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Web of Science Researcher ID [ABH-2528-2020](#)

ResearcherID: [AAG-2580-2021](#)

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*She has obtained her doctoral (Ph. D.) in 2014 and master degree (M. Tech.) in 2005 from IIT Roorkee. Graduated in electrical engineering from NIT Raipur (formerly GEC) in 1999. She worked as lecturer at Christian College of Engineering and Technology, Bhilai, Chhatisgarh from Sept. 2000 to Oct. 2007. Then joined Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat, Gujarat. She has published around 70 papers in International/national journals/conferences. She has organised many short term training programs at SVNIT. She has guided many M.Tech. and B. Tech. projects. Two students have completed doctoral program in 2020. Presently, she is guiding three doctoral candidates. Her research area is power system reliability, cyber security, restructuring/deregulation, energy market, congestion management, power quality improvement, active power filters, FACTS and artificial intelligence, machine/deep learning.*

Degree	Institute	Year
Ph. D. (Electrical Engineering)	IIT Roorkee, Uttarakhand – 247667	2014
M. Tech. (Power Systems)	IIT Roorkee, Uttarakhand – 247667	2005
B. E. (Electrical Engineering)	NIT Raipur (Formerly GEC), Chhattisgarh - 492010	1999
12 <sup>th</sup>	GHSS II Bhilai, Chhattisgarh	1993
M.Tech. Dissertation (2005)	Transient stability improvement of multi-machine system using FACTS controllers	
Ph. D. Thesis (2014)	Power Quality Improvement Using Multilevel Inverter Based Hybrid Power Filter, Supervisors: Dr. Pramod Agarwal and Dr. Hariom Gupta, IIT Roorkee	
Research Interests:	<i>power system reliability,  cyber security of smart grid,  restructuring/deregulation, energy market,  congestion management,  power quality improvement, active power filters, FACTS  Power system operation, planning and management  Forecasting  Renewables in power systems  artificial intelligence, machine/deep learning</i>	

Membership of professional bodies:	<ol style="list-style-type: none"> <li>1. Life member of Institution of engineers</li> <li>2. Life member of ISTE</li> <li>3. Member IEEE/PES</li> <li>4. Member IET</li> </ol>
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**List of Journal Publication (SCIE/ESCI/SCOPUS): Total:21**

1.	Lakum, Ashokkumar, and <b>Vasundhara Mahajan</b> . "A novel approach for optimal placement and sizing of active power filters in radial distribution system with nonlinear distributed generation using adaptive grey wolf optimizer." <i>Engineering Science and Technology, an International Journal</i> 24.4 (2021): 911-924. DOI: <a href="https://doi.org/10.1016/j.jestch.2021.01.011">https://doi.org/10.1016/j.jestch.2021.01.011</a>
2.	Gupta, P., N. Singh, and <b>V. Mahajan</b> . "Intrusion Detection in Cyber-Physical Layer of Smart Grid Using Intelligent Loop Based Artificial Neural Network Technique." <i>International Journal of Engineering</i> 34.5 (2021): 1250-1256. DOI: 10.5829/IJE.2021.34.05B.18
3.	Prajapati, Vijaykumar K., <b>Vasundhara Mahajan</b> , and Narayan Prasad Padhy. "Congestion management of integrated transmission and distribution network with RES and ESS under stressed condition." <i>International Transactions on Electrical Energy Systems</i> 31.2 (2021): e12757. DOI: <a href="https://doi.org/10.1002/2050-7038.12757">https://doi.org/10.1002/2050-7038.12757</a>
4.	Prajapati, Vijaykumar K., and <b>Vasundhara Mahajan</b> . "Reliability assessment and congestion management of power system with energy storage system and uncertain renewable resources." <i>Energy</i> 215 (2021): 119134. DOI: <a href="https://doi.org/10.1016/j.energy.2020.119134">https://doi.org/10.1016/j.energy.2020.119134</a>
5.	Bhukya, Jawaharlal, and <b>Vasundhara Mahajan</b> . "Parameter tuning of PSS and STATCOM controllers using genetic algorithm for improvement of small-signal and transient stability of power systems with wind power." <i>International Transactions on Electrical Energy Systems</i> : e12912, 03 May 2021. DOI: 10.1002/2050-7038.12912
6.	Singh, Neeraj Kumar, and <b>Vasundhara Mahajan</b> . "End-user privacy protection scheme from cyber intrusion in smart grid advanced metering infrastructure." <i>International Journal of Critical Infrastructure Protection</i> (2021): 100410. DOI: <a href="https://doi.org/10.1016/j.ijcip.2021.100410">https://doi.org/10.1016/j.ijcip.2021.100410</a>
7.	Singh, Neeraj Kumar, and <b>Vasundhara Mahajan</b> . "Analysis and Evaluation of Cyber-attack Impact on Critical Power System Infrastructure." <i>Smart Science</i> (2020): 1-13. DOI: <a href="https://doi.org/10.1080/23080477.2020.1861502">https://doi.org/10.1080/23080477.2020.1861502</a>
8.	Jain, Ritu, and <b>Vasundhara Mahajan</b> . "Analyzing the intensity of COVID-19 outbreak across Indian landscape through recovery deceased ratio and positive test ratio based ARIMA model." <i>Journal of Statistics and Management Systems</i> (2020): 24.2,263-280. DOI: <a href="https://doi.org/10.1080/09720510.2020.1833454">https://doi.org/10.1080/09720510.2020.1833454</a>
9.	Singh, Neeraj Kumar, Praveen Kumar Gupta, and <b>Vasundhara Mahajan</b> . "Intrusion detection in wireless network of smart grid using intelligent trust-weight method." <i>Smart Science</i> 8, no. 3 (2020): 152-162. DOI: <a href="https://doi.org/10.1080/23080477.2020.1805679">https://doi.org/10.1080/23080477.2020.1805679</a>

