

## Publication Details

Types of Research Papers	Nos.
International SCI / SCI-Expanded Journals ( <b>Indexed in Thomson Reuters</b> )	<b>26</b>
International Conferences	<b>47</b>
National Conferences/Seminars	<b>08</b>
Book Chapters	<b>06</b>
<b>Total Research Papers</b>	<b>87</b>

### **International Journals (SCI/SCIE Indexed)**

1. Sumeet Sahay , Saubhagya Ranjan Biswal, **Gauri Shankar**, Amitkumar V. Jha , Deepak Kumar Gupta Sarita Samal, Alin-Gheorghita Mazare and Nicu Bizon “Optimal Integration of New Technologies and Energy Sources into Radial Distribution Systems Using Fuzzy African Vulture Algorithm” *Sustainability*, 17(4), pp. 1-25, 2025.
2. Prasanta Kumar Barik , **Gauri Shankar** , Pradeepta Kumar Sahoo , Sarita Samal “Simulation and Real-time Implementation of a Combined Control Strategy-based Shunt Active Power Filter in Microgrid” *Sustainable Computing: Informatics and Systems*, 46 (1), pp. 1-17,2025 (Early Access).
3. Khalid Raza Khan, Suryakant Kumar, Vedantam Lakshimi Srinivas, Ram Khelawan Saket, Kartick Chandra Jana, **Gauri Shankar** “Voltage Stabilization Control with Hybrid Renewable Power Sources in DC Microgrid” *IEEE Transactions on Industry Applications*, pp. 1-120, 2024 (Early Access).
4. Prasanta Kumar Barik, **Gauri Shankar**, Pradeepta Kumar Sahoo, Rajvikram Madurai Elavarasan, Federico Martin Ibanez, Mohamad Abou Houran, Ankit Kumar Srivastava, Vladimir Terzija “A novel negative feedback phase locked loop-based reference current generation technique for shunt active power filter” *International Journal of Electrical Power & Energy Systems*, 153(1), pp. 1-20, 2023.
5. Prasanta Kumar Barik, **Gauri Shankar**, Pradeepta Kumar Sahoo, Rajvikram Madurai Elavarasan, Federico Martin Ibanez, Mohamad Abou Houran, Ankit Kumar Srivastava, Vladimir Terzija “A novel negative feedback phase locked loop-based reference current generation technique for shunt active power filter” *International Journal of Electrical Power & Energy Systems*, 153(1), pp. 1-20, 2023.
6. 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*, 10, pp. 109311-109325, 2022.
7. Prasanta Kumar Barik, **Gauri Shankar**, Pradeepta Kumar Sahoo, “Investigations on Split-Source Inverter Based Shunt Active Power Filter Integrated Microgrid System for Improvement of Power Quality Issues” *Journal of Electrical Engineering & Technology*, 17 (1), pp. 2025-2047, 2022.
8. K. Cheena, T. Amgoth, **Gauri Shankar**, “Proportional-integral-derivative controller-based self-healing of distribution system using wireless sensor networks in smart grid” *International Journal of Communication Systems*, 35 (7), e25095, 2022.
9. K. Cheena, T. Amgoth, **Gauri Shankar**, “Deep Q-probabilistic algorithm based rock hyraxes swarm optimization for channel allocation in CRSN smart grids” *Wireless Networks*, 28(1), pp. 2553-2565, 2022.
10. Saubhagya Ranjan Biswal, **Gauri Shankar**, RM Elavarasan, L Mihet-Popa “Optimal Allocation/Sizing of DGs/Capacitors in Reconfigured Radial Distribution System Using Quasi-Reflected Slime Mould Algorithm” *IEEE Access*, 9, pp. 125658-125677, 2021.
11. Akshay Kumar, **Gauri Shankar**, “Load frequency control assessment of tidal power plant and capacitive energy storage systems supported microgrid” *IET Generation, Transmission and Distribution*, 14 (7), pp. 1279-1291, 2020.
12. Korra Cheena, Tarachand Amgoth, **Gauri Shankar**, “Emperor penguin optimised self-healing strategy for WSN based smart grids” *International Journal of Sensor Networks*, 32 (2), pp. 87-95, 2020.
13. Saubhagya Ranjan Biswal, **Gauri Shankar**, “Simultaneous optimal allocation and sizing of DGs and capacitors in radial distribution systems using SPEA2 considering load uncertainty” *IET Generation, Transmission and Distribution*, 14 (3), pp. 494-505, 2020.

