

Wind Energy Conversion Systems: Theory, Practices, Operation & Control

Overview

In last few decades, there has been an extensive research on harnessing the potentials of renewable energy sources particularly of wind, solar and tidal energies. At present, the power crisis is severe in developing countries like India due to the increase in the population and an enhanced use of electricity per capita. The situation is becoming rapidly worst due to the depletion of fossil fuels. Moreover, the recent changes in climate around the globe have made it mandatory for international community to reduce their carbon foot-prints. Wind power generation is a major contributor under these efforts in sustainable energy program with or without grid integration. Moreover, with the increasing demand for energy, it is also becoming difficult to reach the consumers in remote and isolated places. Particularly, in some remote areas, the electricity through the grid connection is not feasible due to geographic and economical constraints. It is observed in such cases that off-grid wind energy conversion systems may be a sustainable option to cater the needs.

This course aims to provide a platform for participants to understand and learn theoretical background, current practices on operation, control and challenges in the field of wind energy conversion systems.

Module	Wind Energy Conversion Systems: Theory, Practices, Operation & Control : Dec. 19 – Dec. 23 Number of participants for the course will be limited to fifty.
You Should Attend If...	▪ you are an electrical engineer or research scientist interested in design, modeling, control and simulation of wind energy conversion systems. ▪ you are a service or operational engineer in wind power plant and interested to learn the conceptual and design basics. ▪ you are a student or faculty from academic institution interested in learning how to do research on control of wind energy conversion systems.
Fees	The participation fees for taking the course is as follows: Participants from abroad : US \$400 Industry/ Research Organizations: INR 10000 Academic Institutions: INR. 5000 The above fee includes instructional materials, computer for simulation exercises and assignments, laboratory equipment usage, 24 hr free internet facility. The participants will be provided accommodation on payment basis depending on the availability in the institute.

The Faculty



Prof. Ambrish Chandra is a Professor in Electrical Engineering Department at École de Technologie Supérieure, Université du Québec, Montréal, Canada. His main research interests are power quality, active filters, static reactive power compensation, flexible AC transmission systems (FACTS), and control and integration of renewable energy resources. Dr. Chandra was the director of graduate program on 'renewable energy and energy efficiency' at École de Technologie Supérieure during 2012-2015. He is a Fellow IEEE, Fellow of Canadian Academy of Engineering, Fellow Engineering Institute of Canada (FEIC), Fellow Institute of Engineering and Technology (FIET) UK, Fellow Institution of Engineers (India) (FIE), and Fellow Institution of Electronics and Telecommunication Engineers (FIETE) and a Life Member of the Indian Society for Technical Education (ISTE). He is a professional engineer in the province of Quebec, Canada. He is an Associate Editor of IEEE Transactions on Industrial Electronics and Distinguished Lecturer for IEEE Power and Energy Society and also for IEEE Industry Application Society. He has published more than 300 IEEE Transactions and conference papers. Some of the articles coauthored by Dr. Chandra are defacto standards world-wide with very high Google citations. He is a coauthor of a book published by John Wiley, 'Power Quality: Problems and Mitigation Techniques'.



Dr. Shailendra Kumar Sharma received his Ph.D. degree from Indian Institute of Technology Delhi, India, in 2012. He received his masters and bachelor degrees both in Electrical Engineering in 2003 and 1998 respectively. He is an Assistant Professor in Electrical Engineering Department at Shri G. S. Institute of Technology & Science Indore, Madhya Pradesh India. He was a post doctoral research fellow in Department of Electrical Engineering at École de Technologie Supérieure (ETS), Université du Québec, Montréal, Canada during 2014-15. He has published more than twenty research papers in journals of international repute including IEEE and IET. He has also published more than fifty research papers in various national and international conferences. His main research interests are in control of stand-alone non-conventional energy sources, distributed energy resources with grid, power quality and special machine drives. Dr. Sharma is a senior member IEEE and Associate Member of Institution of Engineers (India).

Course Co-ordinator

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