

Three-day CEP Short Term course
On

Converter topologies for grid connected solar PV System

April 24 - 26, 2013

Venue:-
KReSIT 3rd Floor Seminar Hall
IIT Bombay

Course Coordinator

Prof. B.G.Fernandes
Department of Electrical Engineering



**National Centre for Photovoltaic Research and
Education
Indian Institute of Technology, Bombay**

Schedule

Day 1: 24th April, 2013

Time	Title	Speaker
09:00 - 09:30	<i>Tea Course registration and notes distribution</i>	
09:30 - 10:00	NCPRE Introduction and welcome by coordinator	Prof. B.G.Fernandes (IIT Bombay)
10:00 - 11:30	Solar PV Technology (module parameters, impact of solar radiation and temperature on module parameters).	Prof. C.S.Solanki (IIT Bombay)
11:30 - 11:45	<i>Tea break with informal discussion</i>	
11:45 - 13:00	Introduction to power evacuation strategy from solar PV	Prof. Kishore Chatterjee (IIT Bombay)
13:00 - 14:00	<i>Lunch</i>	
14:00 - 15:15	Single phase and three phase VSI, voltage control	Prof. Kishore Chatterjee (IIT Bombay)
15:15 - 15:30	<i>Tea break with informal discussion</i>	
15:30 - 17:00	Principle of power transfer, single phase PLL	Prof. B.G Fernandes (IIT Bombay)

Day 2: 25th April, 2013

Time	Title	Speaker
09:30 - 10:45	Transformer-less single phase topologies, their comparison, ground leakage current, issues to mitigate this current	Prof. B.G.Fernandes (IIT Bombay)
10:45 - 11:00	<i>Tea break with informal discussion</i>	
11:00 - 12:00	MPPT Techniques	Prof. S. Doolla (IIT Bombay)
12:00 - 13:00	Three phase PLL, theory and simulation	Prof. B.G Fernandes (IIT Bombay)

13:00 - 14:00	<i>Lunch Break</i>	
14:00 - 17:00	Real time implementation issues in single phase PLL, three phase PLL, controller implementation, demo of single phase and three phase grid connected inverter	Mr. Rajesh Mr. Viju Mr. Girish (IIT Bombay)

Day 3: 26th April, 2013

Time	Title	Speaker
9:30 - 10:45	Grid codes, standards (Grid interconnection requirement, Review of various standards).	Prof. S. Doolla (IIT Bombay)
10:45 - 11:00	<i>Tea break with informal discussion</i>	
11:00 - 12:15	Multi-level inverter(topologies, modulation and control of NPC, cascaded and FC inverters)	Prof. Anshuman Shukla
12:15 - 13:15	Space vector PWM technique	Prof. Kishore Chatterjee (IIT Bombay)
13:15 - 14:00	<i>Lunch Break</i>	
14:00 - 15:15	Recent developments in inverter controller (one cycle controller)	Prof. Kishore Chatterjee (IIT Bombay)
15:15 - 15:30	<i>Tea break with informal discussion</i>	
15:30 - 16:45	Alternate topologies for grid connected solar PV (current source based)	Prof. B.G.Fernandes (IIT Bombay)
14:30 - 16:45	Feedback, Certificate distribution and Closing	