TARGET AUDIENCE

The workshop is open for faculty/students of engineering colleges, practicing engineers from utility, industry and other organizations.

FACULTY

The faculty for the workshop will be drawn from various schools of IIT Mandi, IIT Kanpur, other institutions and organizations. Some of the distinguished speakers are:

- Prof. S. N. Singh, IIT Kanpur
- Prof. Francisco Gonzalez-Longatt, Loughborough
- University, UK
- Prof. Rohit Bhakar, University of Bath, UK
- Prof. Naran M. Pindoriya, IIT Gandhinagar

REGISTRATION FEE

The registration fee is Rs. 500/- for academic participants and Rs. 4000/- for participants from utilities, industries and other organizations.

Registration fees will cover workshop fee, workshop material, working lunch, refreshments during workshop period only. Accommodation (sharing basis at Hostels) may be provided on request. Registration fee does not include the travel expenses of the participants.

All payments should be through DD/Cheque drawn in favor of "***Registrar IIT Mandi***" payable at Mandi, HP, India.

IMPORTANT DATES

Last date of receiving application	Nov. 20th , 2014
Notification and selection	Nov. 21st , 2014

Note: Selected candidates will be informed by fax / email, if provided.

MANDI AND ITS CLIMATE

Mandi is a small scenic beautiful town at the center of Himachal Pradesh. A few hours before the Himalayan resorts Kullu and Manali in Himachal Pradesh, once considered "the end of the habitable world".

The town has both mythological and historical significance and boasts of a unique temple architecture. It is also referred to as Chhota Kashi as there are many ancient temples in the city and on the banks of river Beas. The river Beas flows through the town and hills, which makes this town more scenic.

Weather at Mandi: The weather at Mandi in December is expected to be mild cold.

How to reach:

Road: Mandi is well connected by road to other places. From Chandigarh (200 km) one can travel by road to Mandi via Bilaspur. This would take about 5-6 hours. Shimla, Pathankot, Delhi, Dharamsala and Manali are all connected to Mandi by road. Mandi is actually the heart of Himachal since all buses passing from north to south and from east to west touch Mandi, making reaching Mandi a not so challenging option.

Train: The nearest railway stations are Joginder Nagar and Shimla by narrow gauge train, Chandigarh and Kalka by broad gauge train which are connected by regular bus services. From Pathankot the narrow gauge railway connects Joginder Nagar, which is 55-km from Mandi.

Information about the Institute as well as general information is available at institute website: http://www.iitmandi.ac.in

HOW TO APPLY

The duly filled registration form along with the registration fee should be sent to:

Dr. B. S. Rajpurohit
School of Computing & Electrical Engineering
Indian Institute of Technology Mandi
Mandi-175001, HP, INDIA
Phone: 01905-237921(O)/ 08894580096(R)
Fax: 01905-300009
Email: bsr@iitmandi.ac.in ,

A

National Workshop

On

Smart Micro-Grids for Autonomous Zero-Net Energy Buildings

December 11-12, 2014

Indian Institute of Technology Mandi

Coordinators
Dr. Bharat Singh Rajpurohit
Prof. S. N. Singh

Jointly Organized By:
Indian Institute of Technology Mandi
Indian Institute of Technology Kanpur

INTRODUCTION

Looking beyond 2030, the challenges of efficient distribution and management for electricity networks are likely to get tougher. There exists a general consensus that the challenges of climate change, system security, and a need to accommodate significant volumes of decentralized and renewable generation, requires that the network infrastructure must be upgraded to enable smarter operation. The major changes to the way we supply energy and monitor its consumption by building a smarter grid lies at the heart of these changes.

Governments around the world are propitiating serious efforts towards becoming *decarbonised economies* as a part of a national climate change mitigation strategy. The transition to a decarbonised economy involves three main aspects: (i) developing *energy efficiency*, (ii) developing *renewable energy capabilities* and (iii) dealing with adaptation needs arising due to *climate change*.

The large increases in electricity generation from intermittent/highly variable renewable resource, the increase of stressing/narrowly conditions on transmission system, a massive decoupling between generation/load caused by dc system and several other features expected into the future electricity networks will negatively affect the system security.

There are several initiatives around the world to develop very low energy buildings. According to an EU directive, buildings constructed after 2020 will have to be nearly energy-neutral. A *Nearly Zero-Energy Buildings* (nZEB) is a building that has a **very high energy performance**. The nearly zero or very low amount of energy required should be covered to a very **significant extent by energy from renewable sources**, including energy from renewable sources produced **on-site or nearby**.

The reliable and sophisticated solutions to the foreseen issues of the future networks are creating dynamically-intelligent application/solutions to be deployed during the incremental process of building the smarter micro-grids.

The future electricity networks and its potential issues require looking beyond the existing research frontiers irrespective of the disciplinary boundaries***. For this reason, the discussion of the future development on smarter architecture and its intelligent applications/solutions is the key research point to provide the critical importance to economic and social welfare into future smarter micro grids networks.*** The solutions using the advanced technologies / methodologies will be discussed. Several technical studies based on the recent research work will also be presented.

SCOPE OF THE WORKSHOP

The workshop's objective is to enhance the knowledge of the participants in the area of the "**Smart Micro-Grids for Autonomous Zero-Net Energy Buildings***"*. A unique, national level opportunity which delves into the high-level, strategic issues relating to the integration of renewable energy and examines practical strategies that energy generators, project developers, and grid operators can implement to overcome obstacles posed by local planning schemes and regulations, and, importantly, *do it in an intelligent, cost-efficient and timely way*. The workshop will provide a platform to an in-depth discussion on the various challenges and their possible remedies which will benefit participants from academic and R&D institutions, engineers of utilities and policy makers.

Successful implementation of Smart Micro-Grid calls for diversified technologies and expertise from various disciplines. A workshop with focus on researches such as the one proposed will enrich the technological repertoire of the research community in the country. As the leading researchers from the country are being invited, the workshop is expected to result in a well-defined road-map for the development and deployment of smart micro-grids in India.

REGISTRATION FORM

National Workshop On

Smart Micro-Grids for Autonomous Zero-Net Energy Buildings

December 11-12, 2014

Name _____

Date of birth _____ Designation _____

Organization _____

Address for correspondence _____

_____

_____

Phone _____ Fax _____

Email _____

Accommodation Required: Yes/NO (Tick one)

Payment details:

Draft No. _____ Issuing bank _____

Amount _____ Drawn on _____

Date _____

Signature of applicant

_____

*** Make photocopies of registration form if required**