10.	Bhukya, Jawaharlal, and <b>Vasundhara Mahajan</b> . "Optimization of controllers' parameters for damping local area oscillation to enhance the stability of an interconnected system with wind farm." <i>International Journal of Electrical Power &amp; Energy Systems</i> 119 (2020): 105877. DOI: <a href="https://doi.org/10.1016/j.ijepes.2020.105877">https://doi.org/10.1016/j.ijepes.2020.105877</a>
11.	Singh, Neeraj Kumar, and <b>Vasundhara Mahajan</b> . "Detection of cyber cascade failure in smart grid substation using advance grey wolf optimization." <i>Journal of Interdisciplinary Mathematics</i> 23, no. 1 (2020): 69-79. DOI: <a href="https://doi.org/10.1080/09720502.2020.1721664">https://doi.org/10.1080/09720502.2020.1721664</a>
12.	Lakum, Ashokkumar, and <b>Vasundhara Mahajan</b> . "Optimal placement and sizing of multiple active power filters in radial distribution system using grey wolf optimizer in presence of nonlinear distributed generation." <i>Electric Power Systems Research</i> 173 (2019): 281-290. DOI: <a href="https://doi.org/10.1016/j.epsr.2019.04.001">https://doi.org/10.1016/j.epsr.2019.04.001</a>
13.	Prajapati, Vijaykumar K., and <b>Vasundhara Mahajan</b> . "Demand response based congestion management of power system with uncertain renewable resources." <i>International Journal of Ambient Energy</i> (2019): 1-14. DOI: <a href="https://doi.org/10.1080/01430750.2019.1630307">https://doi.org/10.1080/01430750.2019.1630307</a>
14.	Bhukya, Jawaharlal, and <b>Vasundhara Mahajan</b> . "Optimization of damping controller for PSS and SSSC to improve stability of interconnected system with DFIG based wind farm." <i>International Journal of Electrical Power &amp; Energy Systems</i> 108 (2019): 314-335. DOI: <a href="https://doi.org/10.1016/j.ijepes.2019.01.017">https://doi.org/10.1016/j.ijepes.2019.01.017</a>
15.	Prajapati, Vijaykumar K., and <b>Vasundhara Mahajan</b> . "Congestion management of power system with uncertain renewable resources and plug-in electrical vehicle." <i>IET Generation, Transmission &amp; Distribution</i> 13, no. 6 (2019): 927-938. DOI: 10.1049/iet-gtd.2018.6820
16.	Bhukya, Jawaharlal, and <b>Vasundhara Mahajan</b> . "Mathematical modelling and stability analysis of PSS for damping LFOs of wind power system." <i>IET Renewable Power Generation</i> 13, no. 1 (2019): 103-115. DOI: <a href="https://doi.org/10.1049/iet-rpg.2018.5555">https://doi.org/10.1049/iet-rpg.2018.5555</a>
17.	Bhukya, Jawaharlal, and Vasundhara Mahajan. "Fuzzy logic based control scheme for doubly fed induction generator based wind turbine." <i>International Journal of Emerging Electric Power Systems</i> 19, no. 6 (2018). DOI: <a href="https://doi.org/10.1515/ijeeps-2018-0126">https://doi.org/10.1515/ijeeps-2018-0126</a>
18.	<b>Mahajan, Vasundhara</b> , PRAMOD HO AGARWAL, and Hari Om Gupta. "dSPACE implementation of cascaded H-bridge inverter for harmonics minimization using artificial-intelligence." <i>Compel: International journal for computation and mathematics in electrical and electronic engineering</i> 33, no. 6 (2014): 2053-2081. DOI: <a href="https://doi.org/10.1108/COMPEL-06-2013-0218">https://doi.org/10.1108/COMPEL-06-2013-0218</a>
19.	<b>Mahajan, Vasundhara</b> , Pramod Agarwal, and Hari Om Gupta. "Implementation of high-voltage multilevel harmonic filter based on rotated carrier modulation and artificial intelligence-based controllers." <i>Arabian Journal for Science and Engineering</i> 39, no. 10 (2014): 7127-7143. DOI: <a href="https://doi.org/10.1007/s13369-014-1280-7">https://doi.org/10.1007/s13369-014-1280-7</a>
20.	<b>Mahajan, Vasundhara</b> , Pramod Agarwal, and Hari Om Gupta. "An artificial intelligence based controller for multilevel harmonic filter." <i>International Journal of Electrical Power &amp; Energy Systems</i> 58 (2014): 170-180. DOI: <a href="https://doi.org/10.1016/j.ijepes.2014.01.020">https://doi.org/10.1016/j.ijepes.2014.01.020</a>

