


Title	Dr.	First Name	Sachin	Last Name	Kumar	
Designation		Assistant Professor				
Dept. Name		Electrical Engineering				
Address:		Department of Electrical Engineering, GBPIET, Ghurdauri, Pauri-Garhwal, Uttarakhand-246197 India				
Phone No.		9675319121				
Email		1. sk11fee@gbpec.ac.in		2. sackumaarc@gmail.com		
Web Page (if any)						
Subjects Taught		<ol style="list-style-type: none"> 1. Basic Electrical Engineering 2. Power System Operation and Control 3. Power Generation and Economics 4. Power System Dynamics and Stability 5. High Voltage Engineering 6. Digital Protection of Power System 7. FACTS and Custom Power Devices 				
Areas of Interest/Specialization		Power System Reliability and High Voltage Engineering				
Experience (in years)		Total	13			
		Industry				
		Teaching	13			
		Research				
Educational Qualifications		UG	B. Tech.			
		PG	M. Tech.			
		Doctorate	Ph. D.			
		Any other				
Research Publications in Journals		<ol style="list-style-type: none"> 1. Sachin Kumar, Kumari Sarita, R.K. Saket, Dharmendra Kumar Dheer, "Reliability assessment of optimally DG integrated distribution system based on power loss minimization", Electric Power Components and Systems, Taylor & Francis, Accepted and in press (2023) 2. Padmanathan Kasinathan, Rishi Pugazhendhi, Rajvikram Madurai Elavarasan, Vigna Kumaran Ramachandaramurthy, Vinoth Ramanathan, Senthilkumar Subramanian, Sachin Kumar, Kamalakannan Nandhagopal, Raghavendra Rajan 				

Vijaya Raghavan, Sankar Rangasamy, Ramkumar Devendiran, Mohammed H. Alsharif, "Realization of Sustainable Development Goals with Disruptive Technologies by Integrating Industry 5.0, Society 5.0, Smart Cities and Villages," Sustainability 2022, Vol. 14, No. 22, 15258, (14 November 2022), DOI: 10.3390/su142215258

3. Molla Shahadat Hossain Lipu, Md Sazal Miah, Shaheer Ansari, Safat B Wali, Taskin Jamal, Rajvikram Madurai Elavarasan, Sachin Kumar, MM Naushad Ali, Mahidur R Sarker, A Aljanad, Nadia ML Tan, "Smart Battery Management Technology in Electric Vehicle Applications: Analytical and Technical Assessment toward Emerging Future Directions," Batteries-MDPI, Special Issue: Future Smart Battery Management Systems, Vol. 8, No. 11, 219 (05 November 2022) DOI: 10.3390/batteries8110219
4. Akshay Kumar, Neetu Kumari, Gauri Shankar, Rajvikram Madurai Elavarasan, Sachin Kumar, Ankit Kumar Srivastava, Baseem Khan, "Load frequency control of distributed generators assisted hybrid power system using QOHSA tuned model predictive control," IEEE Access, Vol. 10, pp. 109311 – 109325 (13 October 2022), DOI: 10.1109/ACCESS.2022.3214315
5. Ankit Kumar Srivastava, Saurabh Mani Tripathi, Sachin Kumar, Rajvikram Madurai Elavarasan, Sivasankar Gangatharan, Dinesh Kumar, Lucian Mihet-Popa, "Machine Learning Approach for Forecast Analysis of Novel COVID-19 Scenarios in India," in IEEE Access, Vol. 10, pp. 95106 - 95124, (06 September 2022), DOI: 10.1109/ACCESS.2022.3204804
6. N. Perumalsamy, G. Sivasankar, Rajvikram Madurai Elavarasan, Sachin Kumar, and Baseem Khan "Design of Faulty Switching Detection and Alert System to Prevent Fatality of Servicemen during Transformer Maintenance," IEEE Access, Vol. 10, pp. 77362 – 77374 (21 July 2022), DOI: 10.1109/ACCESS.2022.3193098
7. A.K. Kyatsandra, R.K. Saket, Sachin Kumar, K. Sarita, A. S. S. Vardhan and A. S. S. Vardhan, "Development of TRINETRA: A Sensor Based Vision Enhancement System for Obstacle Detection on Railway Tracks," IEEE Sensors Journal, Vol. 22, No. 4, pp. 3147 - 3156 (07 Jan 2022) DOI: 10.1109/JSEN.2021.3140032
8. Sachin Kumar, Kumari Sarita, R.K. Saket, Dharmendra Kumar Dheer, R.C. Bansal, Saad Mekhilef, "Reliability Assessment for DFIG-based WECS Considering the Impact of 3-phase Fault and Lightning Impulse Voltage", International Transactions on Electrical Energy Systems, Wiley, pp. 1-19 (30 May 2021); e12952, DOI: 10.1002/2050-7038.12952

