

2021 Asia-Pacific Solar Research Conference

16th & 17th December

DAY 1		7.45am	Registration Prefunction Area, Colombo Building			
THURS 16th Dec.	8.30 – 10.00	8.30am	Official Welcome Location: Colombo Theatre A			
		Session 1	Plenary Session - Keynote Speakers Chair: Muriel Watt Room: Colombo Theatre A			
		9.00 – 9.30	Geoff Stapleton, Managing Director, Global Sustainable Energy Solutions Pty Ltd & ISES Director Presentation Title: "Off-Grid in Developing Countries"			
		9.30 – 10.00	Lyu Fang, Senior Engineer, Institute of Electrical Engineering of China Academy of Sciences & IEA PVPS Member Presentation Title: "PV EoL & Recycling Status and Trends in China"			
		10.00 – 10.30	Morning Tea Prefunction Area, Colombo Building			
	10.30 – 11.30	Session 2	Plenary Session - Keynote Speakers Chair: Muriel Watt Room: Colombo Theatre A			
		10.30 – 11.00	Rachele Williams, General Manager Project Delivery, The Australian Renewable Energy Agency Presentation Title: "ARENA and Ultra-Low Cost Solar Research and Development"			
		11.00 – 11.30	Robbie McNaughton, Principle Solar Thermal, Fortescue Future Industries Presentation Title: "Fortescue Future Industries - Gigawatt scale projects for Green Hydrogen production"			
	11.30 – 12.30	Session 3	Zoom Poster Session Part I Room: LG01			
	12.30 – 1.30	Lunch Prefunction Area, Colombo Building				
	1.30 – 3.00	Session 4	PV - Characterisation & Machine Learning Chairs: Yan Zhu & Ning Song Room: Colombo Theatre A	Solar Manufacturing & Recycling Chair: Steve Blume Room: Colombo Theatre B	Solar Buildings Chair: Trevor Lee Room: Colombo Theatre C	CST Thermal Storage (SolarPACES) Chair: Wes Stein Room: LG02
		1.30 – 1.45	Yoann Buratti - "A Review of Deep Learning for Defects Classification in Silicon Cells and Modules from Luminescence Images"	Geoff Stapleton - "Quality Assurance Frameworks for Component Based Solar Home Systems"	Veronica Garcia-Hansen - "Framework for assessing integrated solutions for lighting in buildings"	Byron Ross, Graphite Energy
		1.45 – 2.00	Priya Dwivedi - "High-resolution luminescence imaging of solar cells using deep learning"	Li Wang - "Towards terawatt scale manufacturing of commercial PV technologies: challenges and opportunities related to material consumption"	Damilolu Adeyina - "The Passive House in Cooling Dominated - A Case Study of Singapore"	Mahesh Venkataraman, 1414
		2.00 – 2.15	Gaia Maria Javier - "Improving the Accuracy of Fill Factor Empirical Expressions for Modern Industrial Solar Cells"	Sidharth Kumar - "Reuse of Deconstructed PV Glass Modules"	Trevor Lee - "Effect of Energy Efficiency Rating (EER) of Dwellings on Sale Prices in the ACT 1999-2021"	Sal Catalan, Chimaera Financial
		2.15 – 2.30	Zubair Abdullah-Vetter - "Simplified Analysis of Internal Quantum Efficiency using Machine Learning"	Mohammad Dehghanimadvar - "The Economic Analysis of Supportive and Protective Policy Mechanisms for Promoting Local PV Module Assembly"	Alex Lehmann - "Exciting Urban Spaces With Building Integrated Heliostats"	Joe Coventry - "Packed bed thermal energy storage with sodium as the heat transfer fluid"
		2.30 – 2.45	Alison Ciesla - "Static wind loading of utility sized modules mounted using 5B's rapid deployment system"	David Leyton - "A Reverse Logistics Model For End-of-Life Solar Modules Using Existing Transport Processes"	Rebecca Yang - "IEA SHC TASK 66 Solar Energy Buildings: Objectives and Working Progress"	Xin Sui - sCO2 cycle modelling for CSP
		2.45 – 3.00	Alexander Scott - "Outdoor Photoluminescence Imaging from Unmanned Aerial Vehicles"	Nathan Chang - "Recycling of PV modules – framework for technical, environmental and cost assessment"	Rebecca Yang - "Development of a Prototype Building Integrated Photovoltaic Design and Simulation Tool"	
