

COST Action CA16235 PEARL PV

Performance and Reliability of Photovoltaic Systems: Evaluations of Large-Scale Monitoring Data

COST Action PEARL PV's Conference *Enabling the PV Terawatt Transition*

University of Twente, Enschede, The Netherlands

UparkHotel, De Veldmaat 8, Enschede

14 – 16 March 2022

Final program

Day 1: 14 March 2022		
9:00 - 12:30h	<p style="text-align: center;">Plenary session, UparkHotel C2</p> <p>9:00h Opening ceremony Prof. dr. Angèle Reinders, University of Twente, Enschede & Eindhoven University of Technology, Eindhoven, the Netherlands Prof. dr. Wilfried van Sark, Utrecht University, Utrecht, the Netherlands Dr. David Moser, EURAC, Bolsano, Italy Dr. Gordana Kregar, COST Association, Brussels, Belgium</p> <p>9:30h Plenary Speaker 1: Dr. Teresa Barnes, NREL, Denver, USA Title: Predicting and Extending PV Module Lifetime</p> <p>10:00h Plenary Speaker 2: Prof. dr. Monica Lira-Cantu, Catalan Institute of Nanoscience and Nanotechnology ICN2, Barcelona, Spain Title: Perovskite Solar Cell Stability</p> <p>10:30h Coffee & tea break</p> <p>11:00h Plenary Speaker 3: Prof. dr. Christophe Ballif, Ecole Polytechnique Fédérale de Lausanne (EPFL) and CSEM, Neuchâtel, Switzerland Title: Photovoltaics go fast: improved technologies and carbon footprint for a wider range of applications</p> <p>11:30h Plenary Speaker 4: Prof. dr. Jan Kleissl, University of California, San Diego, USA Title: Solar Forecasting</p> <p>12:00h Q&A and panel discussion, led by Prof. dr. Wilfried van Sark, Utrecht University, Utrecht, the Netherlands</p>	
12:30 - 14:00h	Lunch Break	
14:00 - 17:30h	<p style="text-align: center;">PV in Grids (WG5) UparkHotel C2 – Zoom break-out 2</p> <p>14:00 Opening by Jonathan Leloux, LuciSun, Brussels, Belgium</p>	<p style="text-align: center;">PV Monitoring (WG1) UparkHotel C1 – Zoom break-out 1</p> <p>14:00h Opening by Wilfried van Sark, Utrecht University, the Netherlands</p>

	<p>14:05 Rodrigo Silva e Amaro (Mines ParisTech, France) Title: Solar variability: a spatio-temporal phenomenon</p> <p>14:30 Eduardo Fernandez (University of Jaén, Spain) Title: Advances in Photovoltaic Technology: current activities and future actions</p> <p>15:00 Ibrahim el Boujdaini (LuciSun, Brussels, Belgium) Title: Analysis of the state of the art and performance of more than one decade of residential PV in Brussels (11.000+ PV installations)</p> <p>15:30 Refreshments</p> <p>16:00 Leonardo Micheli (*) Title: Optimization and economics of large-scale photovoltaic soiling loss mitigation</p> <p>16:30 Grazia Barchi (EURAC, Bolsano, Italy) Title: Assessment and countermeasures of the PV systems integration in distribution power grids</p> <p>17:00 Emilio Muñoz (University of Jaén, Jaén, Spain) Title: Photovoltaic engineering applications: alternatives to standard designs</p>	<p>14:05h Anne Gerd Imenes (University of Agder, Kristiansand, Norway) Title: The Terawatt challenge: Why do we need PV monitoring?</p> <p>14:35h Bogdan Burduhos (Transilvania University of Brasov, Brasov, Romania) Title: Monitoring of PV systems installed in the built environment</p> <p>14:50h Eli Shirazi (University of Twente, Enschede, the Netherlands) Title: PV performance analysis: a status update of the Pearl PV data challenge</p> <p>15:05h Paolo Graniero (Helmholtz-Zentrum Berlin, Berlin, Germany) Title: Comparison of unsupervised algorithms for PV fault detection, and data sources for power nowcasting</p> <p>15:30h Refreshments</p> <p>16:00h Maria Hadjipanayi (University of Cyprus, Nicosia, Cyprus) Title: Field monitoring of perovskite modules: experiences and learning curves</p> <p>16:20h Bhavya Kausika (Cadastre NL, Zwolle, the Netherlands) Title: GeoAI for detection of Solar Photovoltaic installations in the Netherlands</p> <p>16:40h Odysseas Tsafarakis (Utrecht University, Utrecht, the Netherlands) Title: A density-based time-series data analysis methodology for shadow detection in rooftop photovoltaic systems</p> <p>17:00h Lennard Visser (Utrecht University, Utrecht, the Netherlands) Title: Operational day-ahead solar power forecasting for aggregated PV systems with a varying spatial distribution</p> <p>17:20h Closing remarks by Wilfried van Sark, Utrecht University, the Netherlands</p>
17:30 – 18:30h	Break	
18:30 – 22:00h	Evening Program with Group Dinner at UparkHotel	