14. Prasanta Kumar Barik, **Gauri Shankar**, Pradeepta Kumar Sahoo, "Power quality assessment of microgrid using fuzzy controller aided modified SRF based designed SAPF" *International Transactions on Electrical Energy Systems*, 30 (3), pp. 1-24, 2020.
15. Sandhya Kumari, **Gauri Shankar**, "Maiden application of cascade tilt-integral-derivative controller in load frequency control of deregulated power system" *International Transactions on Electrical Energy Systems*, 30(3), pp. 1-23, 2019.
16. Sandhya Kumari, **Gauri Shankar**, "Maiden application of cascade tilt-integral-tilt-derivative controller for performance analysis of load frequency control of interconnected multi-source power system" *IET Generation, Transmission and Distribution*, 13 (23), pp. 5326-5338, 2019.
17. Akshay Kumar, **Gauri Shankar**, "Optimal load frequency control in deloaded tidal power generation plant based interconnected hybrid power system" *IET Renewable Power Generation*, 12 (16), pp. 1864-1875, 2018.
18. Sandhya Kumari, **Gauri Shankar**, "Novel application of integral-tilt-derivative controller for performance evaluation of load frequency control of interconnected power system" *IET Generation, Transmission and Distribution*, 12 (14), pp. 3550-3560, 2018.
19. Akshay Kumar, **Gauri Shankar**, "Dynamic stability enhancement of TCSC-based tidal power generation using quasi-oppositional harmony search algorithm" *IET Generation, Transmission and Distribution*, 12, pp. 2288-2298, 2018.
20. Akshay Kumar, **Gauri Shankar**, "Quasi-oppositional harmony search algorithm based optimal dynamic load frequency control of a hybrid tidal-diesel power generation system" *IET Generation, Transmission and Distribution*, 12, pp. 1099-1108, 2018.
21. Dharmbir Prasad, Aparajita Mukherjee, **Gauri Shankar**, Vivekananda Mukherjee, "Application of chaotic whale optimization algorithm for transient stability constrained optimal power flow" *IET Science, Measurement & Technology*, 11, pp. 1002-1013, 2017.
22. **Gauri Shankar**, V. Mukherjee, "Load frequency control of an autonomous hybrid power system by quasi-oppositional harmony search algorithm", *International Journal of Electrical Power & Energy Systems*, 78 (1), pp. 715-734, 2016.
23. **Gauri Shankar**, V. Mukherjee, "Quasi-oppositional harmony search algorithm based controller tuning for load frequency control of multi-source multi-area power system", *International Journal of Electrical Power & Energy Systems*, 75 (1), pp. 289-302, 2016.
24. C. K. Shiva, **Gauri Shankar**, V. Mukherjee, "Automatic generation control of power system using a novel quasi-oppositional harmony search algorithm", *International Journal of Electrical Power & Energy Systems*, 73 (1), pp. 787-804, 2015.
25. **Gauri Shankar**, V. Mukherjee, "MPP detection of a partially shaded PV array by continuous GA and hybrid PSO", *Ain Shams Engineering Journal*, 6(2), 471-479, 2015.
26. **Gauri Shankar**, V. Mukherjee, "Load-following performance analysis of a microturbine for islanded and grid connected operation", *International Journal of Electrical Power & Energy Systems*, 55 (1), pp. 704-713, 2014.

