



This 5-day course is specially designed to give a complete coverage on fundamental ideas of power electronics converters and control designs in smartgrid systems. The course will also cover the integration of distributed generation, load balancing and energy storage form the model of a smartgrid to ensure high-efficiency and high-performance operation. Different layouts and topologies of microgrids and power electronic components, and the role of power electronics converters in smartgrid will be discussed in this course. The ideas on operation of centralized and decentralized control, forecasting, and evaluation of different market policies may be highlighted through case study. It is expected that this course will be suitable for engineering professionals from academia, R&D organizations as well as industries.

Course Coverage

- Introduction to Smart Grid, Electric Vehicle (EV)
- Importance of emerging role of Smart Grids for EV integrated Power Systems
- Grid Integration, Renewable energy sources and storage
- Intelligent generation control based on forecasting of solar irradiance
- Development of PV fed UPQC with advanced controller for Power Quality improvement
- Demand side and supply side management for improving reliability and efficiency of Smartgrid
- Grid integration challenges and prospective solutions
- The role of Smart Grid in Integrating Renewable Energy
- Comprehensive overview of Smart Grid Pilot Projects

Key Speakers

Prof. Bidyadhar Subudhi, IIT Goa
Prof. Subrata Banerjee, NIT Durgapur
Prof. C. S. Lim, UoSM, Malaysia
Prof. S. K. Korkua, Walailak University, Thailand
Prof. K. Thinsurat, Walailak University, Thailand
Prof. I N W Satiawan, Mataram, Indonesia
Prof. Soumya Ranjan Mohanty, IIT BHU
Prof. Pravat Kumar Ray, NIT Rourkela
Prof. Arnab Ghosh, NIT Rourkela

NATIONAL INSTITUTE OF TECHNOLOGY ROURKELA

announces TEQIP-III sponsored
Online Short Term Course
and
Faculty Development Programme
On

POWER ELECTRONICS AND RENEWABLE ENERGY INTEGRATION IN SMARTGRID, ELECTRIC VEHICLE (PEREISGEV 2020)

23rd – 27th September 2020



Coordinators

Prof. Pravat Kumar Ray
Prof. Arnab Ghosh

Organized by

Centre of Excellence (CoE) on
Renewable Energy Systems

DEPT. OF ELECTRICAL ENGINEERING
NATIONAL INSTITUTE OF TECHNOLOGY
ROURKELA – 769008, ODISHA



Introduction

Smartgrid technology is an advanced technology developed in recent years as a critical competence of traditional power networks with reliable and efficient operation across a wide range of industries. The ability to deliver the technical information of smartgrids to the right audience at the right time is a valuable skill, especially for those engaged in the field of power systems. Renewable sources of energies are often placed into a smartgrid, a local electricity distribution system that is operated in a controlled way and includes both electricity users and renewable electricity generation. This course deals with DC and AC microgrids and covers a wide range of topics, from basic definitions, through modelling and control of PV, EV integrated AC and DC microgrids. A number of advanced control techniques for different control aspects of microgrid i.e. primary, secondary and tertiary control will be discussed. One will have opportunity to know various concepts related to microgrid technology and implementation, such as smart grid and virtual power plant, types of distribution network, markets, control strategies and components. Among the components special attention is given to operation and control of power electronics interfaces. One will familiarize with the advantages and challenges of microgrids. One will also have the opportunity to know different topics of microgrids through different exercises.

Online Registration Form

Webinar registration has been done through online. Please follow the link for online registration.

<https://docs.google.com/forms/d/1nnnLaZtqOGtSdHRwXRFVzggp6mL8R1a1kdOIUcl0gzk>

Online Account Details

Account No: 37537622247

Account Name: DIRECTOR NIT
ROURKELA

IFSC No: SBIN0002109

Branch: State Bank of India, NIT Campus
Rourkela

Venue

The course will be organized by the Centre of Excellence on Renewable Energy Systems at the National Institute of Technology (NIT), Rourkela. It is one of the premier national level institutions for technical education in the country and is funded by the Government of India. It is situated at the eastern end of Rourkela steel city, beyond Sector-1 over an area of 262 hectares of land. NIT Rourkela has twenty one academic departments which offer B.Tech, M.Tech and PhD programs in various areas of engineering and technology. It has six centers of Excellence including two centers hosted by the Department of Electrical Engineering namely Centre of Excellence on Industrial Electronics & Robotics and Renewable Energy Systems. The Institute is a participant of the Technical Education Quality Improvement programme-III of Government of India.

Registration

Category	Registration Fee in INR
Faculty Members from Engineering Institutes	600/-
Engineers from Industry	1000/-
Scientists from R&D Organizations	1200/-
Research Scholars/ PG & UG Student	500/-

Important Date

Last date of Online Registration: 20/09/2020

Webinar Date: 23/09/2020 to 27/09/2020

Contact Us

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