This 5-day course is specially designed to overall content structure has been framed taking into account the recent trends of inclusion of EVs and Renewable energy sources in today's electric grid. Different types of transformations in conventional grid starting from generations, transmissions, protections and loads, are required to be cited. So far as current scenarios of smart grid are concerned, uncertainties in generations and loads should also be taken into account. Supply and demand side management, which plays a key role in stability of Microgrid is to be discussed. Emphasis is also required to be given for improving reliability and economic performance of Microgrid, focusing on power quality, storage and voltage and frequency control. Performances of different methods and algorithms are to be verified over conventional ones. Case studies of different issues over a particular region are to be included for giving better ideas to the readers. Major emphasis is required to be given to experimental or test bed validations of proposed algorithms or methods for the interest of the readers. It is expected that this course will be suitable for engineering professionals from academia, R&D organizations as well as industries.

Course Coverage

- Cyber Physical System approach to Microgrid System Design
- Distributed Generating System integration
- Power Electronic Control Design for Microgrid
- Integration of Renewables and Plug-in Electric Vehicles to Microgrid
- Forecasting of solar irradiance to address intermittency and variability nature of Renewable energy
- Control of PV and EV connected smart Grid
- Control scheme of Charging Control of Plug-in Electric Vehicles and Effects on forecasting electricity price
- Power Management of PV and EV connected smart Grid
- Design of Electric Vehicle Charging System for a Renewable sources integrated micro-grid
- Development of PV fed UPQC with advanced controller for Power Quality improvement

Key Speakers

Prof. Bidyadhar Subudhi, IIT Goa

Prof. Ghanim Putrus, Northumbria University, Newcastle, UK

Prof. Mousa Marzband, Northumbria University, Newcastle, UK

Prof. Pravat Kumar Ray, NIT Rourkela

Prof. Arnab Ghosh, NIT Rourkela

NATIONAL INSTITUTE OF TECHNOLOGY ROURKELA

Online Short Term Course
and
Faculty Development Programme
On

Renewable Energies and Plug-in Vehicles Integration in Microgrid (REPVIM-2021)

26th – 30th November 2021

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/1a4dAUKZj B2erjs5blAY1ukR-kdyz7qqmtQjrY_538j4

Online Account Details

Account No: 10138951784
Account Name: CONTINUING EDUCATION 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.

Registration

Category	Registration Fee in INR
Research Scholars/ PG & UG Student	**300/-**
Faculty Members from Engineering Institutes	**400/-**
Engineers from Industry and R&D Organizations	**500/-**
No registration fee for students / staff of NIT Rourkela	

Important Date

Last date of Online Registration: 22/11/2021
Webinar Date: 26/11/2021 to 30/11/2021

Contact Us

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