	3.00 – 3.30	Afternoon Tea Prefunction Area, Colombo Building				
	3.30 – 5.00	Session 5	PV - Perovskite Chairs: Arnan Mahboubi Soufiani & Jessica Jiang Room: Colombo Theatre A	IEA Activities & Offshore Wind Chair: Anna Bruce Room: Colombo Theatre B	Heating and Cooling Chair: Alistair Sproul Room: Colombo Theatre C	CST Components & Systems Chair: John Pye Room: LG02
		3.30 – 3.45	Grace Tabi - "Structural modulation and defect passivation in perovskite solar cells via lithium doping"	Rebecca Yang - "IEA PVPS TASK 15 Enabling Framework for the Development of BIPV: Working Progress and Australian Contributions"	Robert Taylor - "IEA SHC Proposed Task: Smart Solar Water Heating for 2030"	Daniel Potter - "Optimisation of 'Beam-Up' Configurations for the Solar Expanding-Vortex Receiver"
3.45 – 4.00		Klaus Weber - "Reverse Bias Boosted Photovoltaic Performance of Perovskite Solar Cells"	Renate Egan - "Australian PV Market Trends"	Dean Clift - "Solar and Heat Pump Water Heater Performance Rating - AS/NZS 4234:2021 revision – why, how and what does it achieve?"	David Saldivia - "Optical and Thermal Analysis of a Horizontal-Flow Particle Receiver"	
4.00 – 4.15		Gaveshana Sepalage - "Scalable low-cost laminated carbon electrodes for perovskite solar cells"	Jose Bilbao - "Advances in PV sustainability during 20-21, an overview of PVPS Task 12 work"	Dean Clift - "Using storage electric water heaters to improve grid stability and reduced energy costs"	Mohammadreza Sedighi - "A Proof-of-concept Study for Semi-transparent Volumetric Absorber Containing Borosilicate Spheres"	
4.15 – 4.30		Dechan Angmo - "Alkyl Ammonium Modified PEDOT: PSS enables Highly Efficient and Reproducible Roll-to-Roll Inverted Perovskite Solar Cells"	Iain MacGill - "Lessons from PVPS Task 14 on integrating high penetrations of PV in the grid"	Si thu Paing - "Estimation of convective heat transfer in vertical cylindrical tanks with insulated end-walls"	Ye Wang - "Integration of Sodium Receiver with Packed Bed Storage for CSP Systems Further Reduced LCOE"	
4.30 – 4.45		Peng Chen - "Downshifting Electron Transport Layer for efficiency and UV-stability enhancement of planar perovskite solar cells"	David Parlevliet - "Overview of IEA PVPS Task 13 Activities, including highlights on the use of drones and soiling studies"	Delight M. Sedzro - "The influence of building parapets on the wind induced heat loss from solar thermal and photovoltaic collectors"	Andrew Beath - "Potential Applications of CST Systems in the Australian Industry"	
4.45 – 5.00			Jonathan Rispler - "Assessing The Role Of Offshore Wind Energy In A Future Least Cost 100% Renewable NEM"	Lu Aye - "An Update on Activity C1 Design Tools and Models, IEA SHC Task 65 Solar Cooling Sunbelt Regions"		
5.30 – 6.30	Pre-Dinner Drinks Tyree Room, SCIENTIA BUILDING					
6.30 – 8.30	Conference Dinner Tyree Room, SCIENTIA BUILDING					

Day 2		8.00am	Registration Prefunction Area, Colombo Building			
		Session 6	Plenary Session - Keynote Speakers Chair: Chris Fell Room: Colombo Theatre A			
FRI 17th Dec.	9.00 – 10.00	9.00 – 9.30	Professor Mark Howden, Director of the Institute for Climate, Energy & Disaster Solutions at The Australian National University Presentation Title: "Climate change update: some implications for solar PV"			
		9.30 – 10.00	Professor Iain MacGill, Joint Director (Engineering), Collaboration on Energy and Environmental Markets, UNSW Presentation Title: "Is the Australian National Electricity Market 'fit for purpose' in delivering clean energy transition?"			