9. Sachin Kumar, R.K. Saket, Dharmendra Kumar, P. SanjeeviKumar, Frede Blaabjerg, "Layout optimization algorithms and reliability assessment of wind farm for microgrid integration: a comprehensive review," IET Renewable Power Generation, pp. 1-22 (19 May 2021) DOI: 10.1049/rpg2.12060
10. Sachin Kumar, Kumari Sarita, Akanksha S.S. Vardhan, Rajvikram Elavarasan, R.K. Saket, Narottam Das, "Reliability Assessment of Wind-Solar PV Integrated Distribution System using Electrical Loss Minimization Technique", Energies, Vol. 13, No. 21, pp. 5631 (28 October 2020) DOI: 10.3390/en13215631
11. Sachin Kumar, R.K. Saket, D.K. Dheer, J.B. Holm-Nielsen, P. SanjeeviKumar, "Reliability Enhancement of Electrical Power System Including Impacts of Renewable Energy Sources: A Comprehensive Review", IET Generation, Transmission & Distribution. Vol. 14, No. 10, pp. 1799– 1815. DOI: 10.1049/iet-gtd.2019.1402
12. Kumari Sarita, Sachin Kumar, R.K. Saket, "Open-Circuit Fault Diagnosis of Multilevel Converter using Entropy Features-based SVM Technique along with Two-Samples based Detection Algorithm", Computers & Electrical Engineering, Elsevier, Vol. 96, Issue Part A, pp. 107481 (December 2021), DOI: 10.1016/j.compeleceng.2021.107481
13. Kumari Sarita, Sachin Kumar, Aanchal Singh S. Vardhan, Rajvikram Madurai Elavarasan, R.K. Saket, G.M. Shafiullah, Eklas Hossain, "Power Enhancement with Grid Stabilization of Renewable Energy-based Generation System using UPQC - FLC - EVA Technique", IEEE Access, Vol. 8, pp. 207443-207464, (16 November 2020) DOI: 10.1109/ACCESS.2020.3038313
14. Lokesh Varshney, Aanchal Singh S Vardhan, Akanksha Singh S Vardhan, Sachin Kumar, RK Saket, Sanjeevikumar Padmanaban, "Performance characteristics and reliability assessment of self- excited induction generator for wind power generation", IET Renewable Power Generation, pp. 1- 16 (23 Feb 2021) DOI: 10.1049/rpg2.12116
15. K.S. Anand Kumar, S.S. Aanchal Vardhan, S.S. Akanksha Vardhan, Sachin Kumar, R.K. Saket, R. Rajendran, S. Eslamian, "Microbial Fuel Cells for Soil Based Green Energy Conversion System", International Journal of Hydrology Science and Technology, Vol. 11, Issue 4, pp. 439-460 (30 April 2021) DOI: 10.1504/IJHST.2021.115491
16. K.S. Anand Kumar, Sachin Kumar, R.K. Saket, R. Rajendran, "Technological Aspects of Microbial Fuel Cells and Soil Based

