

Annual Conference of the IEEE Industrial Electronics Society (IECON 2021)

Special Session on

“Reliable WEGS Operation and Stochastic Analysis-Based Grid Integration”

Organized by

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Call for Papers

Theme: Due to the rapid interest in wind power generation, wind turbines' reliability and stable operation have become challenging. Few countries have shifted their focus from land-based wind farms to offshore installations. A few issues/challenges with wind turbines are the failure modes, causes of failure, and detection methods. Moreover, fatigue, failure cases, maintenance, etc., add on challenges. Besides, more extensive and heavier wind turbines increase the failure frequency, which is different for the same type of land-based and offshore turbines. Besides, wind generation is intermittent and variable with a higher level of uncertainty; their integration to power system greatly affects the prediction of power system variables' values during planning and operation. The facets mentioned above demand rigorous research on the methods to improve wind turbine reliability, and to examine various uncertainty issues that are likely to be combated in power systems.

Good quality papers may be considered for publication in the IEEE Trans. on Industrial Electronics, subject to further rounds of review.

Topics of interest include, but are not limited to:

- Wind turbine operation in power systems
- Wind turbine system modeling
- Wind turbine failure modes, causes and detection methods
- Wind turbine reliability analysis
- Wind turbine condition monitoring
- Maintenance and safety of wind turbines
- Failure frequencies of onshore and offshore turbines
- Stability and control of wind farms in power systems
- Uncertainty modeling of wind power generator
- Probabilistic power system analysis with wind power generation



NEERAJ GUPTA has completed his Ph.D. in power systems from Indian Institute of Technology Roorkee, Roorkee, India. He is a senior member of IEEE. He was a faculty with the Thapar University, from 2008 to 2009, Adani Institute of Infrastructure Engineering, Ahmedabad, India, in 2015 and NIT Hamirpur from 2015 to 2018 and presently, he has been working as an Assistant professor with the Electrical Engineering Department, National Institute of Technology, Srinagar, J&K, India. His work has been published in Q-1 international journals of repute like IEEE, Elsevier etc. He is also in the scientific advisory/organizing secretary of many reputed conferences of the country. He is referee of reputed journals of IEEE, Elsevier, Taylor and Francis, IET etc. His research interests include

uncertainty quantification of power system, probabilistic power system, solar, wind, and electric vehicle technologies, Artificial intelligence, Machine learning, prediction etc.



MAN MOHAN GARG is presently working as an Assistant Professor at MNIT, Jaipur. He received his B.E. (Electrical Engineering) from the M.B.M. Engineering College Jodhpur, India, in 2008 and M.Tech and Ph.D. from Department of Electrical Engineering, Indian Institute of Technology (IIT), Roorkee, India in 2010 and 2016, respectively. He has completed his Post-doctoral research work (under the prestigious N-PDF scheme sponsored by SERB, India) in the Department of Electrical Engineering, Indian Institute of Technology (IIT) Kanpur, India. He is currently working as Assistant Professor at Department of Electrical Engineering, National Institute of Technology (NIT) Rourkela, India. His current research interests include design, modeling and control of power electronic converters, grid

integration of distributed renewable energy sources, dc microgrid, cyber-physical energy systems etc. He has published research papers in IEEE Transactions on Power Electronics, other reputed international journals and conferences. He is an active reviewer for several IEEE Transactions, reputed journals and conferences.



RANJAN KUMAR BEHERA (Senior Member, IEEE) received the B.Eng. Degree in electrical engineering from the Regional Engineering College (NIT) Rourkela, India, and the M. Tech. and Ph.D. degrees from the Indian Institute of Technology Kanpur, India, in 1998, 2003, and 2009, respectively. He was a Visiting Scholar in the Energy Systems Research Center, Tennessee Technological University, USA, in 2008. He has been a faculty member since 2009 and is currently an associate professor at the Department of Electrical Engineering, Indian Institute of Technology Patna, India. During July 2016, he was a visiting research collaborator at the Department of Electrical, Electronic and Computer Engineering, University of Pretoria, South Africa. He is the author of more than 100 scientific papers

published in conference proceedings and international journals. He has received many national and international awards such as Young scientists award in engineering sciences, DST, Government of India, 2001, Bhaskara Advanced Solar Energy (BASE) Indo-U.S. Science and Technology Forum for Solar research in the USA, 2014, and Selected as the featured engineer of the globe 2015. His research interests include nonlinear control theory application to power electronic converters, pulse width modulation techniques and multi-phase electric drives control.



B RAJANARAYAN PRUSTY (M'16–SM'19, IEEE) is presently working as an Assistant Professor (Sr. Grade) in the School of Electrical Engineering, Vellore Institute of Technology, Vellore. He has obtained his Ph.D. from the National Institute of Technology, Karnataka. He is the recipient of the prestigious POSOCO Power System Awards (PPSA) for the year 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 is awarded the University Foundation day Research Award-2019 from BPUT, Odisha, India. He has co-authored a textbook entitled “Power System Analysis: Operation and Control” in I. K. International Publishing House Pvt. Ltd. He has been an active reviewer since 2015. His research interest includes time series preprocessing and forecasting, high-dimensional dependence modeling and probabilistic power system analysis.



SALAH KAMEL received the international Ph.D. degree from the University of Jaen, Spain (Main), and Aalborg University, Denmark (Host), in January 2014. He is currently an Associate Professor with the Electrical Engineering Department, Aswan University. He is also a Leader of Power Systems Research Group, Advanced Power Systems Research Laboratory (APSR Lab), Aswan, Egypt. His research activities include power system analysis and optimization, smart grid, and renewable energy systems.

Submissions Procedure:

All the instructions for papers submission are included in the conference website:

<https://attend.ieee.org/iecon-2021/>

Deadlines:

Full paper submission: June 25, 2021

Paper acceptance notification: July 30, 2021

Camera-ready paper submission: Aug. 27, 2021