



## Announcement <sup>(1)</sup>

# 10<sup>th</sup> SOPHIA Workshop PV-Module Reliability

May 28<sup>th</sup> – 29<sup>th</sup>, 2020,

EPFL École Polytechnique Fédérale de Lausanne, Neuchâtel, Switzerland

## OBJECTIVES:

### REQUIREMENTS OF NEW AND UPCOMING PV APPLICATIONS FOR MATERIAL SELECTION AND RELIABILITY ASSESSMENT

The École Polytechnique Fédérale de Lausanne EPFL (Switzerland) and the Fraunhofer Institute for Solar Energy Systems ISE (Germany) are proud to invite to the 2020 SOPHIA-workshop 'PV-Module Reliability' in Neuchâtel, Switzerland. The 2020 workshop will feature reliability aspects of innovative PV applications in service life prediction modelling and standardization. Aspects of the influence of reliability on sustainability will be presented and further information on the EU-Project SolarTrain provided.

This year's topics of the workshop are:

#### ▪ Building Integrated PV (BIPV)

With increasing regulatory pressure, such as the European nearly zero-energy building (NZEB) requirements, BIPV will play a significantly increasing role in energy systems. Their functional requirements and operational environment vary greatly from typical PV systems, and long-term performance is a critical matter.

#### ▪ Novel applications: special and innovative

New applications of PV modules and systems like floating PV, street integrated PV or Agro-PV come along with specific operational conditions and loads. How do these affect reliability and how can the specific conditions be addressed?

#### ▪ Bifacial modules

Bifacial modules are more and more present in the market and forecasts expect further growth of this technology in future. The special load conditions and related effects on materials and impacts on module reliability will be in the focus of this session.

#### ▪ Advancements in lifetime modelling

How can reliability and degradation models be improved to predict the development of PV modules and plants?

#### ▪ Sustainability

Interdependence of Reliability and Sustainability and legislative effects, including the outcomes of the EU EcoLabel preparatory study.

#### ▪ Recent failure mode testing

Recent failure modes like LeTID call for adapted testing to be developed and validated.

Regular Registration fees : 430 EUR – Early Bird Discount until April 15th: 380 EUR

Registration fees for Students: 330 EUR – Early Bird Fee for Students until April 15th: 280 EUR

For more information and for **registration** please visit the workshop's website:

# www.pv-reliability.com

## Structure

These program topics will be presented by experts and further developed in roundtable sessions and discussions.

### Block 1: Reliability from science to finance

- Reliability as a science
- Latest standards developments > Toni Sample, JRC
- Insurance/financial perspectives for PV
- Eco label/design

### Block 2: Bifacial Solar Modules

- Operating temperature and performance testing of bifacial modules
- Reliability of clear backsheets for bifacial modules > Axel Borne, Dupont
- Current market situation and challenges for bifacial modules

### Block 3: BIPV & Reliability

- Introductory Information on BIPV > Alessandro Virtuani, EPFL
- Certification of BIPV: Requirements, Tests, Procedure > Luca Votta, KIWA
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- Current market situation and challenges for BIPV modules
- Roundtable Session "BIPV" & Discussion

### Block 4: Updates on SolarTrain (<https://solar-train.eu>)

- SolarTrain Post Graduates presenting their research topics and results

### Block 5: Integrated PV & novel applications

- Floating PV
- Reliability of flexible CIGS modules > Eleonora Annigoni, FLISOM
- Lightweight PV modules for multiple applications

### Block 6: Recent technology developments and failure modes

- SHJ, passivated contacts
- LeTID > Daniel Philipp, ISE
- Roundtable Session „Novel applications, technologies and testing requirements“ & Discussion

### Block 7: Field experiences

- Assessment of multiple PV systems' reliability in desert environment in Doha Qatar > Vinod Madhavan, QEERI
- Field module characterization > Andrew Fairbrother, EPFL
- Challenges of Operation and Maintenance

### Final Roundtable session, discussion and sum up

### Optional Block 8: Labtour at EPFL



#### Organizer

Fraunhofer ISE, Dr. Karl-Anders Weiß

#### Host

EPFL, Dr. Alessandro Virtuani

#### For questions please contact

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