

LIST OF PUBLICATIONS

Dr. Dushyant Sharma

Book chapters:

- [1]. S. Mishra, **D. Sharma**, S. N. Singh, K. Y. Lee, M. M. Farsangi, H. Nezamabadi-pour, EM Voumvoulakis, N. D. Hatziaargyriou, X. Wu, and L. Ma, "Power System and Power Plant Control," Chapter 4 of Applications of Modern Heuristic Optimization Methods in Power and Energy Systems, John Wiley & Sons, 2020.
- [2]. S. Mishra and **D. Sharma**, "Control of Photovoltaic Technology," Chapter 19 of Electric Renewable Energy Systems, Academic Press publications, 2016.

Refereed Journal Publications:

- [1]. V. Vaishnav, A. Jain and **D. Sharma**, "Auxiliary network-enabled attack detection and resilient control of islanded AC microgrid," *IEEE Transactions on Smart Grid*, vol. 16, no. 2, pp. 1641-1653, March 2025.
- [2]. F. Sadeque, M. Gursoy, **D. Sharma** and B. Mirafzal, "Autonomous control of inverters in microgrid," *IEEE Transactions on Industry Applications*, vol. 60, no. 3, pp. 4313-4323, May-June 2024.
- [3]. V. Vaishnav, **D. Sharma** and A. Jain, "Quadratic-droop-based distributed secondary control of microgrid with detail-balanced communication topology," *IEEE Systems Journal*, vol. 17, no. 3, September 2023, pp. 3401-3412.
- [4]. S. Singh, V. Vaishnav, A. Jain and **D. Sharma**, "Bounded voltage regulation in a direct current microgrid using barrier lyapunov function with uncertain load current," *IEEE Control Systems Letters*, vol. 7, pp. 991-996, 2023.
- [5]. V. Vaishnav, **D. Sharma** and A. Jain, "Control of heterogeneous battery energy storage systems-based microgrid connected via detail-balanced communication topology," *IEEE Control Systems Letters*, vol. 7, pp. 733-738, 2023.
- [6]. M. S. Pilehvar, **D. Sharma** and B. Mirafzal, "Forming interphase microgrids in distribution systems using cooperative inverters," *CPSS Transactions on Power Electronics and Applications*, vol. 7, no. 2, June 2022, pp. 186-195.
- [7]. **D. Sharma**, F. Sadeque and B. Mirafzal, "Synchronization of inverters in grid forming mode," *IEEE Access*, vol. 10, April 2022, pp. 41341-41351.
- [8]. A. Firdaus, **D. Sharma** and S. Mishra, "Dynamic power flow based simplified transfer function model to study instability of low frequency modes in inverter-based microgrids," *IET Generation, Transmission & Distribution*, vol. 14, no. 23, December 2020, pp. 5634-5645.
- [9]. **D. Sharma** and S. Mishra, "Disturbance-observer based frequency regulation scheme for low-inertia microgrid systems," *IEEE Systems Journal*, vol. 14, no. 1, March 2020, pp. 782-792.
- [10]. **D. Sharma** and S. Mishra, "Non-linear disturbance observer-based improved frequency and tie-line power control of modern interconnected power systems," *IET Generation, Transmission & Distribution*, vol. 13, no. 16, August 2019, pp. 3564-3573.
- [11]. N. Nayak, S. Mishra, **D. Sharma** and B. Kumar Sahu, "Application of modified sine cosine algorithm to optimally design PID/fuzzy-PID controllers to deal with AGC issues in deregulated power system," *IET Generation, Transmission & Distribution*, vol. 13, no. 12, June 2019, pp. 2474-2487.

- [12]. **D. Sharma**, A. Dubey, S. Mishra and R. K. Mallik, "A frequency control strategy using power line communication in a smart microgrid," *IEEE Access*, vol. 7, February 2019, pp. 21712-21721.
- [13]. **D. Sharma** and S. Mishra, "Power system frequency stabiliser for modern power systems," *IET Generation, Transmission & Distribution*, vol. 12, no. 9, May 2018, pp. 1961-1969.
- [14]. J. Nanda, **D. Sharma** and S. Mishra, "Performance analysis of automatic generation control of interconnected power systems with delayed mode operation of area control error," *IET The Journal of Engineering*, vol. 2015, no. 4, April 2015, pp. 164-173.

Refereed Conference Publications:

