



NATIONAL CENTRE FOR PHOTOVOLTAIC RESEARCH AND EDUCATION

Continuing Education Programme 3-Day Short-Term Course on

“Power Electronics Interface for Solar PV Integration”

Introduction:

Power electronics-based converters play a vital role in efficient evacuation of power generated from solar Photo-voltaic (PVs). The major roles includes : to interconnect PV panels in series-parallel configurations and operate at MPP; and to act as an interface between the DC output of PV panel and the AC grid or the loads. In this course, we will be dealing with various topologies for DC-DC and DC-AC converters which can perform the above functions with high efficiency and reliability. In addition to this, the control aspects of these converters for MPPT operation, off-grid and on-grid operation, grid synchronization will also be explained. The high penetration of PV systems demands additional smart features like reactive power support, islanding detection, LVRT operation; whose implementation on converter control will also be discussed.

Tentative Course Contents:

- Introduction to the role of power electronics in PV systems
- Application of DC-DC Converters in PV systems
- Isolated and Non-isolated DC-DC Converter Topologies
- Grid-connected Inverters with or without Transformer
- Single and Double-stage Integrated PV Systems
- Current Source Inverters for PV Systems
- Grid synchronization via single and three phase PLL techniques
- Issues in High PV Penetration
- Islanding Detection in PV Systems
- Integrating voltage support and low-voltage ride-through (LVRT) features in PV Systems

Course Coordinator:

Prof.B.G.Fernandes, NCPRE, IIT Bombay

Who May Benefit:

The course would benefit anybody who wants to work with converter topologies for PV systems, specially research and development engineers and students who are currently working on power electronics-based systems. The workshop would also be an excellent opportunity to learn several aspects of current solar PV technology and the operation of such PV inverters.

Date : 26th – 28th April, 2017.

Venue: VMCC, IIT Bombay, Mumbai

Registration Details:

There are limited numbers of seats for the course. Please fill the online registration form available on our website. Once your profile has been approved by the course coordinators, (you will receive a mail regarding the same), you need to send the hard copy of completed Registration Form, along with the fees to the address given below. The fees must be paid by demand draft in favor of **“Registrar IIT Bombay - CEP Account.”**

Course Fee:

The course fee per participants will be as follows:

Participants	NCPRE Fees Three Day course
Industry personnel	15000+15% service tax =17250/-
Personnel from Academic Institutions & Government Organizations	10000+15% service tax =11500/-
Students	5000+15% service tax =5750/-

The fee includes course material, lunch and refreshments. Limited accommodation may be available for academic participants, but is not included in the above fee.

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For information on other Solar Photovoltaic (PV) courses, please visit

<http://www.ncpre.iitb.ac.in/events.php>