## A. International Conferences

1. Sumeet Sahay, S. R. Biswal, **Gauri Shankar**, "Enhancing Reconfigured Radial Distribution Networks: Fuzzy Multi-Objective Optimization for Optimal Deployment of Distributed Generators and Shunt Capacitors", 2024 IEEE Students Conference on Engineering and Systems (SCES), MNNIT Allahabad, pp. 1-6, 2024.
2. Sumeet Sahay, S. R. Biswal, **Gauri Shankar**, "Optimizing the Integration of Distributed Generation, Shunt Capacitors, and Electric Vehicle Charging Stations into Radial Distribution Systems", 2024 IEEE Third International Conference on Power Electronics, Intelligent Control and Energy Systems (ICPEICES), DTU, New Delhi, pp. 678-683, 2024.
3. P. K. Barik, **Gauri Shankar**, P. K. Sahoo "Performance assessment of MSRF-FLC-AFHCC control strategy for shunt active power filters to mitigate power quality issues", 3rd International Conference On Energy And Power (ICEP), Chiang Mai, Thailand, AIP Conference Proceedings, vol. 2681 (1), 2022.

4. S. R. Biswal, **Gauri Shankar**, Optimal deployment and sizing of distributed generations and capacitor banks in radial distribution system using African vultures optimization algorithm", 3rd International Conference On Energy And Power (ICEP), Chiang Mai, Thailand, AIP Conference Proceedings, vol. 2681 (1), 2022.
5. K. Cheena, T. Amgoth, **Gauri Shankar**, "Deep Learning-Based Black Hole Detection Model for WSN in Smart Grid", Computational Intelligence: Select Proceedings of InCITe 2022, LNEE, Springer, pp. 19-30, 2022.
6. Suryakant Kumar, K. Raza Khan, V.L.Srinivas, **Gauri Shankar**, R.K. Saket, K.C. Jana, "Electric vehicle fast charging integrated with hybrid renewable sources for V2G and G2V operation", 2023 IEEE IAS Global Conference on Emerging Technologies (GlobConET), London, United Kingdom, pp. 1-6, 2023.
7. K. Raza Khan, Suryakant Kumar, V.L. Srinivas, R. K. Saket, K. C. Jana, **Gauri Shankar**, "Voltage Stabilization Control with Hybrid Renewable Power Sources in DC Microgrid", 2023 IEEE IAS Global Conference on Emerging Technologies (GlobConET), London, United Kingdom, pp. 1-6, 2023.
8. S. Bhowmik, **Gauri Shankar**, S. Paul, K. Chatterjee, Suryakant Kumar, V. L. Srinivas, "Maximum Power Point Tracking of Grid Connected PV System Under Partial Shading Condition Using Grey Wolf Algorithm", 2023 First International Conference on Cyber Physical Systems, Power Electronics and Electric Vehicles (ICPEEV), Mahindra University, Hyderabad, India, pp. 1-6, 2023.
9. K. Raza Khan, V. L. Srinivas, Suryakant Kumar, K. C. Jana, Rani Kumari, **Gauri Shankar**, "Power Management and Control Strategy for DC Microgrid in Standalone and Grid Connected Mode", 2023 First International Conference on Cyber Physical Systems, Power Electronics and Electric Vehicles (ICPEEV), Mahindra University, Hyderabad, India, pp. 1-6, 2023.
