

Registration Form

Short term Course
on
**Power Electronic Converters in
Grid Integration of
Renewable Energy Sources**
December 27th- 31st, 2019

Department of Electrical Engineering
MNIT Jaipur
JLN Marg, Jaipur-302 017 (Rajasthan)

Name :

Designation :

Department :

Institute / Organization :

Qualification :

Specialization :

Mailing Address :

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Phone (M) :

E-mail :

Accommodation required? Yes/No

Registration Category : Faculty / Student / Industry { Tick }
Appropriate

Registration fee details :

Draft No : Dt :

For RS..... in favour of "Registrar,

MNIT Jaipur" is enclosed.

The above information provided is true and to the best of my knowledge. If selected, I agree to abide by the rules and regulations of the course.

Date : _____ Signature of Candidate

The applicant will be permitted to participate in the above programme, if selected.

Date : _____ Signature of Sponsoring
/ Head of Deptt. with Seal

Organizing Committee

Patron : Prof. Udaykumar R. Yaragatti, Director, MNIT Jaipur
Coordinator : Prof. Harpal Tiwari, Dr. Nitin Gupta, Dr. Arun Kumar Verma

Course Content

- Research and Development in Power Electronics under National Mission on Power Electronics Technology (NaMPET Phase-III)
- Recent Advances in Renewable Energy Sources & Technology
- Power Electronics Converters in Modern Electrical System: Architecture, Design and Interfacing Aspects
- Impact of Distributed Generation Units with Power Electronic Converters
- Grid Support by Power Electronic Converters of Distributed Generation units
- Power Quality Problems in Grid Integration of Renewable Energy Systems
- Modelling, Control and Pulse Width Modulation Techniques of PE Converters
- Optimal Energy Control and Challenges in Integration of Renewable Power Systems with Grid and Micro-grid
- Ancillary Services for Grid-connected Renewable Energy Systems
- Smart Grid and Efficient Energy Distribution System
- Review of Optimization Techniques used in Grid-integration
- Applications of High-Speed Processor like dSPACE/ DSP/ FPGA in Converters including demonstration of Live Setup of PV-system based grid-tied inverter

Eminent Speakers

Academicians from IITs, IISc, NITs, CDAC and professionals from industries.

Advisory Committee

- Prof. H.P. Khincha, Advisor, IISc & Former VC, VTU
- Shri Tara Shanker, Sr. Director, ESDA Dn. MietY, New Delhi
- Shri. Renji V. Cacko, Sr. Director & Head, PEG, CDAC-T
- Prof. Gopakumar, IISc Bangalore
- Prof. Bhim Singh, IIT Delhi
- Prof. Sukumar Mishra, IIT Delhi
- Prof. B. K. Panigarh, IIT Delhi
- Prof. Pramod Agarwal, IIT Roorkee
- Prof. Kishore Chatterjee, IIT Bombay
- Prof. Hemanshu Pota, UNSW Australia
- Prof. R. A. Gupta, VC, RTU Kota
- Prof. S. K. Jain, Director, SLIET Longowal
- Prof. V. N. Shet, Goa Government Engineering College
- Dr. Vijayakumar Krishnasamy, IIITD&M, Kancheepuram
- Prof. Mohd. Rizwan Khan, AMU, UP
- Shri. Sudeep Kumar, Sr. Consultant, CDAC-T
- Shri. V. S. Suresh Babu, Nodal Officer, NaMPET-Ph-III, CDAC-T
- Shri. A. K. Jain, MD, REIL-Rajasthan
- Dr. Manohar Singh, Engineering Officer, CPRI-Bangalore
- Dr. Soumyadeep Ray, KPIT Technologies, Pune
- Shri. Samir Desai, NiTech, Surat

NaMPET @ MNIT Jaipur

Short-term Course on
**Power Electronic Converters in
Grid Integration of Renewable
Energy Sources**

DECEMBER 27th - 31st, 2019

Organized by



DEPARTMENT OF ELECTRICAL ENGINEERING
Malaviya National Institute of Technology
J.L.N. Marg, Jaipur-302 017, Rajasthan, INDIA
www.mnit.ac.in



Under the aegis of
NaMPET Phase III
National Mission on
Power Electronics Technology

An Initiative of



Ministry of Electronics and
Information Technology
Government of India

Nodal Centre



Centre of Development of
Advanced Computing
(CDAC), Trivandrum

PREAMBLE

In recent years, there has been a lot of emphases is going on the grid-integration of Renewable Energy Sources (RES) due to their versatile impact in the modern electric grid. RES can produce clean and pollution-free energy. However, the integration of RES with electric grid requires Power Electronic Converters (PECs). These converters act as the interface between RES and Grid. A stable, protected, energy-efficient and good supply quality integration is the mandate of the present and future electrical power system. However, increasing demand for power can be met by developing clean RES and also by enhancing the overall efficiency of the conversion by adopting new/improved control methods. Therefore, these PECs are serving as an energy conditioning device which process and controls the flow of electrical energy by supplying voltages and currents in the form that optimally suits various types of loads and associated applications. Different converters and their topologies are designed to optimize the energy conversion and distribution, to minimize harmonic distortion, to reduce cost and to have high reliability. Recent trends are also focusing on power quality (PQ) issues of distribution systems and associated smart energy management principles. Hardware implementation of such grid-interactive systems is also a challenging task due to the impact of various factors. Various controllers such as DSP, FPGA, dSPACE, etc. have been used for control algorithm implementation purpose. Thus, the objective of this short-term course (STC) is not only to discuss various control aspects of RES and their grid-integration methods via different PECs but also their hardware implementation methods to achieve benefits as mentioned earlier. The latest advancement in control schemes of integration for active power exchange and concerning to PQ will be discussed during different sessions of the STC. The proposed program will provide an opportunity to faculty, engineers, and utility/industrial personnel to know the latest development, related problems of PQ and measures to overcome them with possible areas of research through interactive sessions of the experts. This STC is also aimed to bring the academy and technocrats on one platform to discuss common interests, challenges and concerns that act in accordance with standards of grid-integration of RES.