- [1]. P. Kumari and **D. Sharma**, "A comparative study of droop and VSG controlled grid forming inverters integrated with D-STATCOM," *2025 IEEE 1st International Conference on Smart and Sustainable Developments in Electrical Engineering (SSDEE)*, Dhanbad, India, 2025, pp. 1-6.
- [2]. P. Kumari and **D. Sharma**, "Performance and stability comparison of grid forming inverters with droop and VSG controls for autonomous microgrids," *2024 IEEE 11th Power India International Conference (PIICON)*, Jaipur, India, 2024, pp. 1-5.
- [3]. F. Sadeque, **D. Sharma** and B. Mirafzal, "Seamless grid-following to grid-forming transition of inverters supplying a microgrid," *2023 IEEE Applied Power Electronics Conference and Exposition (APEC)*, Orlando, FL, USA, 2023, pp. 594-599.
- [4]. V. Vaishnav, **D. Sharma** and A. Jain, "Network-based finite-time secondary level control for critical bus voltage restoration and accurate reactive power-sharing," *2022 22nd National Power Systems Conference (NPSC)*, New Delhi, India, 2022, pp. 584-589.
- [5]. V. Vaishnav, A. Jain and **D. Sharma**, "Finite-time stability analysis of a distributed microgrid connected via detail-balanced graph," *2021 Seventh Indian Control Conference (ICC)*, Mumbai, India, 2021, pp. 365-370.
- [6]. T. Hossen, **D. Sharma** and B. Mirafzal, "Smart inverter twin model for anomaly detection," *2021 IEEE 22nd Workshop on Control and Modelling of Power Electronics (COMPEL)*, Cartagena, Colombia, 2021, pp. 1-6.
- [7]. F. Sadeque, **D. Sharma** and B. Mirafzal, "Power-sharing between grid-forming and grid-following inverters," *2021 IEEE 22nd Workshop on Control and Modelling of Power Electronics (COMPEL)*, Cartagena, Colombia, 2021, pp. 1-5.
- [8]. F. Sadeque, **D. Sharma** and B. Mirafzal, "Multiple grid-forming inverters in black-start: the challenges," *2021 IEEE 22nd Workshop on Control and Modelling of Power Electronics (COMPEL)*, Cartagena, Colombia, 2021, pp. 1-6.
- [9]. **D. Sharma**, S. Mishra and A. Firdaus, "Computation of delay margin in a power system having open channel communication based automatic generation control using Pade' approximation," *2019 IEEE International Conference on Environment and Electrical Engineering and 2019 IEEE Industrial and Commercial Power Systems Europe (EEEIC/I&CPS Europe)*, Genova, Italy, 2019, pp. 1-6.
- [10]. A. Firdaus, S. Mishra and **D. Sharma**, "Stability enhancement of inverter based autonomous microgrid using electric spring," *2019 IEEE International Conference on*

Environment and Electrical Engineering and 2019 IEEE Industrial and Commercial Power Systems Europe (EEEIC/I&CPS Europe), Genova, Italy, 2019, pp. 1-5.

- [11]. **D. Sharma** and S. Mishra, "Impacts of system non-linearities on communication delay margin for power systems having open channel communication based automatic generation control," *2018 IEEMA Engineer Infinite Conference (eTechNxT)*, New Delhi, 2018, pp. 1-5.
- [12]. A. Firdaus, S. Mishra and **D. Sharma**, "Quadratic regulator based optimal state feedback controller for stability improvement of inverter based microgrids," *TENCON 2017 - 2017 IEEE Region 10 Conference*, Penang, 2017, pp. 2165-2170.
- [13]. **D. Sharma**, S. Mishra and A. Firdaus, "Multi objective gain tuning approach for time delayed automatic generation control," *TENCON 2017 - 2017 IEEE Region 10 Conference, Penang, 2017*, pp. 2896-2900.
- [14]. A. Tomar, **D. Sharma** and S. Mishra, "An active power management strategy in a microgrid having static and rotating generators considering generation limits using water pumping loads," *2017 International Conference on Computer, Communications and Electronics (Comptelix)*, Jaipur, 2017, pp. 484-488.
- [15]. S. Mishra, **D. Sharma**, Y. Kumar and D. Pullaguram, "Lyapunov based frequency independent current controller for grid connected single phase PV systems," *2016 7th India International Conference on Power Electronics (IICPE)*, Patiala, 2016, pp. 1-6.
- [16]. **D. Sharma**, S. Mishra and J. Nanda, "Micro-grid operation and control of Photo-Voltaic power with canal based small hydro power plant," *2016 IEEE Region 10 Conference (TENCON)*, Singapore, 2016, pp. 1289-1293.
- [17]. **D. Sharma**, R. K. Mallik, S. Mishra, A. Dubey and V. Ranjan, "Voltage control of a DC microgrid with double-input converter in a multi-PV scenario using PLC," *2016 IEEE Power and Energy Society General Meeting*, Boston, MA, 2016, pp. 1-5.
- [18]. S. Mishra, R. Sharma and **D. Sharma**, "Coordinated active power control of wind, solar and diesel generator in a microgrid," *9th IFAC Symposium on Control of Power and Energy Systems (CPES)-2015*, New Delhi, *IFAC-PapersOnLine*, vol. 48, no. 30, 2015, pp.7-12.
- [19]. A. Dubey, **D. Sharma**, R. K. Mallik and S. Mishra, "Modeling and performance analysis of a PLC system in presence of impulsive noise," *2015 IEEE Power & Energy Society General Meeting*, Denver, CO, 2015, pp. 1-5.
- [20]. B. Sen, **D. Sharma** and B. C. Babu, "DSRF and SOGI based PLL-two viable scheme for grid synchronization of DG systems during grid abnormalities," *2012 Students Conference on Engineering and Systems*, Allahabad, Uttar Pradesh, 2012, pp. 1-6.
- [21]. **D. Sharma**, B. Sen and B. C. Babu, "Improved grid synchronization algorithm for DG system using DSRF PLL under grid disturbances," *2012 Students Conference on Engineering and Systems*, Allahabad, Uttar Pradesh, 2012, pp. 1-6.