21.	Patel, Ramnarayan, <b>Vasundhara Mahajan</b> , and Vinay Pant. "Modelling of TCSC controller for transient stability enhancement." <i>International Journal of Emerging Electric Power Systems</i> 7, no. 1 (2006). DOI: <a href="https://doi.org/10.2202/1553-779X.1288">https://doi.org/10.2202/1553-779X.1288</a>
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**List of Books/Book Chapter Published (SCOPUS/ISBN): Total: 12**

1.	Conference proceedings edited by, <b>Vasundhara Mahajan</b> , Urvashi Kaushal, Namrata Jariwala, And Anandita Chowdhury, "Conference proceedings of International Conference On Gender Equity: Challenges and Opportunities", 19 & 20 December 2019, SardarVallabhbai National Institute of Technology (SVNIT), Surat, Gujarat – 395007, pp 31-33. ISBN 978-93-5396-182-4.
2.	Yadav, Atul Kumar, Lalit Tak, and <b>Vasundhara Mahajan</b> . "Customer-Operated Solar Photovoltaic System to Improve the System and Customer Reliability: Solar Photovoltaic System Incorporation for Reliability Analysis of Composite System." Book chapter, In <i>Computational Methodologies for Electrical and Electronics Engineers</i> , pp. 175-185. IGI Global, 2021. DOI: 10.4018/978-1-7998-3327-7.ch014
3.	Popat, Janavi, Harsh Kakadiya, Lalit Tak, Neeraj Kumar Singh, Mahshooq Abdul Majeed, and <b>Vasundhara Mahajan</b> . "Reliability of Smart Grid Including Cyber Impact: A Case Study." Book chapter, In <i>Computational Methodologies for Electrical and Electronics Engineers</i> , pp. 163-174. IGI Global, 2021. DOI: 10.4018/978-1-7998-3327-7.ch013
4.	Yadav, Atul Kumar, Soumya Mudgal, and <b>Vasundhara Mahajan</b> . "Monte Carlo Simulation Application in Composite Power System Reliability Analysis." Book chapter, In <i>Control Applications in Modern Power System</i> , pp. 379-385. Springer, Singapore, 2021. DOI: <a href="https://doi.org/10.1007/978-981-15-8815-0_32">https://doi.org/10.1007/978-981-15-8815-0_32</a>
5.	Singh, Neeraj Kumar, Praveen Kumar Gupta, <b>Vasundhara Mahajan</b> , Atul Kumar Yadav, and Soumya Mudgal. "Monitoring Cyber-Physical Layer of Smart Grid Using Graph Theory Approach." Book chapter, In <i>Control Applications in Modern Power System</i> , pp. 519-525. Springer, Singapore, 2021. DOI: <a href="https://doi.org/10.1007/978-981-15-8815-0_46">https://doi.org/10.1007/978-981-15-8815-0_46</a>
6.	<b>Mahajan, Vasundhara</b> , Pramod Agarwal, and Hari Om Gupta. "Power quality problems with renewable energy integration." Book chapter, In <i>Power Quality in Modern Power Systems</i> , pp. 105-131. Academic Press, 2021. DOI: <a href="https://doi.org/10.1016/B978-0-12-823346-7.00011-6">https://doi.org/10.1016/B978-0-12-823346-7.00011-6</a>
7.	Pranjale, Saurabh, Tharun Balaji, Soumya Mudgal, Syed Aamir Ahmed, Praveen K. Gupta, Neeraj K. Singh, and <b>Vasundhara Mahajan</b> . "Reduction in Bill Using Time of Usage Pricing in a Smart Grid." Book chapter, In <i>Recent Advances in Power Systems</i> , pp. 357-364. Springer, Singapore, 2021. DOI: <a href="https://doi.org/10.1007/978-981-15-7994-3_33">https://doi.org/10.1007/978-981-15-7994-3_33</a>
8.	<b>Mahajan, Vasundhara</b> , Soumya Mudgal, Atul Kumar Yadav, and Vijay Prajapati. "Reliability modeling of renewable energy sources with energy storage devices." Book chapter, In <i>Energy Storage in Energy Markets</i> , pp. 317-368. Academic Press, 2021. DOI: <a href="https://doi.org/10.1016/B978-0-12-820095-7.00003-0">https://doi.org/10.1016/B978-0-12-820095-7.00003-0</a>

