

## Faculty Profile

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Area of Interest/Specialization: Power Systems - IEC 61850 Substation Automation Systems,  
Renewable Energy, Microgrids

Experience : 19 years

### Key Publications

1. Ikbali 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**, 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**
3. **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**
4. **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**
5. **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**
6. 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**
7. 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.
8. 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.
9. **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.

10. **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.
11. **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.
12. **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.
13. **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.
14. **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.
15. **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.ieeexplore.org](http://www.ieeexplore.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, 28<sup>th</sup> - 29<sup>th</sup> September, 2018. **Available:** [www.ieeexplore.org](http://www.ieeexplore.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, 9<sup>th</sup>-11<sup>th</sup> 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," *12<sup>th</sup> IEEE India international conference, INDICON 2015*, Jamia Millia Islamia (JMI), New Delhi, 17<sup>th</sup> -20<sup>th</sup> December, 2015. **Available:** [www.ieeexplore.org](http://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)*, 10-13<sup>th</sup> Nov., 2013, Bangalore, India. **Available:** [www.ieeexplore.org](http://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)*, 10-13<sup>th</sup> Nov., 2013, Bangalore, India. **Available:** [www.ieeexplore.org](http://www.ieeexplore.org)

9. Ikbal 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](http://www.ieeexplore.org)**
10. Ikbal Ali, Mini S. Thomas, **Sunil Gupta**, "Features and scope of IEC 61850," *National Electrical Engineering Conference (NEEC-2011)*, Delhi Technological University (DTU), New Delhi, 16<sup>th</sup> – 17<sup>th</sup> December, 2011.

#### Awards and Recognitions

1. MSIT certificate of Excellence in Research 2020.

#### 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