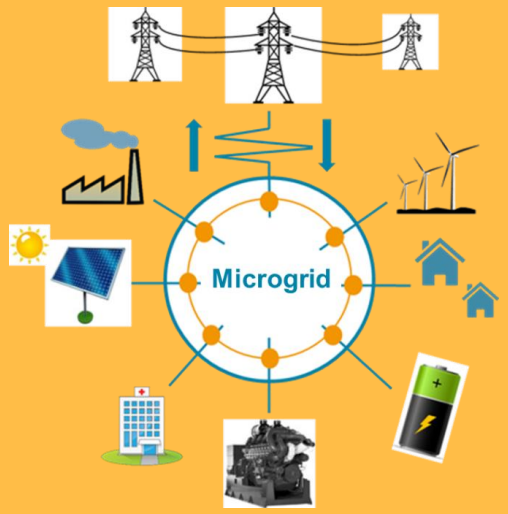
Five-Days Online Workshop

on

Challenges and Opportunities in Microgrid

17 - 21 January 2022



Coordinators

Dr. Rajan Kumar
Dr. Anil Kumar Yadav

Organized by

Department of Electrical Engineering
National Institute of Technology Hamirpur
Hamirpur (H.P.) 177005

About the Institute

National Institute of Technology Hamirpur is one of the thirty-one NITs of the country, which came into existence on 7th August 1986 as Regional Engineering College, a joint and cooperative enterprise of the Govt. of India and Govt. of Himachal Pradesh. On 26th June 2002, REC Hamirpur was awarded the status of Deemed University and upgraded to National Institute of Technology. The Institute offers B.Tech., M.Tech. and Ph.D. programmes in Engineering, Science, Architecture, Management and Humanities. Various programmes serve the purpose of building a comprehensive foundation of knowledge and of enhancing confidence, creativity and innovation in its students.

About the Department

Electrical Engineering Department, established in the year 1986, is one of the oldest departments of National Institute of Technology Hamirpur. The Department has been imparting quality education at undergraduate and post-graduate level. The faculty members have been active in teaching and research activities. The course curriculum is being revised from time to time so as to keep students abreast with latest emerging technologies. Various departmental laboratories have been strengthened and modernized by procuring state of art equipment's. Department is also equipped with latest experimental and computational facilities for taking up R&D and consultancy activities in different areas of Electrical Engineering.

Committee

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Prof. (Dr.) Lalit Kumar Awasthi
Director, NIT Hamirpur (H.P.)

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About the e-STC

With the rapid globalization, urbanization and industrialization world is witnessing an elevating demand for energy which entirely cannot be quenched by conventional energy sources. Non-conventional energy sources are ubiquitous and eco-friendly. Hybrid renewable energy systems (HRES) are reticulate with photovoltaic power and wind power to generate power for local micro-grid. These interconnected systems reduce the burden on the conventional grid and decrease dependence on fossil fuels. HRES is leading to various challenges to have safe and healthy operation of power system. From the utility point of view, it is compulsory to retain the frequency and voltage within permissible limit at the load center under power fluctuations. The proper power flow management between renewable energy sources and load is immensely important for the effectual operation of critical and frequency sensitive loads, connected to a microgrid. Due to the uncertainty of renewable energy sources in the power network, operation and control become challenging. The conventional controllers cannot handle a wide range of uncertainties during the operation of such systems, especially when integrated with the utility grid. The development of suitable controllers thus becomes mandatory for the safe and reliable operation of the network.

The primary aim of this e-workshop is to impart research skills to the beginners, and improve the quality of research among the existing researchers in the thematic areas of microgrid, control, and renewable energy systems. This programme will bring a positive transformation among the faculty members, research scholar and participants from industries towards research work, and enable the participants to develop competence in understanding recent advances in proposed topic of the course. The participants will gain the knowledge of recent and future trends in microgrid.

Topics to be covered

- Recent Developments in Microgrid
- Artificial Intelligence-Application in Microgrid
- Emerging Trends in Renewable Energy-Based Systems
- Power Quality Control in Grid Integrated-Renewable Energy Systems
- DC Microgrid for Remote Electrification in India
- Maximum Power Extraction Techniques
- Relevance of Optimal Control Theory
- Opportunities in Microgrid and Smart Grid

Resource Persons

- Prof. Bhim Singh, IIT Delhi
- Prof. Bharat Singh Rajpurohit, IIT Mandi
- Prof. S. K. Jha, NSUT, New Delhi
- Prof. Ashish Kumar Singh, MNNIT Allahabad
- Dr. Sabharaj Arya, SVNIT Surat
- Dr. Sachin Devassy, CSIR-CEERI, Jaipur
- Dr. Sanjeev Singh, MANIT Bhopal
- Dr. O. P. Rahi, NIT Hamirpur
- Dr. Amresh Singh, Mahindra Group, Bangalore

Important Dates

Last date of e-registration : 13-01-2022
Confirmation by E-mail : 14-01-2022
e-Workshop duration : 17-21 Jan. 2022

Eligibility

This program is open to faculty members, research scholars, PG & UG Students, and industrial personnel.

e-Registration and Payment Guidelines

Registration Fee (*Through SBI Collect*):

(a) Rs. 500 for Academia/R&D Labs
(b) Rs. 200 for Students
(c) Rs. 1000 for participants from Industry

1. Go to **www.onlinesbi.com** and select option **State Bank Collect**
2. Accept terms & conditions and proceed further
3. Select State of Corporate/Institute: **Himachal Pradesh** and Type of Corporate/Institute: **Educational Institute**
4. Select Educational Institute Name: **NIT Hamirpur** and click on **Submit**
5. Select Payment category **Workshop STC FDP Conference** and fill the details to proceed further

Link for e-registration

https://forms.gle/j6VtEUN3uKLRmgft8

Link for the workshop

The google meet link will be sent to the registered participants in due course.

e-Certification

E-certificates will be provided to the participants, with at least 75% attendance.

Contact us

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