



Time Slot	ISES Code Author	Session Title Presentation Title	Session Code ID	Moderator
14:00-15:00 CEST	E1	Solar Thermal Electricity	MON_1C_E1	
14:00	Gonzalez-Gomez, Pedro	Superheater Design Assessment for Flexible Solar Tower Plants	4639	
14:02	Abraim, Mounir	Comparative Study of Soiling Effect on CSP and PV Technologies Under Semi-Arid Climate in Morocco	8609	
14:04	Xin, Zhang	Design and Analysis of a Novel Spectral Beam Splitting Hybrid Photovoltaic and Concentrating Solar Thermal System	2940	
14:06	Qin, Jiyun	Optimisation Control of Solar Field for Solar Aided Power Generation Plant Under Variable Solar Radiation Condition	7864	
14:08	Tahir, Zia ul Rehman	Optimization and Techno-Economic Assessment of 50 MWe Linear Fresnel Reflector Concentrating Solar Power Plant using different Heat Transfer Fluids	1591	
14:10	Tahir, Zia ul Rehman	Optimization and Techno-Economic Assessment of 50 MWe Solar Tower Power Plant for Different Climatic Zones in Pakistan	1102	
14:12	Aghaei Meybodi, Mehdi	Techno-Economic Assessment of Hybrid PV and CST Systems	6530	
14:00-15:00 CEST	H1	SHC Technologies	MON_1A_H1	
14:00	Chhugani, Bharat	Comparison of PVT - Heat Pump Systems with Reference Systems for the Energy Supply of a Single-Family House	6575	
14:02	Pigozzo Filho, Victor César	A New Concept of Hybrid Solar Collectors: Polymeric Heat Exchanger for Photovoltaic Panels	4394	
14:04	Hosouli, Sahand	Performance Assessment of Concentrated Photovoltaic Thermal (CPVT) Solar Collector at Various Locations	2763	
14:06	Dragsted, Janne	Best Practices for PVT Technology	3672	
14:08	Wood, David	Effect of Wavy Tape Inserts and Glass Cover on the Performance of a PVT System	8650	
14:10	Hosouli, Sahand	Evaluation of a Solar Photovoltaic Thermal (PVT) System in a Dairy Farm in Germany	4635	
14:12	Rigola, Joaquim	Numerical Simulation of a Cost Efficient Novel CPVT Solar Collector	4877	
14:00-15:00 CEST	L1	Solar Resource Assessment	MON_1D_L1	Paul Stackhouse, Paola Ruso
14:00	Jensen, Adam R.	Assessingsolar: An Interactive Guide to Solar Resource Assessment in Python	2808	
14:02	Kaaya, Ismail	Assessing the Variations in Long-Term Photovoltaic Yield Prediction Due to Solar Irradiance and Module Temperature	8139	
14:04	Stackhouse, Paul	An Assessment of and Access to Nasa Ceres Hourly Solar Irradiance Data Products Using Power Web Services	5777	
14:06	Russo, Paola	Characterization of Solar Over-Irradiance Events in Uruguay	5156	
14:08	Alexis Denhard	A Comparison of Time Series Gap-Filling Methods to Impute Solar Radiation Data	5678	
14:00-15:00 CEST	M1	Solar Buildings	MON_1B_M1	
14:00	Wang, Leilei	Analysis of "Green Building" Indicators in a Residential Area Based on Building Information Model	3443	
14:02	Ushak, Svetlana	Lca of Lightweight and Environmentally Efficient Buildings in Two Cities in the North of Chile	5614	
14:04	Young, David	Passive Cooling of Structures with Thick Film Nanocomposites	3746	
14:06	Xiao, Qiubo	Study on the Low-Cost Passive Solar Techniques Optimization for Low High-Density Rural House in Qinghai-Tibetan Plateau	1567	
14:08	Formolli, Matteo	Solar Accessibility at Neighborhood Scale: An Analysis to Assess the Impact of Densification in Nordic Built Environment	8858	
19:30-20:30 CEST	A1	100% RE World	MON_2C_A1	Tobias Boström
19:30	Platzer, Werner	Total Performance Assessment Method for Industrial Process Heat Systems	7802	

19:32	Singh, Kuljeet	Role of Solar Energy in Achieving Net Zero Energy Neighborhoods	1960
19:34	Mörs, Friedemann	Techno-Economic Analysis of Green Hydrogen Production from Solar Energy in Mena and Transport to Central Europe	1889
19:36	Perez, Marc	Implicit Storage - Optimally Achieving Lowest-Cost 100% Renewable Power Generation	1840
19:38	Perez, Marc	Where and How Much? Land Use Implications for High-Penetration PV	2927

19:30-20:30 CEST	D1	Innovative PV	MON_2D_D1
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19:30	Fernández de Ahumada, Luis M.	Tracking of Photovoltaic Facilities Based on Omnidirectional Sensor	4398
19:32	Krippner, Roland	Building Integrated Solar Technology – Evaluating 20 Years of Experience with Solar Buildings from an International Competition	2361
19:34	Tahir, Zia ul Rehman	Comparison of Seventeen Models to Estimate Diffused Radiation on a Tilted Surface	1223
19:36	Romaní, Joaquim	Evaluation of the Implementation of a BIPV Glass in Office Buildings in Spain	8471

