



**NCPRE**  
NATIONAL CENTRE FOR PHOTOVOLTAIC RESEARCH AND EDUCATION (NCPRE)  
राष्ट्रीय प्रकाश वोल्टीय अनुसंधान एवं शिक्षा केन्द्र



# Thin Film Solar PV Technologies

September 15<sup>th</sup>-17<sup>th</sup>, 2011

## Introduction

Silicon wafer based PV technologies are expensive due to the high cost of silicon wafers. Typical wafer thickness is in the range of 180 micro meters for commercial silicon PV cells. Thin Film PV technologies offer significant cost advantages in view of the smaller cell thickness. This short course would give you a broad overview of various Thin Film PV Technologies.

## Course Content

The following topics would be covered in the course:

1. Fundamentals of P-N junction solar cells
2. Differences between wafer based crystalline Si and thin film solar cells
3. Thin film deposition techniques
4. a-Si (Amorphous Silicon) solar cell technology
5. Commercial production of a-Si PV modules
6. Compound semiconductors of current interest for thin film solar cells
7. Dye sensitized solar cells
8. Organic Solar Cells
9. Solid State sensitized solar cells
10. Plasmonics for thin film solar cells
11. Other emerging thin film solar cell concepts

A visit of the NCPRE laboratories would be arranged as part of the short course. The workshop would also be an excellent opportunity for networking with your peers from industry, research labs and academia.

## Who May Benefit

The course would benefit- any graduate interested in solar PV field, researchers and academicians working in solar PV area, industry personnel in manufacturing as well as in installation of solar PV systems.

## **Faculty**

The teaching faculty constitutes experts from various engineering disciplines of IIT Bombay and IIT Kanpur, IACS, Moser Baer and CUSAT.

## **Date & Venue**

**Date:** September 15<sup>th</sup> - 17<sup>th</sup>, 2011

**Venue:**

KReSIT Seminar Hall (3rd Floor),  
IIT Bombay, Powai,  
Mumbai-400076

## **Registration Details**

There is limited number of seats for the course. Participants are required to confirm their registration by sending the completed Registration Form, along with the fee to the Course Coordinator. The fees must be paid by demand draft in favor of **“Registrar IIT Bombay - CEP Account .”**

**Deadline for submitting the application is 3<sup>rd</sup> September, 2011**

Kindly note that no income tax is to be deducted at source from course fee payments, as IIT Bombay is exempted from the same.

## **Fee Details**

The course fee per participants will be as follows:

<b>Participants</b>	<b>Amount per Person (In Rs)</b>
Industry & Individuals	9000
Academic Institutions	3000
Students	1500

The fee includes course material, lunch and refreshments.

## **Accomodation**

Accommodation is available in the institute hostel or guest house/similar facility for limited number of participants on payment as per actual with advance request.

Note: TA/DA will be provided to selected students and participants from academic institution on prior request

Please contact the following for all queries related to accommodation

Mr. Ajay P. Jadhav

**Email:** ncpre@iitb.ac.in

**Ph:** 09076803229

## **Course Coordinator**

**Prof. Anil Kottantharayil / Prof. B.M. Arora**

Department of Electrical Engineering  
Indian Institute of Technology Bombay  
Powai, Mumbai-400 076

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

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