	<p>Green Energy Conversion System”, GMSARN International Journal. Vol. 13, Issue 4, pp. 159-170 (2019)</p> <p>17. Sanjay Kumar, K.S. Anand Kumar, Sachin Kumar, O.P. Bharti, Lokesh Varshney, R.K. Saket, D.N. Vishwakarma, “Probabilistic Evaluation and Design Aspects for Reliability Enhancement of Induction Motor”, International Journal of Reliability & Safety. Vol. 13, Issue 4, pp. 267-290 (2019) DOI: 10.1504/IJRS.2019.102879</p> <p>18. Mukesh Gupta, Sachin Kumar, Vagicharla Karthik, “Design, Fabrication and Testing of Cosine Control Firing Scheme for Single Phase Half Controlled Bridge Rectifier”, International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering, Vol. 2, Issue 8, pp. (2013)</p> <p>19. Mukesh Gupta, Sachin Kumar, Vagicharla Karthik, “Design and Implementation of Cosine Control Firing Scheme for Single Phase Fully Controlled Bridge Rectifier”, International Journal of Emerging Trends in Electrical and Electronics, Vol. 3, Issue 1, pp. 40-46 (2013)</p>
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<p>Papers Published in Conference Proceedings</p>	<ol style="list-style-type: none"> 1. Preeti Rani, Sachin Kumar, “Probabilistic Analysis of Wind Integrated Power System Considering 3-phase Line Fault,” IEEE 10th Power India International Conference (PIICON), NIT Delhi, 25-27 November 2022 2. Mohamed Hamdy, Mahmoud A. Attia, Almoataz Y. Abdelaziz, Sachin Kumar, Kumari Sarita, R. K. Saket, “Performance enhancement of STATCOM integrated Wind Farm for harmonics mitigation using optimization techniques”, 5th International Conference on ICT for Sustainable Development, Goa, India (July 23 - 24, 2020) 3. Kumari Sarita, Sachin Kumar, R.K. Saket, “Fault Detection of Smart Grid Equipment Using Machine Learning and Data Analytics”, International Conference on Emerging Trends for Smart Grid Automation and Industry 4.0, BIT-Mesra, Ranchi, Jharkhand, India (December 05 – 07, 2019) 4. Mahmoud A. Attia, Mohamed Mokhtar, Almoataz Y. Abdelaziz, Suchetan Sasis, Sachin Kumar, R.K. Saket, “Optimal controller design for Automatic Generation Control under Renewable Energy disturbance”, International Conference on Emerging Trends for Smart Grid Automation and Industry 4.0, BIT-Mesra, Ranchi, Jharkhand, India (December 05 – 07, 2019) 5. M.S. Ghayad, N.M. Badra, M.A. Attia, A.Y. Abdelaziz, Sanjay Kumar, Sachin Kumar, R.K. Saket, “Gravitational Search and Sine Cosine Algorithms to Enhance the VSC-HVDC System Performance Under Different Disturbances”, IEEE Conference on Innovations in
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Power and Advanced Computing Technologies (i-PACT), VIT, Chennai, India. pp. 1-7 (22 – 23, March 2019) DOI: 10.1109/i-PACT44901.2019.8960216