10. Suryakant Kumar, **Gauri Shankar**, K. Raza Khan, K.C. Jana, V.L. Srinivas, "Hybrid Renewable and Battery Energy Sources with Electric Vehicles in Islanded DC Micro-Grid", 2023 First International Conference on Cyber Physical Systems, Power Electronics and Electric Vehicles (ICPEEV), Mahindra University, Hyderabad, India, pp. 1-6, 2023.
11. S. Paul, K. Chatterjee, Satadal Bhowmik, **Gauri Shankar**, Suryakant Kumar, V. L. Srinivas, "Grid-Connected PV System Under Partial Shading Condition Using Flower Pollination Algorithm", 2023 First International Conference on Cyber Physical Systems, Power Electronics and Electric Vehicles (ICPEEV), Mahindra University, Hyderabad, India, pp. 1-6, 2023.
12. Nidhi Kumari, **Gauri Shankar**, Saubhagya Ranjan Biswal, "Impact of Distinct Weather Parameters on Simultaneous Prediction of Solar Power and Load Demand using LSTM Model" 2nd International Conference on Emerging Frontiers in Electrical and Electronic Technologies (ICEFEET), NIT Patna, 24-25 June, 2022.
13. Nidhi Kumari, **Gauri Shankar**, Saubhagya Ranjan Biswal, "Impact of Distinct Weather Parameters on Simultaneous Prediction of Solar Power and Load Demand using LSTM Model" 2nd International Conference on Emerging Frontiers in Electrical and Electronic Technologies (ICEFEET), NIT Patna, 24-25 June, 2022.
14. Nidhi Kumari, **Gauri Shankar**, Saubhagya Ranjan Biswal, "Impact of Distinct Weather Parameters on Simultaneous Prediction of Solar Power and Load Demand using LSTM Model" 2nd International Conference on Emerging Frontiers in Electrical and Electronic Technologies (ICEFEET), NIT Patna, 24-25 June, 2022.
15. S. R. Biswal, **Gauri Shankar**, "Symbiotic Organisms Search Algorithm-Based Optimal Allocation and Sizing of Capacitor Bank in Radial Distribution Networks" 2nd International Conference on Emerging Frontiers in Electrical and Electronic Technologies (ICEFEET), NIT Patna, 24-25 June, 2022.
16. Akshay Kumar, **Gauri Shankar**, " Prediction of System Inertia and its Effect to Integrate Tidal Generators" International Conference on Energy, Power and Environment (ICEPE-2022), NIT Meghalaya, 29 April-1 May, 2022.
17. Nidhi Kumari, S. R. Biswal, **Gauri Shankar**, "Impact of Distinct Weather Parameters on Simultaneous Prediction of Solar Power and Load Demand using LSTM Model" 2nd IEEE International Conference on Emerging Frontiers in Electrical and Electronics Technologies (ICEFEET -2022), NIT Patna, 24-25 June, 2022.
18. S. R. Biswal, **Gauri Shankar**, "Optimal deployment and sizing of distributed generations and capacitor banks in radial distribution system using African vultures optimization algorithm" 3rd International

