

Hands-on Photovoltaics

How to address the major challenges in the society related to energy, climate and environment?

Photovoltaics is besides wind- and bioenergy one of the most important sources for renewable energy generation.

This course takes advantage of modern and unique high technology facilities located at campus Sønderborg of SDU to provide a thorough hands-on introduction to promises, possibilities and boundaries of modern photovoltaics. Areas covered include:

- Direct generation of energy from solar light
- Photovoltaic systems
- Inverter technology: conversion towards the common grid

The aim is to give an overview and a hands-on understanding on present and upcoming photovoltaics technologies that are used for delocalized power production in, e.g., smart phones, on the roof of common households and for production of large current in solar power plants. The course was developed by researchers of the Mads Clausen Institute in collaboration with external partners.

Benefits

On the course you will receive:

- A broad overview of photovoltaic technology
- Knowledge about first, second and third generation solar cells
- Knowledge about inverters for photovoltaic installations
- Knowledge and experience in setting up complete photovoltaic systems
- Access to a pool of broad scientific and engineering expertise
- Opportunity to exchange experiences and network with colleagues

Audience

The course content is addressed to skilled professionals working in different industrial sectors related to energy generation, renewable energies or energy conversion.

Basic knowledge of engineering and/or physics corresponding to a bachelor, civil engineer, professions bachelor or similar is expected.

Time and place

22.-23. August 2015

The course is held at University of Southern Denmark, Sønderborg campus

Price

6.000 kr. excl. VAT

The price includes tuition, materials and meals during the course days.

The price does not include accommodation.

Registration

Deadline 12. December 2014

On our website: www.sdu.dk/sdue

Program

Day 1 Morning: Photovoltaics: from Silicon to organic solar cells

- How do solar cells work
- The physics behind solar cells
- Loss processes and limitations
- Characterization of solar cells
- From standard Silicon to thin-film devices

Day 1 Afternoon: Hands-on on Solar Cells

Day 2 Morning: Photovoltaic Systems

- PV plant topologies
- Micro grid systems
- String inverters based systems
- Central inverters based systems
- The concept of shadows
- Annual energy production scenarios

Day 2 Afternoon: Hands-on PV Systems

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