

**Program for Short Course / Workshop on “PV Module Reliability”  
Victor Menezes Convention Centre, IIT Bombay  
Room No 21**

**Thursday, April 3, 2014**

08:30 - 09:00	Registration / Breakfast	
09:00 - 09:05	Welcome	Juzer Vasi and Abhay Karandikar
09:05 - 09:20	Inaugural Session: PV Activities at National Institute of Solar Energy (NISE)	Praveen Saxena, Director-General, NISE
09:20 - 09:25	Release of Report on All-India Survey on PV Module Degradation	Praveen Saxena
09:25 - 09:40	Introduction to NCPRE	Chetan Solanki / B. G. Fernandes, IIT Bombay
09:40 - 09:55	Introduction to SERIUS	Dave Ginley / Bill Tumas, National Renewable Energy Laboratory, USA
09:55 - 10:00	Overview of the Short Course / Workshop	Anil Kottantharayil
10:00 - 10:30	Tea / Coffee	
10:30 - 11:15	Introduction to PV Modules	Ivan Saha, Vikram Solar
11:15 - 12:00	Performance Characterizations of Commercial PV Modules	G. Tamizhmani, Arizona State University, USA
12:00 - 12:45	Effect of Dust on Performance and Reliability	Larry Kazmerski, National Renewable Energy Laboratory, USA
12:45 - 13:30	Lunch	
13:30 - 14:15	Degradation and Failures in Crystalline Silicon PV Modules in Power Plants	G. Tamizhmani, Arizona State University, USA
14:15 - 15:00	Failure in Thin Film Modules & PID	Neelkanth Dhere, Florida Solar Energy Centre, USA
15:00 - 15:45	Standards and Certification of PV Modules	Liang Ji, UL, USA
15:45 - 16:15	Tea / Coffee	
16:15 - 17:15	Field Experience in India	5 Invited Users of PV Modules: Hemant Lamba (Auroville), S. P. Gon Chaudhuri, Tashi Thsering (IAO, Hanle), Umakant Shende (Thermax), G. V. Subramanyam (Kiran Energy), Bharat Bhargava (ONGC)
17:15 - 18:30	Panel Discussion	Panelists: All Speakers
19:00 - 21:00	Dinner	

**Friday, April 4, 2014**

08:30 - 09:00	Breakfast	
09:00 - 10:15	Thermal and Mechanical Cycling for Module Lifetime Prediction	Nick Bosco, National Renewable Energy Laboratory, USA (via remote video)
10:15 - 11:00	PV Module Performance Data at SEC	O. S. Sastry, Solar Energy Centre (National Institute of Solar Energy)
11:00 - 11:30	Tea / Coffee	
11:30 - 12:15	Thermal Imaging, Electroluminescence and other Diagnostic Tools	Neelkanth Dhere, Florida Solar Energy Centre, USA
12:15 - 13:00	Degradation and Failures of PV Modules in Accelerated Testing	G. Tamizhmani, TUV Rheinland
13:00 - 14:00	Lunch	
14:00 - 14:45	Dust Mitigation Strategies	Larry Kazmerski, National Renewable Energy Laboratory, USA
14:45 - 15:30	All-India PV Module Survey 2013	Anil Kottantharayil, IITB
15:30 - 16:00	Tea / Coffee	
16:00 - 16:45	Discussion Session	All Speakers + Audience
16:45 - 17:00	Concluding Session	