

Smartgrid Operation with Renewables

Overview

Electricity generation from renewable sources will need to increase significantly to achieve the goal of Sustainable Energy for all. Fortunately, there is growing evidence in many countries that high levels of renewable energy penetration in the grid are technically and economically feasible, particularly as solar and wind technologies increasingly reach grid parity in economic terms. However, continuous and expanded growth of the share of renewables in centralized and decentralized grids requires an effective new approach to grid management, making full use of “Smart Grid” and “Smart Grid Technology”. Existing grid systems already incorporate elements of smart functionality, but this is mostly used to balance supply and demand.

Smart grids incorporate information and communication technology into every aspect of electricity generation, delivery and consumption in order to minimize environmental impact, enhance markets, improve reliability and service, and reduce costs and improve efficiency. These technologies can be implemented at every level, from generation technologies to consumer appliances. As a result, smart grid can play a crucial role in the transition to a sustainable energy future in several ways: facilitating smooth integration of high shares of variable renewables; supporting the decentralized production of power; creating new business models through enhanced information flows, consumer engagement and improved system control; and providing flexibility on the demand side.

Internationally acclaimed academics, researchers and practitioners with proven knowledge, experience, and demonstrable ability in teaching, consultancy, research, and training will deliver lectures and discuss cases in the course.

Modules	Week 1: December 7 – December 11, 2015 Week 2: December 14 – December 18, 2015 Number of participants for the course will be limited to Fifty.
You Should Attend If...	<ul style="list-style-type: none">▪ Executives, Engineers and Researchers from manufacturing, service and government organizations including R&D laboratories.▪ Faculty from reputed academic and technical institutions.▪ Students from IIT Kharagpur (BTech / MSc / MS / MTech / PhD)
Fees	The participation fees for taking the course is as follows: Participants from abroad : US \$500 Industry/ Research Organizations: ` 30000 Academic Institutions: ` 10000 TEQIP-II approved Institutions : ` 2000 (To be refunded after completion of course) The above fee includes all instructional materials, computer use for tutorials, 24 hr. free internet facility. The participants have to bear the food and lodging expenses during their stay. They will be provided accommodation on payment basis.

The Faculty



Prof. Tapan Kumar Saha has been with the University of Queensland, Australia since 1996, where he has been a Professor of Electrical Engineering.



Mr. Sushil Kumar Soonee is steering the Power System Operation of the pan-India grid as the Chief Executive Officer of POSOCO which is a wholly owned subsidiary of Power Grid



Prof. A. K. Sinha is a Professor in the Department of Electrical Engineering. Currently he is also the Head of School of Energy Science and Engineering.



Prof A. K. Pradhan is a Professor at the Department of Electrical Engineering, IIT Kharagpur.



Prof. Prabodh Bajpai is an Associate Professor of Electrical Engineering, IIT Kharagpur.

Course Coordinator

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