Day 2: 15 March 2022

<p>9:00 - 12:30h</p>	<p>Reliability and Durability of PV (WG2) UparkHotel C2 – Zoom break-out 1</p> <p>9:00h Opening by Jeff Kettle, University of Glasgow, United Kingdom</p> <p>9:10h Arvid van der Heide (IMEC, Leuven, Belgium) Title: Towards a successful re-use of decommissioned photovoltaic modules</p> <p>9:40h Karl-Anders Weiß (Fraunhofer-Institut für Solare Energiesysteme ISE, Freiburg, Germany) Title: Sustainability of PV modules</p> <p>10:10 Mirjam Theelen (TNO, Eindhoven, the Netherlands) Title: Potential induced degradation of CIGS PV systems: A literature overview</p> <p>10:30h Coffee & tea break</p> <p>11:00h Gernot Oreski (PCCL, Leoben, Austria) Title: Future challenges for PV module reliability</p> <p>11:30h Hugo Quest (Ecole Polytechnique Fédérale de Lausanne (EPFL), Neuchâtel, Switzerland) Title: Solar irradiance classification for improved PV performance assessments</p> <p>11:50h Atse Louwen (EURAC, Bolzano, Italy) Past and future developments and challenges for sustainability of PV</p> <p>12:10h Reza Aghaei (NTNU, Norway) Title: AI technology for PV condition monitoring</p>	<p>Simulation of PV (WG3) UparkHotel C1 – Zoom break-out 2</p> <p>9:00h Opening by Nicola Pearsall, Northumbria University, United Kingdom</p> <p>9:15h Ana Martinez (EC JRC, Ispra, Italy) Title: Adapting PVGIS to Trends in Climate, Technology and User Needs</p> <p>9:40h Bruno Wittmer (PVSyst, Switzerland) Title: PVSyst development</p> <p>10:05h Anja Neubert (DNV, Germany) Title: Simulating single-axis tracker systems in complex terrain</p> <p>10:30h Coffee & tea break</p> <p>11:00h Miguel Brito (University of Lisbon, Lisbon, Portugal) Title: Solar potential in the urban environment</p> <p>11:25h Imre Horvath (PVCASE, Switzerland) Title: Integrating 3D PV design and yield simulation: challenges and opportunities</p> <p>11:50h Jesus Robledo Bueno (LuciSun, Brussels, Belgium) Title: Simulating complex PV problems with Lusim - applications to shading, bifacial PV and agrivoltaics</p> <p>12:25h Closing remarks by Nicola Pearsall, Northumbria University, United Kingdom</p>
<p>12:30 - 14:00h</p>	<p>Lunch Break</p>	
<p>14:00 - 17:00h</p>	<p>PV in the built environment (WG4) Waaier 2</p> <p>14:00h Opening by Bogdan-Gabriel Burduhos, Transilvania University of Brasov, Romania</p> <p>14:05h Sarah Mc Cormack (Trinity College Dublin, Ireland) Title: Advances in luminescent solar devices for BIPV</p>	

	<p>14:30h Marlon Drent (Berenschot, Utecht, the Netherlands) Title: Upscaling the application of BIPV: examples, challenges and solutions in the ecosystem</p> <p>14:50h Mihaela Albu (Politehnica University of Bucharest, Bucharest, Romania) Title: Measurements and models for PV integration in prosumers' environment</p> <p>15:10h Tom Minderhoud (UNStudio, Amsterdam, the Netherlands) Title: Photovoltaic designs – An integrated architectural approach</p> <p>15:30h Refreshments</p> <p>16:00h Georgios Martinopoulos (International Hellenic University, Thessaloniki, Greece) Title: Solar cadaster for assessment of near-zero energy districts</p> <p>16:20h Gabriele Lobaccaro (Norwegian University of Science and Technology, Trondheim, Norway) Title: Solar energy in built environments: opportunities, challenges and barriers</p> <p>16:40h Macedon-Dumitru Moldovan (Transilvania University of Brasov, Brasov, Romania) Title: Solar tracking systems for strings of photovoltaic modules</p>
17:00 – 17:15h	Short Break
17:15 – 18:15h	<p style="text-align: center;">Plenary Session Waaier 2</p> <p>17:15h Prof. dr. Istvan Farkas (Hungarian University of Agriculture and Life Sciences (MATE), Budapest, Hungary) Title: The PEARL PV Country Reports 2020</p> <p>17:30h Wrap up and closure of the conference by Prof. dr. Wilfried van Sark, Utrecht University, Utrecht, the Netherlands Dr. David Moser, EURAC, Bolsano, Italy Prof. dr. Angèle Reinders, University of Twente, Enschede & TU/e, Eindhoven, the Netherlands</p>
18:15 – 19:00h	Break
19:00 – 22:00h	Evening Program with Group Dinner
Day 3: 16 March 2022	
8:00 – 19:00h	<p style="text-align: center;">Excursion to HyET Solar in Arnhem, Lightyear in Helmond and Solar-Beat in Eindhoven</p> <p style="text-align: center;">Departure at 8:00h from UparkHotel with drop-off at 16:00h at Airport Schiphol, Amsterdam and return to Enschede before 19:00h</p>