	10.00 – 10.30	Morning Tea Prefunction Area, Colombo Building				
	10.30 – 11.30	Session 7	Plenary Session - Keynote Speakers Chair: Renate Egan Room: Colombo Theatre A			
		10.30 – 11.00	Susan Jeanes, Chair Elect, The Heavy Industry Low-emissions Transition Co-operative Research Centre (The HILT) Presentation Title: "Transitioning Australian Industry to a Low-Carbon Future"			
		11.00 – 11.30	Anthony Wright, Building Simulation, Assessment and Communications Lead, Energy Systems, CSIRO Presentation Title: "Energy rating tool development in Australia"			
	11.30 – 12.45	Session 8	Zoom Poster Session Part II Room: LG01			CST Process Heat (ASTRI) Chair: Woie Saw Room: LG02
					11.30 – 11.45	Mehdi Jafarian - "Co-production of H ₂ , O ₂ and H ₂ SO ₄ from sulphur & CST in copper production"
					11.45 – 12.00	Alfonso Chinnici - "Identifying Pathways to Commercial Application of Beam-Down Solar Particle Technology in Mining and Off-Grid Applications in Australia"
					12.00 – 12.15	Woie Saw - "Techno-economic Assessment of Polygeneration Plant via Solar Hybridized Dual Fluidised Bed Gasification plant (SDFB)"
					12.15 – 12.30	Greg Metha & Gunther Andersson - "Engineering the Perfect Photocatalyst for Hydrogen Production with Atomic Precision"
		12.30 – 12.45	Alireza Rahbari - "Decarbonisation of steelmaking process"			
12.30 – 1.15	Lunch Prefunction Area, Colombo Building					
1.15 – 2.30	Session 9	Forecasting Chair: Abhi Prasad Room: Colombo Theatre A	Transport/Evs Chair: Mike Roberts Room: Colombo Theatre B	Solar Resources Chair: Lu Aye Room: Colombo Theatre C	CST Materials and Chemistry Chair: Woie Saw Room: LG02	
	1.15 – 1.30	John Boland - "Probabilistic Forecasting of Wind and Solar Farm Output"	Katelyn Purnell - "Flexible, multi-modal electric vehicles in economic dispatch and capacity expansion models"	Alistair Sproul - "View Factors for Diffuse Radiation on sloped surfaces – the Good, The Bad, The Ugly and the Easy"	Yanting Yin - "Is Argon Protective? – Degradation of Steels in Argon Incorporating with Heating Carbonates"	
	1.30 – 1.45	George Dickeson - "Cloud forecasting and ramp rates at Alpururulam's off-grid hybrid power system"	Anna Nadolny - "Rapid reductions in passenger transport embodied and operational emissions"	Trevor Lee - "Extending Real-Time Year Weather Data Services with Bureau of Meteorology Data"	Sahan Kuruneru - "A preliminary investigation of surface erosion rates in particle-based solar receivers"	
	1.45 – 2.00	Alejandra Isaza - Australian Photovoltaic Potential Under Climate Change Scenarios	Ned Ekins-Daukes - "The Potential For Vehicle Integrated Photovoltaics"	Long Seng To - "Applying the United Nations Framework Classification for Resources to Solar Energy"	Andrew Beath - "Integration of concentrated solar thermal energy with biogas production and use"	
	2.00 – 2.15		Roger Dargaville - "When should you charge your EV?"	Nihal Hameed - "Verification of ClimateCypher Climate Data Outputs with System Advisor Model (SAM)"	Changlong Wang - "Evaluating the Economic Potential for Green Ammonia Production in Australia"	