9.	Singh N.K., Gupta P., <b>Mahajan V.</b> , Pranjale S., Balaji T., Ahmed S.A. (2021) Cyber Intrusion Detection in Smart Grid Using KPCA and Novel Trust Method”, Book chapter, In: Reddy M.J.B., Mohanta D.K., Kumar D., Ghosh D. (eds) Advances in Smart Grid Automation and Industry 4.0. Lecture Notes in Electrical Engineering, vol 693. Springer, Singapore. DOI: <a href="https://doi.org/10.1007/978-981-15-7675-1_7">https://doi.org/10.1007/978-981-15-7675-1_7</a>
10.	Jain R., Gupta P.K., <b>Mahajan V.</b> (2021) Impact of Seasonal Variations on Generation Cost and Social Benefit of ISO in Presence of Renewable Energy Sources”, Book chapter, In: Reddy M.J.B., Mohanta D.K., Kumar D., Ghosh D. (eds) Advances in Smart Grid Automation and Industry 4.0. Lecture Notes in Electrical Engineering, vol 693. Springer, Singapore. DOI: <a href="https://doi.org/10.1007/978-981-15-7675-1_30">https://doi.org/10.1007/978-981-15-7675-1_30</a>
11	<b>Vasundhara Mahajan</b> , Atul Kumar Yadav, Doma Pranav, Ankireddy Aravind Reddy, Soumya Mudgal, Lalit Tak, "A Review on Wind Farm Reliability With Hybrid Cable Connection," Book Chapter In Saurabh Mani Tripathi, Sanjeevikumar Padmanaban (Eds.), Energy Conversion Systems: An Overview, Nova Publishers, p. 230, 2021, Publication Date: February 10, 2021. ISBN: 978-1-53619-131-8
12.	Mudgal S., Kumar Yadav A., Gupta P., <b>Mahajan V.</b> (2021) Impact of Solar and Wind Energy on Reliability of Power System Network.” Book chapter, In: Reddy M.J.B., Mohanta D.K., Kumar D., Ghosh D. (eds) Advances in Smart Grid Automation and Industry 4.0. Lecture Notes in Electrical Engineering, vol 693. Springer, Singapore. DOI: <a href="https://doi.org/10.1007/978-981-15-7675-1_53">https://doi.org/10.1007/978-981-15-7675-1_53</a>

