

5th Solar and Wind Power Conference

JUNE 11-12, 2025

Merchiston campus, Edinburgh Napier University
Edinburgh, Scotland



Edinburgh Napier
UNIVERSITY



Day 1, Wednesday 11th June 2025 - Glassroom B70

8:30 - 9:15	Registration	
9:15 - 9:30	Opening Remarks	Dr Nazmi Sellami, Conference Chair Edinburgh Napier University
9:35 - 10:15	Keynote talk 1: The Art of Concentrating Energy: Exploring the Frontiers of Solar Thermal Power and Storage	Dr Mohammad Moghimi Ardekan University of Staffordshire
Session 1 Chair: Dr Carolina Costa Pereira; Edinburgh Napier University		
10:20 - 10:40	Application of Solar Thermal Energy to Processes (ASTEP), Development and Demonstration	Dr Peter Kew David Reay and Associates
10:40 - 11:00	Break & Networking	
11:00 - 11:20	Economic Performance of the ASTEP Solar Thermal System over a period of 30 years: A Case Study	Lisa Gobio-Thomas Brunel University
11:20 - 11:40	Numerical study of Concentric Solar Power-integrated Thermal Energy Storage system for Hydrogen Generation	Dr Neelish Soni Indian Institute of Technology
11:40 - 12:00	Dust-Resistant Solar Panel Coating to Boost Energy Output in Arid Regions	Sharif Alsahbool The American University in Cairo
12:00 - 12:20 (ONLINE)	Enhancing Photovoltaic Panel Performance Using Fresnel Lens Concentration and Passive Cooling: An Experimental Study	Dr Mahmoud Eltawee University of Hertfordshire
12:20 - 12:40	Enhancing Cybersecurity in Solar Energy Systems with Voting Classifiers	Dr Bhuvaneshwari AJ Sri Sivasubramaniya Nadar College of Engineering
12:30 - 13:00	AI-Driven BIPV Potential Prediction: Integrating GIS and Deep Learning for Accelerating Building Decarbonisation	Mohammed Abdulhameed Edinburgh Napier University
13:00 - 14:00	Lunch & Networking	
Session 2 Chair: Dr Taimoor Asim, Robert Gordon University		
14:00 - 14:40	Keynote talk 2: Energy on Demand: Integrating Battery Storage into Grid Infrastructure	Prof Mohammed Abusara Exeter University
14:45 - 15:05	Wind Turbine Reliability Analysis Using SCADA and Maintenance Data	Max Malyi University of Edinburgh
15:05 - 15:25	Aero-Hydrodynamic Characterisation of Fixed-bottom NREL 5MW Wind Turbine	Jaidon Kurisinkal Robert Gordon University
15:25 - 15:45	Break & Networking	
15:45 - 16:05	The impact of off-shore windfarms on seafloor ecology and integrity	Luke Bradley Edinburgh Napier University
16:05 - 16:25	Microgrid power management and seamless power transfer control from grid forming to grid following for parallel inverters	Taimoor Khan Edinburgh Napier University
16:25 - 16:45	Exploring the Feasibility of Waste-to-Energy Technologies Towards the UK's Net Zero	Chika Marvis Edinburgh Napier University
16:45 - 17:05	Investigating the Self-Cleaning Effect of TiO2 Coatings on Solar Panel Technologies	Waqar Younas Edinburgh Napier University



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Day2, Thursday 12th June 2025 - Glassroom B70

9:15 - 9:30 Registration

9:30 - 10:10 Keynote talk 3: Bridging Innovation and Implementation: Insights from Industrial Frontlines NDUKWE HENRY IBIAM

Session 3 Chair: Dr Lina Khaddour; Edinburgh Napier University

10:15 - 10:35 Robust MPPT for 100kW PV System Using ST-SMC with Adaptive P&O: A Performance-Based Evaluation Ateeb Hassan Edinburgh Napier University

10:35 - 10:55 Optimised Design of a Boost Converter for a Grid-Connected Solar System Using MPPT with a Perturb & Observe Controller Mathew, J, A Edinburgh Napier University

10:55 - 11:15 Break & Networking

11:15 - 11:35 Evaluate solar energy efficiency using advanced satellite imagery and MATLAB/Simulink simulations. Muhammad Arslan Edinburgh Napier University

11:35 - 11:55 Evaluation of Performance of Solar Cell Integrated Supercapacitor by Light Intensity Control Shahina Shareef Edinburgh Napier University

11:55 - 12:15 Cleaning Methods for Solar PV Systems in Sri Lanka: Economic and Environmental Evaluations Compagnage Fonseka Edinburgh Napier University

12:15 - 12:35 Solar-Powered Energy Storage Mat Jeeva Saju Edinburgh Napier University

12:35 - 12:55 Development of a Neural Network Model for Solar PV Power Output Prediction. Emmanuel Ukura Edinburgh Napier University

13:00 - 14:00 Lunch & Networking

Session 4: ONLINE

Session 4 Chair: Dr Libu Manjakkal; Edinburgh Napier University (ONLINE)

14:00 - 14:20 Waste Management of Silicon Solar Panels in 2050 OI CHIN Edinburgh Napier University

14:20 - 14:40 An Investigation of the Dynamic Behaviour of Offshore Wind Turbine Support Structures in Harsh Norwegian Marine Environ Giancarlo Angelopoulos University of Brighton

14:40 - 15:00 Comparative Performance of Floating and Ground-Mounted Photovoltaic Plants: Technology Analysis and Feasibility Kissilla Guedes Universidade Estadual Paulista

15:00 - 15:20 Numerical Simulation of a Novel Serpentine Heat Exchanger for Photovoltaic Panels Dr Edemar Morsch Filho Universidade Estadual Paulista

15:20 - 15:40 Future-Proofing India's Energy: A Comprehensive Review and Strategy Optimisation for Agrovoltaic Systems Abubakar Suleiman Edinburgh Napier University

15:40 - 16:00 A novel topology integrating solar technologies with the 5th Generation District Heating and Cooling network at the load side Shamsoddin Ghiami Edinburgh Napier University

16:00 - 16:20 Leveraging GIS-Based Flood Risk Mapping to Strengthen Climate Resilience in Scotland's Critical Solar Energy Infrastructure Kianda Kalloo Edinburgh Napier University

16:20 - 16:30 Closing remarks