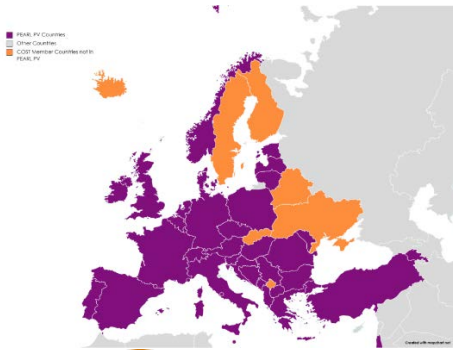


Early Career Forum on Photovoltaic Module and System Reliability

15th December 2021, 09:30-12:00 (CET)



P  A R L P V

Organisers:

Dr. Jeff Kettle, James Watt School of Engineering, University of Glasgow, Scotland, UK

Dr. Mohammadreza Aghaei, Norwegian University of Science and Technology, Norway

EU COST Action PEARL PV is an inclusive network of PV system researchers focused on “Performance and Reliability of Photovoltaic Systems: Evaluations of Large-Scale Monitoring Data”. The aim of PEARL PV **to improve the energy performance and reliability of photovoltaic (PV) solar energy systems** in Europe leading to lower costs of electricity produced by PV systems by a **higher energy yield, a longer lifetime** eventually beyond the guaranteed 20 years as specified by manufacturers, and a **reduction in the perceived risk** in investments in PV projects. This will be achieved by analyzing data of the actual monitored long-term performance, defects and failures in PV systems installed all over Europe to quantitatively determine the absolute influences of components rated performance, key design of systems, installation, operation, maintenance practice, geographic location and weather factors on the performance, performance degradation over time and failure modes of these PV systems.

This online workshop is focused on PV system and module durability and brings together leading early career researchers from round Europe. In this online event, we will hear speakers involved in failure analysis, reliability testing, non-destructive testing and reliability challenges in new applications of PV. The event is free to attend

Website COST Action PEARL PV: [Welcome - PEARL PV \(pearlpv-cost.eu\)](https://www.pearlpv-cost.eu)

CKAN database of PEARL PV: [Welcome - Pearl PV CKAN Repository \(pearlpv-cost.eu\)](https://www.pearlpv-cost.eu)

Contact data of Chair of the session: Dr. Jeff Kettle (jeff.kettle@glasgow.ac.uk)

Programme Outline:

Time	Item/Title	Presenter
9:30	Opening	Jeff Kettle (University of Glasgow, Scotland, UK)
9:35	“Post-mortem analysis of a field-degraded CIGS PV module through coring”	Simona Villa (TNO – Solar Technology and Application)
9:50	“Effects of climate and microclimate on EVA degradation from field aged PV modules”	Chiara Barretta (PCCL, Austria)
10:05	“Characterization of solar cell cracks and methods for power loss estimation”	Rodrigo del Prado Santamaría (DTU, Denmark)
10:20	“Geospatial analysis of the relative impacts of degradation, cost, and initial efficiency upon levelised cost of energy”	Cai Williams (Durham University, UK)
10:35	“Smart-commissioning: employing cost-effective techniques to rapidly identify common faults in PV power plants”	Aline Kirsten Vidal de Oliveira, (UFSC, Brazil and HI ERN, Erlangen, Germany)
-----Break-----		
11:00	“VIPV modelling method for dynamic scenarios”	Neel Patel, (FZ Juelich, Germany)
11:15	“Enhancing the performance and durability of perovskite solar cells via Peltier cooling”	Dr. Andreas Kaltzoglou (National Hellenic Research Foundation, Greece)
11:30	“Indoor OPV reliability; Development of an autonomous wireless sensor networks for monitoring of building conditions”	Shoushou Zhang (Bangor University, Wales)
11:45	TBC	Dr. I. Farkas (MATE, Hungary)
12:00	Summary and closing	Jeff Kettle (University of Glasgow, Scotland, UK)