Conference on Energy and Power (ICEP-2021), Chiang Mai University, Chiang Mai, Thailand, 18-20 November, 2021.

19. S. Kumari, **Gauri Shankar**, "Performance analysis of cascade TI-TID Controller for Load Frequency Control of Restructured Power System with CESS " 3rd International Conference on Energy and Power (ICEP-2021), Chiang Mai University, Chiang Mai, Thailand, 18-20 November, 2021.
20. P. K. Barik, **Gauri Shankar**, P. K. Sahoo "Performance assessment of MSRF-FLC-AFHCC control strategy for shunt active power filters to mitigate power quality issues" 3rd International Conference on Energy and Power (ICEP-2021), Chiang Mai University, Chiang Mai, Thailand, 18-20 November, 2021.
21. P. K. Barik, **Gauri Shankar**, P. K. Sahoo, "DC-link capacitor voltage stabilization of a SAPF using fuzzy logic controller under load changing condition" International Symposium of Power Electronics & Renewable Energy Systems Control (PERESC-2020), IIT Bhubaneswar, Odissa, 4-5 December, 2020.
22. S. Kumari, **Gauri Shankar**, B. Das, "Integral-tilt-derivative controller based performance evaluation of load frequency control of deregulated power system" International Conference of Modelling Simulation and Optimization (CoMSO-2020), NIT Silchar, Assam, 3-5 August, 2020.
23. A. Anand, A. Kumar, **Gauri Shankar** "Frequency Control of Wind Power Plant Assisted Hybrid Power System" International Conference on 'Emerging Trends for Smart Grid Automation and Industry 4.0 (ICETSGAI4.0), BIT Mesra, Ranchi, 5-7 December, 2019.
24. S. Kumari, **Gauri Shankar**, "Design of Salp Swarm Algorithm Tuned Cascade Proportional-Integral-Tilt-Derivative Controller for the Performance Study of Load Frequency Control" International Conference on 'Emerging Trends for Smart Grid Automation and Industry 4.0 (ICETSGAI4.0), BIT Mesra, Ranchi, 5-7 December, 2019.
25. S. R. Biswal, **Gauri Shankar**, "Optimal Capacitor Placement in Radial Distribution System using Cuckoo Swarm Optimization Algorithm" International Conference on 'Emerging Trends for Smart Grid Automation and Industry 4.0 (ICETSGAI4.0), BIT Mesra, Ranchi, 5-7 December, 2019.
26. N. Kumari, **Gauri Shankar**, "Euclidean Detector Based Cyber Attack Detection in Automatic Generation Control" IEEE International Conference on Computing, Power and Communication Technologies (GUCON), pp. 871-875, 27-28 September, 2019.
27. V. Kumar, V. Gupta, **Gauri Shankar**, Garg, H., Karar, V., "Simulation of Efficient Thermal Management Techniques for Miniaturised Circuits and System" IEEE International Conference on Vision Towards Emerging Trends in Communication and Networking (ViTECoN), pp. 1-6, 30-31 March, 2019.
28. Sandhya Kumari, **Gauri Shankar**, "A novel application of swarm-salp application in LFC of multi-area power system" 8<sup>th</sup> Int. Conf. on PEDES-2018 held at IIT Madras during 18-21 Dec, 2018.
29. S. R. Biswal, **Gauri Shankar**, "Optimal sizing and allocation of capacitor in radial distribution system using sine-cosine algorithm" 8<sup>th</sup> IEEE Int. Conf. on PEDES-2018 held at IIT Madras during 18-21 Dec, 2018.
30. Sudeep Kumar, Akshay Kumar, **Gauri Shankar**, "Crow search algorithm based optimal dynamic performance control of SVC assisted SMIB system" 20<sup>th</sup> IEEE NPSC-2018 held at NIT Trichy during 14-16 Dec, 2018.
31. Akshay Kumar, **Gauri Shankar**, "Performance analysis of tidal power generation system on LFC" 13<sup>th</sup> IEEE ICIIS-2018 held at IIT Ropar during 1-2 Dec, 2018.
32. Basundhara Singh, **Gauri Shankar** and Anamika Singh, "Modelling of Inverter Interfaced Dual Active Bridge Converter" IEEE International Conference on Computing, Power and Communication Technologies (GUCON 2018), Galgotia University, Noida, U.P., 28-29 September, 2018.
33. Anamika Singh, **Gauri Shankar** and Basundhara Singh, "Closed Loop Control of Transformerless Grid Tied Inverter" IEEE International Conference on Computing, Power and Communication Technologies (GUCON 2018), Galgotia University, Noida, U.P., 28-29 September, 2018.
34. S. Kumari, **Gauri Shankar**, A. Prince, "Load Frequency Control Using Linear Quadratic Regulator and Differential Evolution Algorithm" IEEE International Conference on Next Generation Intelligent Systems (ICNGIS), RIT Kottayam, Kerala, 1-3 September, 2016.

