

Faculty Profile

Name : Dr. Sunil Gupta
Designation : Associate Professor
Qualifications : Ph.D., M.E., B.Tech.
Date of Joining (MSIT) : 1st November 2006
Nature of Association : Regular
Phone 9654096530
Email : sunil.gupta_eee@msit.in
Area of Interest/Specialization: Power Systems - IEC 61850 Substation Automation Systems, Renewable Energy, Microgrids
Experience : 22 years Total, **18+ Years (MSIT, Janak Puri)**

Key Publications

1. Ikbal Ali, Mohd. Asim Aftab, S. M. Suhail Hussain Thomas, **Sunil Gupta**, “Software defined networks for smart substations in an active distribution system,” Journal of Engineering Research, Vol. 7 No. 01, March 2019, **SCOPUS, SCIE**.
2. Sunil Gupta, “ Comparative Analysis of a Supercapacitor and Li-ion battery based Electric Vehicle ”, Journal of Information & Optimization Sciences, Vol. 45 (2024), No. 2, pp. 507–514, ISSN 0252-2667 (Print), ISSN 2169-0103 (Online). DOI : 10.47974/JIOS-1568, SCOPUS, ESCI
3. Sunil Gupta, “ A survey of cybersecurity threats and countermeasures in the Indian financial sector”, Journal of Information & Optimization Sciences, Vol. 45 (2024), No. 2, pp. 507–514, ISSN 0252-2667 (Print), ISSN 2169-0103 (Online). DOI : 10.47974/JIOS-1568, SCOPUS, ESCI
4. S. B. Kumar, Abhishek Gandhar, Mohit Tiwari, Arvind Rehalia & **Sunil Gupta** (2022) Design and analysis of triangular patch antenna with enhanced bandwidth for RF energy harvesting, Journal of Information and Optimization Sciences, 43:1, 101-106, DOI: [10.1080/02522667.2022.2036356](https://doi.org/10.1080/02522667.2022.2036356) SCOPUS, ESCI.
5. Abhishek Gandhar, Shreyas, Shivam Dabas, Kishu Mittal & **Gupta Sunil** (2022) An optimized design of warehouse management system for MSME and multilevel industries, Journal of Information and Optimization Sciences, 43:3, 411-418, DOI: [10.1080/02522667.2022.2082673](https://doi.org/10.1080/02522667.2022.2082673) SCOPUS, ESCI
6. Mohit Tiwari, Shashi Gandhar, S B Kumar, Arvind Rehalia, **Sunil Gupta**. (2022). A Comparative Approach On Enhancing Lifetime Of Wireless Sensor Networks. *Journal of Pharmaceutical Negative Results*, 1291–1299. <https://doi.org/10.47750/pnr.2022.13.S07.189>, SCOPUS
7. Abhishek Gandhar, Mohit Tiwari, Tripti Tiwari, **Sunil Gupta**, Arvind Rehalia, “Internet of Things Based Pest and Growth Management System Using Natural Pesticides & Fertilizers for Small Scale Organic Farming”, (2022). *Journal of Pharmaceutical Negative Results*, 8654-8665. <https://doi.org/10.47750/pnr.2022.13.S09.1017>, SCOPUS
8. **Sunil Gupta**, Abhishek Gandhar and Shashi Gandhar, “Performance analysis of IEC 61850-9-2 process-bus based redundant substation automation system architecture,” Journal of Information and Optimization Sciences, **Taylor & Francis**, vol. 41 (1), pp. 13-23, 2020. DOI:10.1080/02522667.2020.1714180, **SCOPUS, ESCI**
9. **Sunil Gupta**, Abhishek Gandhar, Mohit Tiwari, and Shashi Gandhar, “A continuous mitigation of kVAR-voltage problem of hybrid isolated power system using UPFC,” Journal of Information and Optimization Sciences, **Taylor & Francis**, vol. 41 (1), pp. 317-325, 2020. DOI:10.1080/02522667.2020.1714180, **SCOPUS, ESCI**
10. **Sunil Gupta**, Abhishek Gandhar, and Mohit Tiwari, “Reliability analysis of a novel IEC 61850-9-2 process-bus based substation automation system architecture,” Journal of Statistics and

Management Systems, **Taylor & Francis**, vol. 23 (1), pp. 65-75, 2020. DOI : 10.1080/09720510.2020.1714148, **SCOPUS, ESCI**

