesh Kumar Lal “ *Machine Learning And Iot Based Scalable Energy Management System For Smart Grids*” **2022. APPLICATION NO.202221012157A**