	2.15 – 2.30			Chithral Kodagu - "Updating Australia's Reference Meteorological Years with the Addition of Hourly Precipitation Data"	Gaius Debi Eyu - "Preliminary study of dissimilar weldments of Inconel 625 and 316L"	
2.30 – 3.00	Afternoon tea					
3.00 – 4.30	Session 10	PV - Silicon and Friends Chairs: Udo Romer and Alison Ciesla Room: Colombo Theatre A	DER Impacts, Curtailment & Cryptocurrencies! Chair: Rob Passey Rm: Colombo Theatre B	Solar Planning and Water Chair: Rebecca Yang Room: Colombo Theatre C	Industrial Process Heat Applications Chair: Dominic Zaal Room: LGA02	
	3.00 – 3.15	Jiali Wang - "Development of Inkjet-Printed Doping for Poly-Si Passivating Contacts in Silicon Solar Cells"	Masood Ul Hassan - "Sustainability Assessment of Hydrogen Fuel Cell and Lithium-Ion Batteries in Residential Solar PV Systems"	Mark Snow Invited - "IEA SHC Task 63 Solar Neighbourhood Planning – An overview"	Keith Lovegrove - The Industrial Process Heat Market in Australia	
	3.15 – 3.30	Tien Le - "Impurity gettering by silicon nitride films: kinetics, mechanisms and simulation"	Kelvin Say - "Modelling the Interaction of Prosumage Adoption and Retail Tariffs within a Transitioning NEM"		David Roche - Reliable Affordable Clean Energy (RACE) for 2030 CRC: Assisting Australian industries to decarbonize process heat	
	3.30 – 3.45	Anh Huy Tuan Le - "Temperature-Dependent Performance of TMO-Based Selective Contacts and Their Solar Cells"	Baran Yildiz - "Investigation of distributed energy resources curtailment in South Australia"	Jenny Zhou - "Prospects of photovoltaic rooftops, walls and windows at a city to building scale"	Gus Nathan - Heavy Industry Low-Carbon Transition (HILT) CRC: Assisting Australia's heavy industry sector to decarbonize thermal processes	
	3.45 – 4.00	Jesus Ibarra Michel - "Versatile TiO _x -based passivated contacts for silicon solar cells"	Naomi Stringer - "Maintaining power system security with high levels of DER: Data-driven findings from the field"	Mikel Duke - "Solar Energy in Industrial Water and Wastewater Management (IEA SHC Task 62): Update from Subtask C"	Peter Lemmich - The role of thermal energy storage in decarbonizing process heat applications within Australian Industry.	
	4.00 – 4.15	Jianjun Li - "Interface Recombination of Cu ₂ ZnSnS ₄ Solar Cells Leveraged by High Carrier Density and Interface Defects"	Manu Rawali - Sustainable Electrifying Rural Communities through bottom-up approaches in Remote Rural Papua New Guinea: A Case Study of Telefomin, Sandaun Province	Benhadji Serradj Jamal Eddine - "The effect of a passive baffle on the performance of a single slope solar still"	Paul Matuschka - Mars – Sustainable in a Generation Plan – Mars Petcare Wodonga's journey to a net-zero emission future.	
4.15 – 4.30	Mengmeng Hao - "Towards Highly Efficient and Low Cost Quantum Dot Solar Cells"	Christopher Horasia - "Sustainable Cryptocurrency Mining"	Milad Mohsenzadeh - "An innovative Cost-effective floating solar still with integrated condensation coils"			
4.30 – 5.15	Session 11	Closing Ceremony/Award Presentations Chair: TBA Room: Colombo Theatre A				
5.15 – 7.00	Networking Drinks Prefunction Area, Colombo Building					