



NATIONAL CENTRE FOR PHOTOVOLTAIC RESEARCH AND EDUCATION

Continuing Education Program 3-Day Short-Term Course on

“Theory and Technology of Silicon Solar Cells”

Course Contents:

- Introduction to the physics of semiconductor devices (band diagram, optical absorption, generation-recombination, transport, pn-junction diode characteristics)
- Theory of silicon solar cells (characteristics of silicon solar cell, design of silicon solar cells - optical design, junctions, passivation, impact of these parameters on solar cell characteristics, IV measurements, quantum efficiency measurements)
- Fabrication of low - cost industrial full area Al - BSF and local area Al BSF (PERC) silicon (both mono and multi) wafer solar cells
- Simulation of solar cell using PC1D: a practical session
- Loss analysis of solar cells: a practical session
- Luminescence imaging and Light Beam Induced Current (LBIC) characterization of Si wafer & solar cells for process, device development and diagnostics
- Advanced silicon solar cells

Hands on sessions: The course would include hands on sessions on simulation of solar cells and loss analysis of Al-BSF cells. The participants should bring a laptop running Windows OS. There would be visits to NCPRE silicon solar cell fabrication (6 inch X 6 inch cells are fabricated routinely) and characterization facilities. You may also get an opportunity to visit our module characterization and fabrication facilities if there is a specific interest.

Course Coordinator: Prof. Anil Kottantharayil, Department of Electrical Engineering and NCPRE, IIT Bombay

Date: September 26-28, 2019

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).

Participants are required to register for the course online at the following portal:
https://portal.iitb.ac.in/ceqipapp/courseDetails.jsp?c_id=2253

The course fee per participant will be as follows:

PARTICIPANTS	FEES
Overseas / Foreign National	25000/-
Govt. Organization / Industry	20000/ -
Academia	12000/ -
Student (Full time)	6000/ -

* Fees inclusive of 18% GST. The fee includes course material, lunch and refreshments. Limited accommodation may be available for academic participants, but is not included in the above fee.

Contact for more info:

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For the information of other courses please visit following portal:

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