6. Sachin Kumar, V.M. Mishra, “Parametric Analyses on Rectangular Pulse Current Generator for Virtual High Voltage Laboratory Environment”, pp. 90-96, ISBN: 978-81-931974-0-0 © T R Publication, International Conference on Advances in Engineering Science and Management, Agra, 08th November, 2015
7. Vibhuti Dhyani, Sachin Negi, Ankita Vashistha and Sachin Kumar, “Application of Fuzzy Logic Controller for Speed Control of Induction Motor”, International Conference on Soft Computing Techniques for Engineering & Technology-2014, August 7-8, 2014, organized by School of Computing & Department of Allied Sciences at Graphic Era Hill University, Bhimtal Campus, Nainital, Uttarakhand, India.
8. Kritika Kaul, Sachin Kumar, Sangita Chouhan, V. M. Mishra, Sachin Negi, “Comparative Analyses of Rectangular Pulse Current Generator and Power Frequency AC Test Source using Virtual High Voltage Laboratory and MatLab Simulation”, TEQIP sponsored National Conference on Technological Revolution in Electrical Engineering May 22nd – 23rd, 2014 pp. 112-116 ISBN No. 978-93-83842-52-0 at G. B. Pant Engineering College, Pauri-Garhwal Uttarakhand, India.
9. Shivani Choudhary, Sachin Kumar, Nidhi Upadhyay, Vibhuti Dhyani, Atul Katiyar, “Analyses of Impulse Current Generator and Impulse Voltage Generator using MatLab and Virtual Laboratory”, TEQIP sponsored National Conference on Technological Revolution in Electrical Engineering May 22nd – 23rd, 2014 pp. 112-116 ISBN No. 978-93-83842-52-0 at G. B. Pant Engineering College, Pauri-Garhwal, Uttarakhand, India.
10. Hrithik Sharma and Sachin Kumar, “Consumer Awareness Scale of Electronic Waste Recycling”, International Conference on Green Technologies for Environmental Rehabilitation February 11-13, 2012, pp. 106, Faculty of Engineering & Technology Gurukul Kangri University, Haridwar, Uttarakhand, India (Abstract).
11. Hrithik Sharma and Sachin Kumar, “Developing Automatic Guided Vehicle using PIC 16F73 Microcontroller having RF and DTMF Controls”, National Seminar on Innovations and Applications in Engineering & Applied Sciences, IAEAS-2011, November 9-10, 2011, Gurukula Kangri Vishwavidyalaya, Haridwar, India (Abstract).
12. Sachin Kumar, N.K. Kishore and B. Hemlatha, “Parametric Analyses on Single-Stage Impulse Current Generator and Surge Arrester for Virtual High Voltage Laboratory Environment”, 17th International Symposium on High Voltage Engineering, ISH 2011,

	<p>22nd – 26th August 2011, Leibniz Universitat Hannover, Hannover, Germany.</p> <p>13. Sachin Kumar, N.K. Kishore and B. Hemlatha, “Parametric Analyses on Impulse Voltage Generator and Power Transformer Winding for Virtual High Voltage Laboratory Environment”, 16th National Power Systems Conference, NPSC 2010, 15th – 17th December 2010, pp. 523-529, Osmania University Hyderabad, A.P., INDIA.</p>
<p>Books Authored/Book Volume Chapters</p>	<ol style="list-style-type: none"> 1. K.S. Anand Kumar, Sachin Kumar, R.K. Saket, R. Rajendran, S. Eslamian, (2022). Green Energy Conversion Systems. In: Furze, J.N., Eslamian, S., Raafat, S.M., Swing, K. (eds) Earth Systems Protection and Sustainability. Springer, Cham (12 August 2022). 10.1007/978-3-030-98584-4_6. 2. Sachin Kumar, Aanchal Singh S. Vardhan, Akanksha Singh S. Vardhan, R. K. Saket, D.P. Kothari, Saeid Eslamian, “Hydropower and Floods,” Edited by: Eslamian, S., & Eslamian, F. (2022). Flood Handbook: Principles and Applications (1st ed.). CRC Press. Taylor & Francis, pp. 157-168 (04 April 2022). DOI: 10.1201/9781003262640 3. Suchetan Sasis, Sachin Kumar, R.K. Saket (2022) Design and Economic Analyses of Wind Farm Using Meta-Heuristic Techniques. In: Karim R., Ahmadi A., Soleimanmeigouni I., Kour R., Rao R. (eds) International Congress and Workshop on Industrial AI 2021. IAI 2021. Lecture Notes in Mechanical Engineering. Springer, Cham, pp. 384-392 (7 February 2022). DOI: 10.1007/978-3-030-93639-6_33 4. Mohamed Hamdy, Mahmoud A. Attia, Almoataz Y. Abdelaziz, Sachin Kumar, Kumari Sarita, R. K. Saket, “Performance enhancement of STATCOM integrated Wind Farm for harmonics mitigation using optimization techniques”, Springer Lecture Notes in Networks and Systems 154, ICT Analysis and Applications, Proceedings of ICT4SD Goa India, Vol. 2, pp 507-516, 2020 DOI: 10.1007/978-981-15-8354-4 5. Kumari Sarita, Sachin Kumar, R.K. Saket, “Fault Detection of Smart Grid Equipment Using Machine Learning and Data Analytics”, Springer Lecture Notes in Electrical Engineering 693, Proceedings of International Conference on Emerging Trends for Smart Grid Automation and Industry 4.0, Jharkhand, India 2020. DOI: 10.1007/978-981-15-7675-1 6. Mahmoud A. Attia, Mohamed Mokhtar, Almoataz Y. Abdelaziz, Suchetan Sasis, Sachin Kumar, R.K. Saket, “Optimal Controller Design for Automatic Generation Control Under Renewable Energy Disturbance”, Springer Lecture Notes in Electrical Engineering 693, Proceedings of International Conference on Emerging Trends