11. **Sunil Gupta**, Abhishek Gandhar and Shashi Gandhar, "Modelling and Performance Analysis of Grid Connected Photovoltaic Power Systems," *Asian Journal of Water, Environment and Pollution*, vol. 15 (3), pp. 1-4, 2018. DOI: 10.3233/AJW-180045. **SCOPUS, ESCI**
12. Abhishek Gandhar, **Sunil Gupta** and Shashi Gandhar, "Improvement of Transient Stability Margin in RES Based Power Systems Using STATCOM," *Asian Journal of Water, Environment and Pollution*, vol. 15 (3), pp. 73-78, 2018. DOI: 10.3233/AJW-180036, **SCOPUS, ESCI**
13. Ikbali Ali, Mini S. Thomas, **Sunil Gupta**, and S.M. Suhail Hussain, "IEC 61850 Substation communication network architecture for efficient energy system automation," *Energy Technology and Policy*, Taylor & Francis, vol. 2 (1), pp. 82-91, 2015. DOI:10.1080/23317000.2015.1043475.
14. Ikbali Ali, Mini S. Thomas, **Sunil Gupta**, "Substation communication architecture to realize the future smart grid", *International Journal of Energy Technologies and Policy*, vol. 1(4), pp. 25-35, 2011.
15. **Sunil Gupta**, "IEC 61850 substation automation systems-scope, overview and opportunities", *Advanced Research in Electrical and Electronics Engineering (AREEE)*, International journal, vol. 3 (2), pp. 87-92, 2016. ISSN: 2349-5812.
16. **Sunil Gupta**, "Reliability analysis of IEC 61850 substation communication network architectures", *Advanced Research in Electrical and Electronics Engineering (AREEE)*, International journal, vol. 3 (2), pp. 93-98, 2016. ISSN: 2349-5812.
17. **Sunil Gupta**, "IEC 61850-8-1 GOOSE communication and its impact on substation performance," *International Journal of Electrical, Electronics & Computer Science Engineering (IJECESE)*, Special issue-E2CE-2016, pp. 32-38, 2016. ISSN: 2348-2273.
18. **Sunil Gupta**, "A comprehensive review of trends in substation automation systems," *International Journal of Electrical, Electronics & Computer Science Engineering (IJECESE)*, Special issue-E2CE-2016, pp. 32-38, 2016. ISSN: 2348-2273.
19. **Sunil Gupta**, "IEC 61850-9-2 process bus communication and its impact on substation performance," *International Journal of Electrical and Electronics Engineers (IJECE)*, vol. 8 (2), pp. 227-234, 2016. ISSN: 2321-2047.
20. **Sunil Gupta**, "Impact of IEC 61850 communication protocol on substation automation systems," *International Journal of Research in Advanced Engineering and Technology*, vol. 2 (5), pp. 54-58, 2016. ISSN: 2455-0876.
21. **Sunil Gupta**, "Communication in Substation Automation Systems," *International Journal of Research in Advanced Engineering and Technology*, vol. 2 (5), pp. 49-53, 2016. ISSN: 2455-0876.

Papers presented in Conferences

1. V. Jain, E. Nsugbe and **S. Gupta**, "A GA optimized Fuzzy Logic Controller for Two Area Automatic Generation Control under dynamic behavior of Power System," *2021 Fourth International Conference on Computational Intelligence and Communication Technologies (CCICT)*, 2021, pp. 9-13, doi: 10.1109/CCICT53244.2021.00013.
2. **Sunil Gupta** and Abhishek Gandhar "Power Quality Investigation of Grid Integrated PV System in Distribution Networks", International Conference on Sustainable Energy, Electronics & computing Systems, SEEMS 2018, 26th-27th October 2018, ITS Engineering College, Greater Noida, U. P, INDIA. Available: www.ieeeexplore.org
3. **Sunil Gupta**, Sachit Garg, Vibhor Babbar, Sajal Saha, and Neha Nagarwal, "Modeling & Performance Investigation of PV Integrated IEEE 14 Bus Test System," International Conference on computing, Power and communication Technologies, GUCON 2018, Galgotia's University, Greater Noida, 28th - 29th September, 2018. Available: www.ieeeexplore.org

