

COST Action PEARL PV CA16235: Performance and Reliability of Photovoltaic Systems: **Evaluations of Large-Scale Monitoring Data**



Training School II

EVALUATION OF THE PERFORMANCE DEGRADATION OF PV-SYSTEMS
INFLUENCE FACTORS, FAILURE MODES AND THEIR DETECTABILITY AND EFFECT
ON ECONOMIC VIABILITY

15th – 18th October 2019,

Cavalieri Art Hotel, Spinola Road, St Julian's, Malta, STJ 3019
<https://www.cavalierihotel.com/>



This Training School is supported by

Schedule of events

Tuesday 15 October 2019: State of the ART c-Si PV

Time	Topic	Lecturers
9.00 - 9.30	Registration Opening of the Training School	Angele Reinders / UTwente
9.30 - 10.45	Keynote lecture: Reliability of Photovoltaic systems (c-Si) and Activities in IEA PVPS Task13 Failure modes of c-Si-PV Systems, Modules and Components	Karl Berger / AIT Gabriele Eder / OFI
10.45 - 11.00	Coffeebreak	
11.00 - 12.30	Postersession I: Mutual introduction of all participants	Aleksandra Krstic- Furundzic / Univ.Belgrade
12.30 - 13.30	Lunch	
13.30 - 15.15	Expert lectures + Discussions: Degradation mechanisms of PV-cells and polymeric materials	Gernot Oreski / PCCL Abdülkerim Gök / Gebze TU
15.15 - 15.30	Coffee break	
15.30 - 17.00	Practical Course: Degradation modeling	Gernot Oreski / PCCL Abdülkerim Gök / Gebze TU

Wednesday 16 October 2019: Performance degradation / Bankability

Time	Topic	Lecturers
9.00 - 10.45	<p>Keynote lecture: Field performance measurements and the basics of data analytics</p> <p>State-of-the-Art Performance Degradation Measurements</p> <p>Failure detection in the field</p>	<p>Jonathan Leloux / UPM</p> <p>Christian Braun / Fraunhofer ISE</p> <p>Gabriele Eder / OFI und Karl Berger / AIT</p>
10.45 - 11.00	Coffee Break	
11.00 - 12.30	Bankability/calculations: effect of degradation and lifetime on economic viability	David Moser / EURAC
12.30 - 13.30	Lunch	
13.30 - 17.00	<p>Excursion to PV-Installation at MCAST + Workshop: Evaluation and interpretation of electrical data I</p> <p>performance degradation, data treatment -> failure identification</p>	<p>Jonathan Leloux / UPM Karl Berger/ AIT Abdülkerim Gök / Gebze TU</p>
Evening	Joined Dinner (invited)	Villa Bighi, Kalkara: https://villabighi.com/

Thursday 17 October 2019: Thin film Technologies / Characterization

Time	Topic	Lecturers
9.00 – 10.15	Keynote lecture: Performance degradation and failure modes of thin film PV	Marcus Rennhofer / AIT
10.15 - 10.45	Coffee break	
10.45 - 12.00	Reliability engineering and modeling: root cause analysis and predictive ageing	Jeffrey Kettle / Bangor Univ.
12.00 - 13.00	Lunch	
13.00 -17:00	Visit to the University of Malta Solar Research Laboratory + Workshop: Measurement and interpretation of characterization data II Failure detection with EL, TG, UV-F...	Gabriele Eder / OFI Marcus Rennhofer / AIT Angele Reinders / UTwente Wolfgang Mühleisen /SAL
Evening	Social event	

Friday 18 October 2019: Emerging Technologies

Time	Topic	Lecturers
9.00 – 10.45	Reliability and challenges of emerging PV / Nanostructured PV	Shahzada Ahmad / BC materials
	Reliability of next generation PV-systems (OPV)	Jeffrey Kettle / Bangor Univ.
	Hybrid organic-inorganic Pb-free perovskite materials for PV applications	Anna Ioannou / National Hellenic Research Foundation
10.45 - 11.00	Coffee break	
11.00 - 12.30	Interactive poster session II	Aleksandra Krstic-Furundzic / Univ.Belgrade
12.30 - 13.30	Wrap up & closing / joined lunch	

Contact persons:

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Address of the venue

Cavalieri Art Hotel, St Julians, Spinola Road, St Julian's, Malta, STJ 3019

<https://www.cavalierihotel.com/>

Local Organizer:

Dr Eur. Ing. Ing. Brian Azzopardi

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