35. K. Kumari, **Gauri Shankar**, S. Kumari, S. Gupta “Load frequency control using ANN-PID controller”, 1<sup>st</sup> IEEE International Conference on Power Electronics, Intelligent Control and Energy Systems (ICPEICES-2016), D.T.U, New Delhi, 4-6 July, 2016.
36. S. Kumari, **Gauri Shankar**, S. Gupta, K. Kumari, “Study of load frequency control by using differential evolution algorithm”, 1<sup>st</sup> IEEE International Conference on Power Electronics, Intelligent Control and Energy Systems (ICPEICES-2016), D.T.U, New Delhi, 4-6 July, 2016.
37. S. Gupta, **Gauri Shankar**, K. Kumari, S. Kumari, “Load frequency control using BAT algorithm”, 1<sup>st</sup> IEEE International Conference on Power Electronics, Intelligent Control and Energy Systems (ICPEICES-2016), D.T.U, New Delhi, 4-6 July, 2016.
38. K. Singh, **Gauri Shankar**, “PID parameters tuning using modified particle swarm optimization and its application in load frequency control”, 6<sup>th</sup> IEEE International Conference on Power Systems, 2016 (ICPS 2016), I.I.T. Delhi, 4-6 March, 2016.
39. P. Kumari, **Gauri Shankar**, “Modeling and simulation of photovoltaic for isolated and grid connected mode. 3<sup>rd</sup> IEEE International Conference on Recent Advances in Information Technology (RAIT-2016)”, I.S.M. Dhanbad, 3-5 March, 2016.
40. A. Rani, **Gauri Shankar**, “Standalone operation of wind turbine operated self-excited induction generator. 3<sup>rd</sup> IEEE International Conference on Recent Advances in Information Technology (RAIT-2016)”, I.S.M. Dhanbad, 3-5 March, 2016.
41. **Gauri Shankar**, Subh Lakshmi, “Frequency control of hybrid renewable energy system with PSO optimized controller”. IEEE International Conference on Recent Developments in Control, Automation and Power Engineering (RDCAPE-2015), Amity University U.P., pp. 220-225, 12-13 March, 2015.
42. **Gauri Shankar**, Subh Lakshmi, N. Nagarjuna, “Optimal load frequency control of hybrid renewable energy system with PSO and LQR”, IEEE International Conference on on Power and Advanced Control Engineering (ICPACE-2015), B.N.M.I.T., Bengaluru pp. 195-199, 12-14 August, 2015.
43. N. Nagarjuna, **Gauri Shankar**, “Load frequency control of two area power system with AC-DC tie line using PSO optimized controller”, IEEE International Conference on on Power and Advanced Control Engineering (ICPACE-2015), B.N.M.I.T., Bengaluru pp. 195-199, 12-14 August, 2015.
44. **Gauri Shankar**, N. Nagarjuna, “Load frequency control of two area interconnected hydrothermal power plant using classical controller and particle swarm optimization technique ”, International conference on Environment and Energy (ICEE 2014), JNTU, Hyderabad, 15-17 December, 2014.
45. C.P. Roy, B. K. Naick, **Gauri Shankar** “Modified three point weight comparison method for adaptive MPPT of photovoltaic systems. International Conference on Advances in Recent Technologies in Electrical and Electronics (ARTEE 2013). Bangalore, pp. 146-156, 20-21 September, 2013.
46. **Gauri Shankar**, V. Mukherjee, S. Debnath, K. Gogoi, “Study of different ANN algorithms for weak area identification of power systems,” IEEE International Conference on Power and Energy in NERIST (ICPEN 2012), NERIST, Itanagar, Arunachal Pradesh, pp. 1-4, 28-29 December, 2012.
47. **Gauri Shankar**, B. Suthar, R. Balasubramanian, “Vulnerable Load Bus Identification Using Radial Basis Neural Network”, International Conference on Advances in Power Electronics and Instrumentation Engineering-PEIE, Kochi Kerala, pp. 87-90, 7-9 September 2010.

## B. Book Chapters

1. S. Kumari, **Gauri Shankar**, Design of SSA Tuned Cascaded TI-TID Controller for Load Frequency Control of Multi-Source Power System with Electric Vehicle”, Industrial Control System, Wiley, pp. 255-283, 2024.
2. S. R. Biswal, **Gauri Shankar** “Symbiotic Organisms Search Algorithm-Based Optimal Allocation and Sizing of Capacitor Bank in Radial Distribution Networks” Smart Innovation, Systems and Technologies, Springer, pp. 55-76, 2022.
3. Kumari, S., **Shankar, G.**, Das, B., “Integral-Tilt-Derivative Controller Based Performance Evaluation of Load Frequency Control of Deregulated Power System”, Smart Innovation, Systems and Technologies, Springer, pp. 189-200, 2021.
4. Anand, A., Kumar, A., **Shankar, G.** “Frequency Control of Wind Power Plant Assisted Hybrid Power System”, Lecture Notes in Electrical Engineering, Springer, pp. 707-718, 2021

5. Kumari, S., **Shankar, G.** “Design of Salp Swarm Algorithm Tuned Cascade Proportional-Integral-Tilt-Derivative Controller for the Performance Study of Load Frequency Control” Lecture Notes in Electrical Engineering, Springer, pp. 167-175, 2021.
6. Biswal, S. R., **Shankar, G.** “Optimal Capacitor Placement in Radial Distribution System using Cuckoo Swarm Optimization Algorithm” Lecture Notes in Electrical Engineering, Springer, pp. 113-120, 2021.

***C Patents filed/granted with details***

- 1) K.C. Jana, Gauri Shankar, V. L. Srinivas, K.R. Khan, S. Kumar, R. K. Saket, “A System for Voltage Stabilization Control with Hybrid Renewable Power Sources in DC microgrid” Indian Patent Application No. 202431073196 dated 27.09.2024

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