**List of Conference Publication (SCOPUS): Total: 38**

1.	Majeed, Mahshooq Abdul, Neeraj Kumar Singh, Lalit Tak, and <b>Vasundhara Mahajan</b> . "Detection of Stealthy Cyber Intrusion in Smart Electric Grid Using Advanced State Estimation." In <i>2021 11th International Conference on Cloud Computing, Data Science &amp; Engineering (Confluence)</i> , pp. 660-665. IEEE, 2021. DOI: 10.1109/Confluence51648.2021.9377067
2.	Mudgal, Soumya, Praveen K. Gupta, Atul Kumar Yadav, and <b>Vasundhara Mahajan</b> . "Artificial Neural Network for Reliability Evaluation of Power System Network with Renewable Energy." In <i>2020 21st National Power Systems Conference (NPSC)</i> , pp. 1-6. IEEE, 2020. DOI: 10.1109/NPSC49263.2020.9331752
3.	Jain, Ritu, and <b>Vasundhara Mahajan</b> . "Impact of Multiple DG penetration in Energy Market." In <i>2020 IEEE 1st International Conference for Convergence in Engineering (ICCE)</i> , pp. 452-457. IEEE, 2020. DOI: 10.1109/ICCE50343.2020.9290738
4.	Gupta, Praveen Kumar, Neeraj Kumar Singh, and <b>Vasundhara Mahajan</b> . "Monitoring of Cyber Intrusion in Wireless Smart Grid Network Using Weight Reduction Technique." In <i>2020 International Conference on Electrical and Electronics Engineering (ICE3)</i> , pp. 136-139. IEEE, 2020. DOI: 10.1109/ICE348803.2020.9122981
5.	Yadav, Atul Kumar, Soumya Mudgal, and <b>Vasundhara Mahajan</b> . "Transmission Switching Based Available Transfer Capability Assessment to Make System Network Reliable." In <i>2020 International Conference on Electrical and Electronics Engineering (ICE3)</i> , pp. 27-32. IEEE, 2020.

	DOI: 10.1109/ICE348803.2020.9122897
6.	Anandita Chowdhury, <b>Vasundhara Mahajan</b> , Urvashi Kaushal, Namrata Jariwala and Soumya Mudgal, "Women, Society and Development" International Conference On Gender Equity: Challenges and Opportunities, 19 & 20 December 2019, SardarVallabhbhai National Institute of Technology (SVNIT), Surat, Gujarat – 395007, pp 31-33. ISBN 978-93-5396-182-4.
7.	Mudgal, Soumya M., Atul Kumar Yadav, and <b>Vasundhara Mahajan</b> . "Reliability evaluation of power system network with solar energy." In <i>2019 8th International Conference on Power Systems (ICPS)</i> , pp. 1-6. IEEE, 2019. DOI: 10.1109/ICPS48983.2019.9067364
8.	Yadav, Atul Kumar, Soumya Mudgal, and <b>Vasundhara Mahajan</b> . "Reliability test of restructured power system with capacity expansion and transmission switching." In <i>2019 8th International Conference on Power Systems (ICPS)</i> , pp. 1-6. IEEE, 2019. DOI: 10.1109/ICPS48983.2019.9067741
9.	Singh, Neeraj Kumar, and <b>Vasundhara Mahajan</b> . "Cyber-attack detection in smart grid substation using virtual range increment and trust weight." In <i>2019 8th international conference on power systems (ICPS)</i> , pp. 1-6. IEEE, 2019. DOI: 10.1109/ICPS48983.2019.9067396
10.	Singh, Neeraj Kumar, and <b>Vasundhara Mahajan</b> . "Fuzzy logic for reducing data loss during cyber intrusion in smart grid wireless network." In <i>2019 IEEE Student Conference on Research and Development (SCORED)</i> , pp. 192-197. IEEE, 2019. DOI: 10.1109/SCORED.2019.8896269
11.	Yadav, Atul Kumar, and <b>Vasundhara Mahajan</b> . "Transmission system reliability evaluation by incorporating STATCOM in the system network." In <i>2019 IEEE Student Conference on Research and Development (SCORED)</i> , pp. 198-203. IEEE, 2019. DOI: 10.1109/SCORED.2019.8896263
12.	Mudgal, Soumya, and <b>Vasundhara Mahajan</b> . "Reliability and active power loss assessment of power system network with wind energy." In <i>2019 IEEE Student Conference on Research and Development (SCORED)</i> , pp. 186-191. IEEE, 2019. DOI: 10.1109/SCORED.2019.8896327
13.	Singh, Neeraj Kumar, <b>Vasundhara Mahajan</b> , Ayush Aniket, Saurav Pandya, Rudraksh Panchal, Utkarsh Mudgal, and Mahimn Bhatt. "Identification and prevention of cyber-attack in smart grid communication network." In <i>2019 International conference on information and communications technology (ICOIACT)</i> , pp. 5-10. IEEE, 2019. DOI: 10.1109/ICOIACT46704.2019.8938559
14.	Yadav, Atul Kumar, and <b>Vasundhara Mahajan</b> . "Transmission line switching for loss reduction and reliability improvement." In <i>2019 International Conference on Information and Communications Technology (ICOIACT)</i> , pp. 794-799. IEEE, 2019. DOI: 10.1109/ICOIACT46704.2019.8938535
15.	Yadav, Atul Kumar, and <b>Vasundhara Mahajan</b> . "Reliability improvement of power system network with optimal transmission switching." In <i>2019 IEEE 1st International Conference on Energy, Systems and Information Processing (ICESIP)</i> , pp. 1-6. IEEE, 2019. DOI: 10.1109/ICESIP46348.2019.8938283

