BACKGROUND INFORMATION

This workshop is part of the **DURSOL** project «Exploring and Improving Durability of Thin Film Solar Cells», www.dursol.ch. **DURSOL** is a project that brings together the major Swiss research teams and companies in the field of thin film photovoltaics.

DURSOL intends to…

- perform world-class research and development to explore and improve the durability of thin film solar cells
- generate visibility and attract young scientists to the rapidly growing field of thin film photovoltaics by organizing workshops and developing educational activities
- create a thin film photovoltaics platform in Switzerland that promotes teamwork between Swiss Federal Institutions, Universities, Universities of Applied Sciences and Industry

DURSOL has been created within the framework of the Swiss Competence Centre for Energy and Mobility (CCEM-CH) and receives additional funding from Swisselectric Research.

GENERAL INFORMATION

Location	Empa, Dübendorf, Überlandstrasse 129 AKADEMIE
Costs	CHF 160.– (Students CHF 80.–) Workshop materials, lunch and refreshments included
Registration	www.empa.ch/dursol
Deadline	March 3rd, 2012
Cancellation	For cancellations after March 21, 2012, 50% of the fee will be charged. After March 28, 2012, or in case of non appearance we will charge the full fee. A replacement will be accepted at any time.
Contact Scientific	Empa **Dr. Roland Hany** Laboratory for Functional Polymers Phone +41 58 765 40 84 roland.hany@empa.ch
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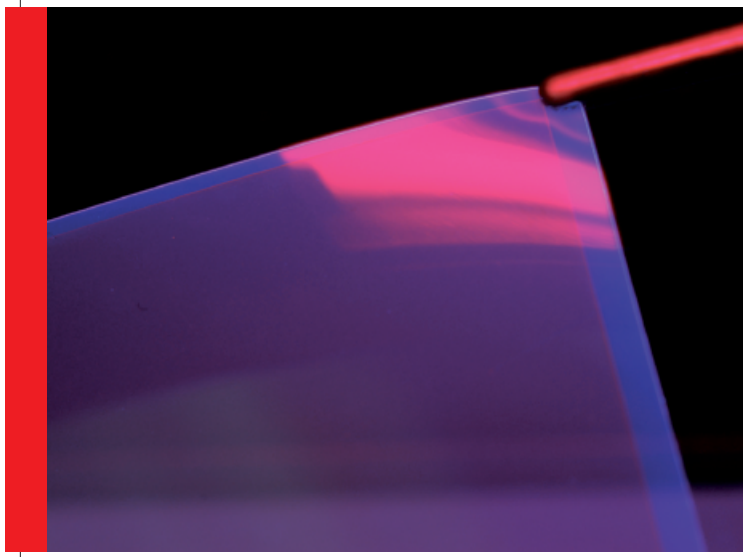
www.empa.ch

EMPA AKADEMIE
Zentrum für Wissenstransfer

WORKSHOP

Durability of Thin Film Solar Cells

Status and Assessment



Empa, Dübendorf, Überlandstrasse 129
Wednesday, April 4th, 2012, 9am to 5pm

Online registration *www.empa.ch/dursol*

TOPIC AND OBJECTIVES

The direct conversion of sunlight into electricity using solar cells is a key technology for the sustainable energy supply of the future. Thin film solar cells are the fastest growing branch of the booming photovoltaic market. They can be fabricated using inorganic (a-Si, mc-Si, CdTe, CIGS) or organic (OPV, DSC) materials and they can be deposited on rigid or flexible substrates using large-scale compatible coating and printing processes. The main advantages of thin film solar cells over today's typical silicon wafer-based photovoltaic modules are flexibility and lower cost of production.

Thin film solar cell research is a quickly developing field and rapid progress is being achieved in all areas covering device design, upscaling and solar cell power conversion efficiency. The workshop will focus on the long-term stability of thin film solar cells. Degradation mechanisms in ultra-thin films due to external influences of water vapour and oxygen or inherent material properties are complex. Combined efforts from academia and industry are needed to identify and resolve the basic physical and chemical processes at the micro and nano scale that adversely affect the lifetime of thin film solar cells.

The workshop intends to give a general overview of the field, identify stability issues common to all technologies, and focus on selected degradation phenomena of thin film solar cells. Successive events will scientifically focus on specialized topics such as stabilization of thin film morphology, chemical and mechanical stress and barrier properties of encapsulation materials.

TARGET AUDIENCE

This scientific event welcomes students, researchers and professionals from the photovoltaic industry.

SPONSORS

ccem.ch SCN swisselectric research

PROGRAM

09.00 Welcome coffee, registration

09.45 Opening
Prof. Frank A. Nüesch
Empa, Dübendorf, Switzerland

10.00 Is it possible to design accelerated service life tests for PV modules?
Dr. Michael Köhl
Fraunhofer ISE, Freiburg, Germany

10.40 Outdoor measurements and comparison of thin film solar cell technologies
Dr. Hans-Dieter Mohring
ZSW, Stuttgart, Germany

11.20 Short coffee break

11.40 Stress tests and failure modes of thin film silicon photovoltaic modules
Dr. Ivan Sinicco
Oerlikon Solar AG, Truebbach, Switzerland

12.20 Lifetime of organic solar cells – are 20 years of lifetime realistic?
Prof. Christoph J. Brabec
i-MEET, University Erlangen, Germany

13.00 Lunch and Poster Presentation

14.30 Roof-integrated thin film photovoltaics: opportunities and challenges
Josef E. Lussi
Sika Technology AG, Sarnen, Switzerland

15.10 Long term stability of dye solar cells – meeting IEC 61646 requirements
Dr. Hans Desilvestro
Dyesol, Queanbeyan, Australia

15.50 Traceable measurement of water vapour transmission rate using cavity ring down spectroscopy
Dr. Paul Brewer
NPL, London, Great Britain

16.30 Closure and open discussion

16.45 Aperitif and Poster Presentation

REGISTRATION FORM

Durability of Thin Film Solar Cells

Status and Assessment

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AKADEMIE
Wednesday, April 4th, 2012, 9am to 5pm

Deadline: March 3rd, 2012

Please register online:

www.empa.ch/dursol

The number of participants is limited.
Your registration will be acknowledged by E-mail.

Poster exhibition
Take the opportunity to present your results during lunch and aperitif at the poster session!
The number of posters is limited. The poster size is A0 (height 118,9 cm, width 84,1 cm).