About National Mission on Power Electronics Technology (NaMPET)

National Mission on Power Electronics Technology - NaMPET, is a National Mission Program launched by the Ministry of Electronics and Information Technology (MeitY), Govt. of India, with a vision to provide the country with capability to become a dominant player in power electronics technology. Through this national level R&D program, Research, Development, Deployment and Commercialization of power electronics technology is envisaged by enhancing the indigenous R&D expertise and infrastructure in the country with active participation from academic institutions and industries. CDAC-T is the Nodal Centre, co-ordinating the activities of NaMPET.

Present third phase of NaMPET which commenced in January 2019 is focusing on technology developments in key areas such as e-mobility, smart grid, wide band gap devices etc. along with Awareness creation activities.

About the Centre for Development of Advanced Computing (CDAC)

Centre for Development of Advanced Computing, Thiruvananthapuram, CDAC-T is a Scientific Society of the Ministry of Electronics and Information Technology (MeitY), Govt. of India. The Centre has been working in application oriented research, design and development for various strategic, industrial, consumer electronics and IT systems. In this process, the Centre has acquired competency, expertise and extensive experience in the areas of Power Electronics, Control & Instrumentation, Networking, Broadcast & Communications, ASIC Design and Underwater Electronics. The Power Electronics Group, CDAC-T has been working in application-oriented research, design and development for various industrial and customer requirements for the past four decades. Power Electronics Group has expertise and experience in the areas like Wide Band Gap (WBG) device based converters for power electronics applications, Power quality solutions, Multi-port power electronics interfaces for renewable energy sources, e-Mobility subsystem developments, High voltage & high current power supplies, FPGA based multi-core digital controllers, Medium voltage drives, Power conditioner for fuel cell system, Real-time simulators, Controller for rail traction etc. The Power Electronics group has a very good industry interaction by way of transfer of technologies, field implementations etc. It has very closed association with reputed academic institutions like IISc & IITs.

About the Institute 'MNIT-Jaipur'

Malaviya National Institute of Technology Jaipur (Deemed University) is one of the premier NITs, designated with the status of "Institute of National Importance" by MHRD. The institute was established in 1963, and its campus spread over 325 acres of lush green area in the central location of Jaipur city. The institute offers undergraduate and postgraduate courses (B.Tech, M.Tech./MBA / M.Sc. & Ph.D.) to about 5000 students, in leading fields of engineering, technology, architecture, management & sciences. Through the internationally renowned faculty, laboratories with state-of-the-art equipment's and excellent infrastructure, the institute is actively engaged in research, consultancy and developmental activities, besides imparting regular teaching.

About the Department of Electrical Engineering

The Department is one of the oldest departments of the institute, offering a line blend of experience and innovation in teaching. Presently, offering an undergraduate programme in Electrical Engineering and Postgraduate studies in Power system engineering and Power Electronics and Drives respectively. The department is home to over 40 research scholars, pursuing a Ph.D. in varied fields of electrical engineering. The department provides a life-long learning experience, through its state of art laboratories, a vast pool of courses, and industry orientation. A

strong collaborative framework with reputed universities in India and abroad, the department offers ample opportunities for individual growth.

How to Apply/ Registration/ Course fee

Faculty of Academic Institutes	Rs. 2500/-
Students / Research Scholars	Rs. 1200/-
The person from Industries	Rs. 5000/-
Exhibition	Rs. 8000/-

A fee shall be paid by Demand Draft in favour of "Registrar (Sponsored Research) MNIT Jaipur" payable at Jaipur. Duly filled applications in the prescribed format and sponsored by the competent authority of the Institution need to be sent to the Coordinator to reach on or before 1st December 2019. The registration fee will include registration kit, high tea, working lunch. The selection is on a first come first served basis depending upon the availability of seats. Registration charges are non-refundable for selected participants. As seats are limited, so pre-registration is required by applying online at

<https://forms.gle/ge3Q65FTgmG4BHee9>

Important Dates to Remember

Last date of receiving Registration form December : 1st, 2019

Confirmation of Selection by Email December : 5th, 2019

Course Duration : December 27th-31st, 2019

Boarding and Lodging

Limited accommodations on twin-sharing basis are available in the MNIT Guest House/Hostels for outstation participants on a chargeable basis with an advance request. The participant will not be paid any TA/DA.

About Jaipur City

The city of Jaipur, also known as Pink City and is the capital and largest city of Rajasthan. Jaipur has the attractions like Hawa Mahal, Amber Fort, Nahargarh Fort, Jal Mahal, Kanak Vrindavan Valley, City Palace, Jantar Mantar, Albert Hall Museum, Sisodia Rani Garden, Govind Devji Temple, and Birla Temple. It is a bustling trading center with colorfully set bazaars, people sporting blood-red turbans, puppet sellers, festivals and fairs. September to March is the best time to visit Jaipur.

How to Reach Us

Road, rail and air services well connect Jaipur. It is about 250 kms from Delhi International Airport. MNIT Jaipur is situated on JLN Marg and is about 9 kms each from the main railway station of Jaipur and Central Bus Stand (Sindhi Camp). Jaipur International Airport is about 3 kms away from the institute.

Coordinator & Contact Person

Dr. Nitin Gupta

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