16.	Patil, Monal, Deepak Vyas, Kinjal Leheru, Ritu Jain, and <b>Vasundhara Mahajan</b> . "Optimal Power Flow Problem Using Particle Swarm Optimization Algorithm." In <i>2019 IEEE 5th International Conference for Convergence in Technology (I2CT)</i> , pp. 1-5. IEEE, 2019. DOI: 10.1109/I2CT45611.2019.9033939
17.	Singh, Neeraj Kumar, and <b>Vasundhara Mahajan</b> . "Mathematical model of cyber intrusion in smart grid." In <i>2019 IEEE PES GTD Grand International Conference and Exposition Asia (GTD Asia)</i> , pp. 965-969. IEEE, 2019. DOI: 10.1109/GTDAsia.2019.8715946
18.	Singh, Neeraj Kumar, and <b>Vasundhara Mahajan</b> . "Smart grid: Cyber-attack identification and recovery approach." In <i>2019 2nd International Conference on Innovations in Electronics, Signal Processing and Communication (IESC)</i> , pp. 1-5. IEEE, 2019. DOI: 10.1109/IESPC.2019.8902401
19.	Jain, Ritu, and <b>Vasundhara Mahajan</b> . "Technical and Fiscal benefits of committing DG in Energy Market during contingency." In <i>2018 IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES)</i> , pp. 1-5. IEEE, 2018. DOI: 10.1109/PEDES.2018.8707584
20.	Prajapati, Vijaykumar K., and <b>Vasundhara Mahajan</b> . "Enhancement of ATC of Transmission Line using Demand Response Programme for Congestion Management." In <i>2018 20th National Power Systems Conference (NPSC)</i> , pp. 1-6. IEEE, 2018. DOI: 10.1109/NPSC.2018.8771800
21.	Prajapati, Vijaykumar K., and <b>Vasundhara Mahajan</b> . "Congestion management of power system with integration of renewable resources and energy storage system." In <i>2018 IEEE 8th Power India International Conference (PIICON)</i> , pp. 1-6. IEEE, 2018. DOI: 10.1109/POWERI.2018.8704420
22.	Kumar, Nitish, and <b>Vasundhara Mahajan</b> . "Reconfiguration of distribution network for power loss minimization & reliability improvement using binary particle swarm optimization." In <i>2018 IEEE 8th Power India International Conference (PIICON)</i> , pp. 1-6. IEEE, 2018. DOI: 10.1109/POWERI.2018.8704466
23.	Jain, Ritu, and <b>Vasundhara Mahajan</b> . "Benefits of committing Distributed Generation in Energy Market." In <i>2018 IEEE 8th Power India International Conference (PIICON)</i> , pp. 1-5. IEEE, 2018. DOI: 10.1109/POWERI.2018.8704406
24.	Lakum, Ashokkumar, and <b>Vasundhara Mahajan</b> . "Cost Effective Optimal Placement and Sizing of Active Power Filter Using Grey Wolf Optimization in Radial Distribution System." In <i>2018 IEEE 8th Power India International Conference (PIICON)</i> , pp. 1-6. IEEE, 2018. DOI: 10.1109/POWERI.2018.8704464
25.	Bhukya, Jawaharlal, and <b>Vasundhara Mahajan</b> . "Modelling of Power System Stabilizer for Double Fed Induction Generator based Wind Power System." In <i>2018 IEEE 8th Power India International Conference (PIICON)</i> , pp. 1-6. IEEE, 2018. DOI: 10.1109/POWERI.2018.8704411
26.	Lakum, Ashokkumar, and <b>Vasundhara Mahajan</b> . "Optimal placement and sizing of multiple active power filters for radial distribution system using grey wolf optimizer." In <i>2017 7th International Conference on Power Systems (ICPS)</i> , pp. 562-567. IEEE, 2017.

