



2nd International Symposium on Sustainable Energy and Technological Advancements

(24th – 25th February, 2023)

ISSETA 2023 Special Session on

Role of Data Analytics, Artificial Intelligence and Optimization in Power and Energy Systems

Aims and scope of the session:

The challenges and opportunities of advancing energy infrastructure resilience to attacks, natural disasters, extreme weather events, and pandemic situations are topics of great interest in recent times. Since the modern energy system is entering a data-intensive era, this special session seeks to lay out emerging solutions for leveraging data analytics and artificial intelligence techniques to secure critical infrastructure in future energy systems. This special session further aims to bring together academics and practitioners from universities, national labs, and industries working in energy systems and artificial intelligence to prioritize the research requirements of future artificial intelligence-based solutions to enhance energy infrastructure resilience.

Topics of interest:

This special session invites research papers from the following topics (but not limited) to further recognize the role of data analytics and artificial intelligence in energy infrastructure upgradation.

1. Interplay of data analytics, artificial intelligence, and infrastructure investment
2. Growing impact of data science in the energy industry
3. Energy infrastructure upgradation for sustainable development
4. Accelerating the energy transition using artificial intelligence
5. Smart decisions for energy infrastructure upgradation
6. Energy industry transformation using machine learning
7. Energy infrastructure protection using machine learning
8. Energy infrastructure operations using artificial intelligence and data analytics
9. Role of big data analytics in energy and utilities
10. Prediction and optimization for power and energy systems
11. Smart grid resilience: methods and challenges
12. Smart microgrid and its future trends

Special session organizers:

1. Dr. B Rajanarayan Prusty

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B Rajanarayan Prusty (Senior Member, IEEE) is presently working as an Associate Professor in the Department of Electrical and Electronics Engineering, Alliance University, Bengaluru. He obtained his Ph.D. from the National Institute of Technology Karnataka (NITK), Surathkal. His exceptional research work during his Ph.D. has led him to crown the prestigious POSOCO Power System Awards (PPSA) for 2019 under the doctoral category by Power System Operation Corporation Limited in partnership with FITT, IIT Delhi. In recognition of his research publications from 2017 to 2019, he was awarded the University Foundation day Research Award 2019 from BPUT, Odisha. He has 20 SCI journal publications and 35 conference publications to his credit. He has authored six book chapters published in CRC Press, Elsevier, and Springer. He has co-authored a textbook entitled “Power System Analysis: Operation and Control” in I. K. International Publishing House Pvt. Ltd. He has also edited a book entitled “Renewable Energy Integration to the Grid: A Probabilistic Perspective,” in CRC Press, Taylor and Francis Books INDIA Pvt. Ltd. He has been an active reviewer since 2015 and has reviewed 300 manuscripts submitted to reputed Journals and Conferences. Presently he is the Associate Editor of “Journal of Electrical Engineering & Technology,” Springer. He is also the Academic Editor for the journals “Mathematical Problems in Engineering,” Hindawi, “International Transactions on Electrical Energy Systems,” Wiley-Hindawi, and “Journal of Electrical and Computer Engineering,” Hindawi. He has handled more than 70 manuscripts in the capacity of Journal Editor. His research interest includes time series preprocessing and forecasting, high-dimensional dependence modeling, and probabilistic power system analysis.



2. Dr. Rohit Babu

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Rohit Babu was born in Mirzapur, India in 1986. He is currently an Assistant Professor in the Electrical and Electronics Engineering Department at Alliance University, Bengaluru (India). He joined the University in August 2022. He obtained his Ph.D. in Electrical Engineering from the Department of Electrical Engineering, Indian Institute of Technology (Indian School of Mines), Dhanbad, India, in 2020. He received his M.Tech. degree from the Indian Institute of Technology (Banaras Hindu University), Varanasi (India), in 2013. He received his B.Tech. degree from the United College of Engineering & Research, Greater Noida (India), in 2011. He served as an Associate Professor (2020-2022) of the Electrical and Electronics Engineering Department, Lendi Institute of Engineering and Technology, Vizianagaram (India). He had served the Department of Electrical and Electronics Engineering of Raffles University, Rajasthan (India), from 2013-2014, and Bharat Institute of Engineering and Technology, Hyderabad (India) for one year as an Assistant Professor from 2019-2020. His research interests include power system observability, optimal PMU placement, state estimation, evolutionary approaches, and reactive power planning.



3. Dr. Sheila Mahapatra

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Sheila Mahapatra earned her Ph.D. in Electrical Engineering (FACTS Controllers Implementation in Power Transmission Systems) from The North Cap University, Gurugram. She received her MTech. in Power Systems and Automation from Andhra University, where she was a batch topper, and her B.Tech. degree in Electrical Engineering from Utkal University. She has nearly two decades of prolific experience in academia, research, academic programs, admission outreach, student affairs, and placement initiatives. Her areas of interest include Power Systems Optimization, FACTS devices, Renewable Energy, Energy Economics, and Sustainability. To her credit, she has many research publications in SCI/SCI-E, Scopus-indexed journals, book chapters, and conference proceedings. She serves as a reviewer for reputed journals like IEEE Transactions on Power Delivery-IEEE, IET Generation, Transmission and Distribution (GTD) IET Journals, U.K., Journal of Power Technologies, Poland, International Journal of Modelling and Simulation, Taylor & Francis U.K., Journal of Engineering Science and Technology (JESTEC) Malaysia, Journal of Concurrency and Computation, Practice and Experience, Wiley Publications and several other journals. She is a life member of reputed professional societies like IET, ISTE and a member of IEEE.