	for Smart Grid Automation and Industry 4.0, Jharkhand, India 2020. DOI: 10.1007/978-981-15-7675-1		
No. of Conferences	National	Attended	Organized
		02	01
	International	04	
Research Guidance	Awarded	PG	Doctorate
		02	
	Undergoing	01	
Research Projects	Completed		
	Undergoing		
Awards & Distinctions			
Administrative Assignments Handled	<ol style="list-style-type: none"> 1. Associate Dean Student Welfare at GBPIET, Pauri-Garhwal, Uttarakhand, INDIA from November 2021 to till date. 2. Officer-in-charge “Electrical Maintenance” at GBPIET, Pauri-Garhwal, Uttarakhand, INDIA from February 2017 to July 2018. 3. “Hostel Warden” at GBPIET, Pauri-Garhwal, Uttarakhand, INDIA, from August 2012 to July 2018. 		
Association with Professional Bodies	Senior Member IEEE USA		
Any other Achievements	<ol style="list-style-type: none"> 1. Design Patent- 378407-001, Government of India, Dated: 01/02/2023 ✓ <u>Reviewer and Technical Program Committee Member</u> 		

2. 8th International Conference on Computing in Engineering and Technology (ICCET 2023), July 14-15, 2023 at Department of E&C Engineering, NIT Patna, Bihar, India.
3. IEEE International Conference on Computer, Electronics and Electrical Engineering and Their Applications (IC2E3 2023), June 8-9, 2023 at NIT Uttarakhand, India.
4. IEEE IAS Global Conference on Emerging Technologies (GlobConET) is being Organized on May 19-21, 2023 at Loughborough University, London, UK.
5. IEEE IAS Global Conference on Renewable Energy and Hydrogen Technologies (GlobConHT), scheduled on March 11-12, 2023
6. IEEE International Conference on Advances in Computing, Communication & Material 2022 (ICACCM 2022), November 10-11, 2022 at Tula's Institute, Dehradun, India.
7. 5th IEEE IAS International Conference on Computing, Power, and Communication Technologies (GUCON) on September 23-25, 2022
8. 2nd IEEE International Conference on Emerging Frontiers in Electrical and Electronic Technologies (ICEFEET- 2022), June 24-25, 2022 at Department of Electrical Engineering, NIT Patna, Bihar, India.

✓ **Conference Session Chaired**

1. In the Conference Track II. Renewable Energy Technologies Including Hydrogen. IEEE IAS Global Conference on Emerging Technologies (GlobConET-2022) May 20-22, 2022

✓ **Websites and Links**

1. <https://scholar.google.com/citations?user=DBansRsAAAAJ&hl=en>
2. <https://www.webofscience.com/wos/author/record/AAA-4608-2021>
3. <https://orcid.org/0000-0003-1517-7450>

(Dr. Sachin Kumar)