	DOI: 10.1109/ICPES.2017.8387357
27.	Prajapati, Vijay K., and <b>Vasundhara Mahajan</b> . "Grey wolf optimization based energy management by generator rescheduling with renewable energy resources." In <i>2017 14th IEEE India Council International Conference (INDICON)</i> , pp. 1-6. IEEE, 2017. OI: 10.1109/INDICON.2017.8487960
28.	Jain, Ritu, and <b>Vasundhara Mahajan</b> . "Computation of Locational Marginal Price in power market in different load and system conditions." In <i>2017 14th IEEE India Council International Conference (INDICON)</i> , pp. 1-6. IEEE, 2017. DOI: 10.1109/INDICON.2017.8487527
29.	Bhukya, Jawaharlal, and <b>Vasundhara Mahajan</b> . "Small signal stability assessment of a DFIG based wind power systems." In <i>2017 2nd IEEE International Conference on Recent Trends in Electronics, Information &amp; Communication Technology (RTEICT)</i> , pp. 29-34. IEEE, 2017. DOI: 10.1109/RTEICT.2017.8256553
30.	Bhukya, Jawaharlal, and <b>Vasundhara Mahajan</b> . "Integration of DFIG based wind turbine generator on small signal stability of power systems." In <i>2017 Innovations in Power and Advanced Computing Technologies (i-PACT)</i> , pp. 1-6. IEEE, 2017. DOI: 10.1109/IPACT.2017.8244971
31.	Bhukya, Jawaharlal, and <b>Vasundhara Mahajan</b> . "The controlling of the DFIG based on variable speed wind turbine modeling and simulation." In <i>2016 IEEE 6th International Conference on Power Systems (ICPS)</i> , pp. 1-6. IEEE, 2016. DOI: 10.1109/ICPES.2016.7584158
32.	<b>Mahajan, Vasundhara</b> , Pramod Agarwal, and Hari Om Gupta. "Neural network and fuzzy logic controllers for three-phase three-level shunt active power filter." In <i>2015 IEEE Workshop on Computational Intelligence: Theories, Applications and Future Directions (WCI)</i> , pp. 1-6. IEEE, 2015. DOI: 10.1109/WCI.2015.7495524
33.	Mishra, Ambarisha, <b>Vasundhara Mahajan</b> , Pramod Agarwal, and S. P. Srivastava. "MRAS based estimation of speed in sensorless PMSM drive." In <i>2012 IEEE Fifth Power India Conference</i> , pp. 1-5. IEEE, 2012. DOI: 10.1109/PowerI.2012.6479492
34.	<b>Mahajan, Vasundhara</b> , Pramod Agarwal, and Hari Om Gupta. "Simulation of shunt active power filter using instantaneous power theory." In <i>2012 IEEE Fifth Power India Conference</i> , pp. 1-5. IEEE, 2012. DOI: 10.1109/PowerI.2012.6479562
35.	Mishra, Ambarisha, <b>Vasundhara Mahajan</b> , P. Agarwal, and S. P. Srivastava. "Fuzzy logic based speed and current control of vector controlled PMSM drive." In <i>2012 2nd International Conference on Power, Control and Embedded Systems</i> , pp. 1-6. IEEE, 2012. DOI: 10.1109/ICPCES.2012.6508131
36.	<b>Mahajan, Vasundhara</b> , Pramod Agarwal, and Hari Om Gupta. "Simulation of instantaneous power theory for active power filter." In <i>2012 2nd International Conference on Power, Control and Embedded Systems</i> , pp. 1-4. IEEE, 2012. DOI: 10.1109/ICPCES.2012.6508135
37.	<b>Mahajan, Vasundhara</b> . "Power system stability improvement with flexible AC transmission system (FACTS) controller." In <i>2008 Joint International Conference on</i>



	<i>Power System Technology and IEEE Power India Conference</i> , pp. 1-7. IEEE, 2008. DOI: 10.1109/ICPST.2008.4745204
38.	<b>Mahajan, Vasundhara.</b> "Thyristor controlled series compensator." In <i>2006 IEEE International Conference on Industrial Technology</i> , pp. 182-187. IEEE, 2006. DOI: 10.1109/ICIT.2006.372373

**Workshop conducted for faculty development program/STTP etc.:**

S. N.	Title	Institute/Organization	Year/date/duration
1.	Power Filter Technology and Control	EED, SVNIT, Surat	30 June to 4 July, 2014 (One week)
2.	Power electronics systems and control	EED, SVNIT, Surat	8 – 12 Dec. 2014 (One week)
3.	Advances in Power System Engineering	EED, SVNIT, Surat	22 - 26 June 2015 (One week)
4.	Simulation and Modelling in Power System Engineering	EED, SVNIT, Surat	28 Dec. 2015 – 01 Jan. 2016 (One week)
5.	Hands On: Mathematical Modelling and Software Simulation for Power System Engineering	EED, SVNIT, Surat	6 – 15 June 2016 (two weeks)
6.	Hands On: Mathematical Modelling and Software Simulation for Power System Engineering	EED, SVNIT, Surat	Nov. 30 – Dec. 10, 2016 (two weeks)
7.	Women in Higher Education Role and Challenges	EED, SVNIT Surat	24 & 25 Feb. 2017 (two days)
8.	Learning redefined: Time to un(learn) and Re(learn)	EED and AMHD, SVNIT, Surat	20 – 24 Feb. 2017 (One week)
9.	Computer Aided Techniques for Electrical Machines and Power Systems	EED, SVNIT Surat	11 – 21 June 2018
10.	Workshop on artificial intelligence and paper writing	EED, GEC Raipur, Chhattisgarh	24 & 25 Jan. 2019 (Two days)