4. **Sunil Gupta**, Ikbali Ali, Mini S. Thomas, and S.M. Suhail Hussain “Recent advancements in substation automation systems based on information and communication Technologies,” *International Conference on Communication and Computing Systems (ICCCS-2016)*, CRC Press of **Taylor & Francis Group**, Dronacharya College of Engineering, Gurgaon, 9th-11th September, 2016.
5. Ikbali Ali, Mini S. Thomas, **Sunil Gupta** and Suhail Hussain, “Information modeling for distributed energy resource integration in IEC 61850 based substations,” *12th IEEE India international conference, INDICON 2015*, Jamia Millia Islamia (JMI), New Delhi, 17th -20th December, 2015. **Available: www.ieeexplore.org**
6. Ikbali Ali, Mini S. Thomas, **Sunil Gupta**, "Performance evaluation of IEC 61850 – 9-2 process bus based numerical protection application using OPNET", *National Conference on Emerging trends in Electrical and Electronics Engineering (ETEEE, 2015)*, Jamia Millia Islamia (JMI), New Delhi, 2-3rd Feb, 2015.
7. Ikbali Ali, Mini S. Thomas, **Sunil Gupta**, “Integration of PSCAD based power system & IEC 61850 IEDs to test fully digital protection schemes”, *IEEE PES Innovative Smart Grid Technologies Conference (IEEE ISGT ASIA 2013)*, 10-13th Nov., 2013, Bangalore, India. **Available: www.ieeexplore.org**
8. Ikbali Ali, Mini S. Thomas, **Sunil Gupta**, “Sampled values packet loss impact on IEC 61850 distance relay performance”, *IEEE PES Innovative Smart Grid Technologies Conference (IEEE ISGT ASIA 2013)*, 10-13th Nov., 2013, Bangalore, India. **Available: www.ieeexplore.org**
9. Ikbali Ali, Mini S. Thomas, **Sunil Gupta**, “Methodology & tools for performance evaluation of IEC 61850 GOOSE based protection schemes”, *IEEE Power India International Conference (PICON, 2012)*, December, 2012, DCRUST, Murthal, Haryana (India). **Available: www.ieeexplore.org**
10. Ikbali Ali, Mini S. Thomas, **Sunil Gupta**, “Features and scope of IEC 61850,” *National Electrical Engineering Conference (NEEC-2011)*, Delhi Technological University (DTU), New Delhi, 16th – 17th December, 2011.

Awards and Recognitions

1. MSIT certificate of Excellence in Research 2022.
2. MSIT certificate of Excellence in Research 2019.
3. Certificate of Appreciation: B.Tech Major Project Competition-2017, GGSIPU, New Delhi
4. Certificate of Appreciation: B.Tech Major Project Competition-2018, GGSIPU, New Delhi

Book Chapter/Books published

1. Abhishek Gandhar, **Sunil Gupta** and Shashi Gandhar, Improvement of Voltage stability index in Wind Power Systems using ANFIS tuned STATCOM, Book Chapter, Advances in Energy and Built Environment, SPRINGER, June 2019

Memberships of Professional bodies: IAENG membership

FDP’S Attended (2020 onwards):

S. No.	Topic	Duration	Organisation
1	NPTEL MOOC Course on Introduction to Internet of Things	January –April 2024(12 weeks)	Swayam
2	Internet of Things	15th -19th Jan., 2024	MSIT
3	Recent Advancements in Machine Learning and Artificial Intelligence (RAMLAI’ 23)	February 6th-10th, 2023	MSIT

4	Recent Trends in Artificial Intelligence and its Applications	29-11-2021-30-12-2021	MSIT, Janakpuri
5	Real time simulation : roadmap of RE grid integration in micro grid and smart grid	28-06-2021 to 2-07-2021	NITTTR Chandigarh
6	Role of Energy Management Systems in Smart Grid	7-6-2021 to 12-6-2021	Jamia Millia Islamia, New Delhi
7	Real Time Applications of Power Electronics-Research Scope and Challenges	27 th July, 2020 to 31 st July, 2020.	ASIET, Kerala.
8	International FDP on LabVIEW & Real-Time Data Acquisition	3rd August to 7th August 2020	ITS Engineering College G. Noida.
9	Indian Electricity Rule and Code of Practices	16.12 2019-20.12.2019	NITTTR, Kolkata