Five-Days Online Short-Term Course

on

Advancements in Optimization of Power Generation, Drives and Control System

16th to 20th November 2020

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 Bachelor, Master and Doctoral programmes in Engineering, Sciences, 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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Dr. (Mrs.) Veena Sharma
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Associate Professor, DoEE, NIT Hamirpur

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About the e-STC

Energy efficiency is of dominant importance nowadays due to increasing electrical energy demand, increasing awareness of global warming & increase in prices of fossil fuels. Bridging this gap from the supply side is a very difficult and expensive proposition. Renewable energy plays an important role in bridging this gap with its rapid development. 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. The development of suitable controllers thus becomes mandatory for the safe and reliable operation of the network.

The only viable way to handle the energy crisis, apart from capacity addition through renewable energy sources, is the efficient use of available energy, which is possible by using energy efficient devices. Electric motors and motor driven systems are huge consumers of electricity, they are estimated to account for 46% of all global electricity consumption. Thus, the design and development of energy efficient drives for electrical machines with a focus on cost and reliability can also bridge the gap from supply side.

The primary aim of this e-STC is to impart research skills to the beginners, and improve the quality of research among the existing researchers in the thematic areas of control, renewable energy and motor-drive 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 Electric Drives, Power, Energy and control systems.

Topics to be covered

- Recent Developments in Motor Drives for Electric Vehicle
- Emerging Trends in Renewable Energy-Based Systems
- Power Quality Control in Grid Integrated-Renewable Energy Systems
- Control of Standalone DFIG-DC Systems
- Renewable Energy based DC Microgrid for Remote Electrification in India
- Power Quality Issues and Mitigation Techniques Using UPQC
- Maximum Power Extraction Techniques for Partially Shaded Solar PV Array
- Relevance of Optimal Control Theory
- GAMS Optimization & Forecasting
- AI-Based Control for Renewable Energy Systems

Resource Persons

- Prof. Bhim Singh, IIT Delhi
- Prof. B.K. Panigrahi, IIT Delhi
- Prof. V. Mukherjee, IIT (ISM) Dhanbad
- Dr. Amit Kumar Jain, IIT Delhi
- Dr. S. R. Mohanty, IIT (BHU) Varanasi
- Prof. Nand Kishor, MNNIT Allahabad
- Dr. R. N. Patel, NIT Raipur
- Dr. Sanjeet Dwivedi, Danfoss Power Electronics, Denmark
- Dr. Sandeep M., NTU Singapore
- Dr. Vashist Bist, Fuji Electric Co. Ltd., Pune

Important Dates

Last date (Online Registration) : 12-11-2020
Confirmation by E-mail : 13-11-2020
e-STC Duration : 16-11-2020 to 20-11-2020

Eligibility

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

e-Registration

Registration Fee: Through SBI Collect or NEFT

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

Bank Details (for NEFT):
Bank & Branch Name: SBI, NIT Hamirpur
Account Name: Director NIT Hamirpur
Current Account No.: 11159548375
IFSC Code: SBIN0010367

Link for e-registration through google form:

https://forms.gle/1Lw5FVYwdHTkYfkF7

e-Certification

E-certificates will be provided to the participants, with at least 75% attendance, upon successful completion of the program.

Contact Details

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