**12. National/international conference organized as chairman or secretary:**

S. N.	Title	Organization
1.	Technologia 2007, 2 – 3 March (National Conference)	Christian College of Engineering and Technology, Bhilai, Chhattisgarh, India
2.	ICOGECAO2019	SVNIT
3.	ICOGECAO2020, 25 to 27 November 2020	SVNIT

**Doctoral Research students:**

S. N.	Name	Title	Year
1	Jawaharlal Bhukya (D14EL008)	Stability Analysis and Optimization of Wind Farm Based Power System with Artificial Intelligence and FACTS	Awarded 2020
2.	Vijay Prajapati (DS15EL004)	Congestion Management in Deregulated Power System with Renewable Energy Resources and Energy Storage System	Awarded 2020
3.	Ashok Lakum (D14EL007)	Power quality improvement in distribution systems	Ongoing
4.	Ritu Jain (D16EL003)	Electrical Energy market scenario and forecasting	Ongoing
5.	Neeraj Singh (D18EL003)	Cyber security for power systems/smart grid	Ongoing
6.	Atul Kumar Yadav (D19EL001)	Reliability evaluation of power systems	Ongoing

**Post Graduate Dissertation Guided:**

S. N.	Name	Title	Year
1.	Ranjit Kumar Rajak (P07EL861)	One cycle control of three phase active power filter for compensation of harmonics	2009
2.	Sripada Harish (P08EL868)	A modified ZVS flyback resonant inverter for induction cooking application	2010
3.	Kosuru Jeji Kumar (P13PS017)	Optimal placement and sizing of active power filters by using particle swarm optimization for reducing harmonics on distribution system	2015
4.	Neha K Agarwal (P14PS009)	Optimal power flow based on artificial bee colony using UPFC	2016
5.	Siva Reddy (P14PS006)	Congestion management of transmission lines with TCSC using modified artificial bee colony algorithm	2016
6.	Falguni Chaudhary (P15PS020)	Application of FACTS devices for voltage regulation and power flow control in transmission line	2017
7.	Manish Kumar (P15EL007)	Power quality improvement using FACTS devices	2017
8.	Nitish Kumar (P16PS004)	Reconfiguration of Distribution Network For Power Loss Minimization & Reliability Improvement	2018
9.	Atul Yadav (P17PS013)	Optimal Transmission switching For Loss Reduction and Reliability Improvement of Power System Network	2019
10.	Praveen Gupta (P18PS003)	Cyber Security of Smart Grid	2020

11.	Lalit Tak (P19PS007)	Reliability evaluation of smart grid	2021
12.	Mashooq Majeed (P19PS012)	Cyber Security of Smart Grid and Machine Learning	2021

**Under Graduate Projects:**

Sr. No.	Name	Title	Year
1.	Sandeep, Pankaj, Tejas, Pradip,	Study on power system dynamic security assessment	2009
2.	Anju, Falguni, Riya, Grishma	Wireless electro encephalogram	2010
3.	Sukhvinder, Mohit, Anshul, Nikhil, Vipul	Optimal placement and sizing of power filter for reduction of harmonics in radial distribution system	2015
4.	Navneet Dahariya, Sippy Rani, Shrenik Shah, Yogitha Jayareddygari, Pratibha Jadeja	Congestion Management Using Facts Device- UPFC	2016
5.	Bhavin, Avinash, Kinjal, Bhagyashree, Remya, Ashlesha	Improved modulation scheme for multilevel inverter & its application as shunt active power filter using MATLAB	2017
6.	Ayush, Saurabh, Utkarsh, Prince, Mahimn, Rudraksh	Identification of cyber-attacks in a smart grid	2019
7.	Soumya Mudgal, Saurabh Pranjale, Tharun Balaji, Aamir	Analysis On Economics Of Smart Grids Due To Cyber Attacks And Their Prevention	2020