19:30-20:30 CEST	H2	SHC Technologies	MON_2A_H2
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19:30	Summ, Thorsten	A Detailed Investigation on the Convective Heat Transfer Inside the Enclosed Cavity of Insulated Glass Solar Thermal Flat-Plate Collectors	1863
19:32	Famiglietti, Antonio	Experimental Investigation of a New Turbocharged Concentrating Solar Air Heater	2426
19:34	Castell, Albert	Domestic Hot Water and Cooling Demand Coverage for Nearly Zero Energy Buildings Applying Combined Solar Heating and Radiative Cooling	8250
19:36	Xinzhuang, GU	Experimental and Numerical Analysis on the Grain Drying Based on Solar Collectors and Heat Pump	7780
19:38	Rigola, Joaquim	Mathematical Modeling and Experimental validation of a Highly Efficient Flat Plate Solar Collector with compound Transparent Insulation Materials including a Silica Layer	4776
19:40	Kosmadakis, George	Towards a 100% Renewable Energy Share for Heating and Cooling in Office Buildings with Solar and Geothermal Energy	2438

19:30-20:30 CEST	M2	Solar Buildings	MON_2B_M2
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19:30	Matuska, Tomas	Design and Testing of Autonomous Curtain Walling Façade Module	4915
19:32	Ramos Martins, Fernando	Performance Study of a PV System Installed at a Coastal City of São Paulo, Brazil	3160
19:34	Giovannetti, Federico	Profiled Glass Solar Façade with Integrated Heat Pipe Absorber – Experimental Evaluation of Prototypes	3657
19:36	Frick, Edward	Solar Thermal, Rear-Ventilated Facades as Heat Pump Sources in Multi-Storey Buildings	4623
19:38	Bucher, Christof	Electrical Behaviour of Different Module Technologies in Typical Partial Shading Situations of Building Integrated Photovoltaics	4024



Time Slot	ISES Code Author	Session Title Presentation Title	Session Code ID	Moderator
11:00-12:00 CEST	A2	100% RE World	TUE_0A_A2	Andrew Blakers
12:00	Rządkowska, Agnieszka	The EU Clean Energy Policy Under the European Green Deal and COVID-19 Pandemics - How the Renewables Historically Won the Majority Share in the Eu's Electrical Energy Mix	5437	
12:02	Silvi, Cesare	From History Examples on the Use of Renewable Solar Energy on Earth	4990	
12:04	Oberdorfer, Amélie	Transition Pathways Towards a Carbon-Neutral Thuringia	2024	
12:06	Gari da Silva Fonseca Junior, Joao	A Comparison of Two Methods to Forecast Residual Demand One Day Ahead of Time	3483	
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14:00-15:00 CEST	D2	Innovative PV	TUE_1B_D2	
14:00	Errell, Evyatar	The Effect of Surface Cover Vegetation on the Microclimate and Power Output of a Solar Photovoltaic Farm in the Desert	3511	
14:02	Yamaguchi, Masafumi	Impact of Photovoltaics-Powered Vehicles	8495	
14:04	Fernández de Ahumada, Luis M.	Influence of Terrain on Single-Axis PV Plants	4483	
14:06	Marbello Castrejon, Maria Fernanda	Large Scale Floating Photovoltaics on Lake Nasser for Effective Power Production and Reducing Water Losses	6073	
14:08	Good, Clara	Solar Energy for Self-Sufficient Electric Aircraft Operations at Bardufoss Flight School	3838	
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14:00-15:00 CEST	I1	RE & Efficient Heating and Cooling Systems	TUE_1C_I1	Pedro Horta, José-Miguel Cardemil
14:00	Cardemil, Jose	IEA SHC Task64/SolarPACES Task IV – SubTask C: Assessment of uncertainties in simulation tools	5288	
14:02	Saini, Puneet	Techno-Economic Analysis for Solar Thermal Integration Point in an Industrial Boiler Network: Case Study from Dairy Sector	14389	
14:04	Gil, Juan D.	Towards the Optimal Design and Control of Solar-biomass Heating Networks for Greenhouse Applications: Methodology and Preliminary Results	4472	
14:06	Kamerling, Simon	Milp Algorithm for Optimal Control Strategy of a Hybrid Concentrated Solar System for Ship	8639	
14:08	Castillo Téllez, Margarita	Evaluation of Solar Still Depending on Air Velocity Conditions	6304	
14:10	Akar, Sertac	Renewable Thermal Energy Systems Designed for Industrial Process Solutions in Multiple Industries	3356	
14:12	Jesper, Mateo	Reference Applications for Renewable Heating Systems in Industry and Commerce	2309	
14:14	Poursanidis, Ioannis	Reverse Engineering of Energy Demand Profiles in Eu Livestock Farms	4106	
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14:00-15:00 CEST	L2	Solar Resource Assessment	TUE_1A_L2	Anne Forstinger, Richard Perez
14:00	Tahir, Zia ul Rehman	Evaluation of Solar Radiation from Reanalysis and Analysis Datasets for Nine Stations in Pakistan	1066	
14:02	Forstinger, Anne	Expert Quality Control of Solar Radiation Ground Data Sets	2648	
14:04	Zamalloa Jara, Marco Antonio	Overirradiance Events and Their Impact on the Spectral Distribution at a Low-Latitude Site	5277	
14:06	Forero, Nelson	Evaluation of the Solar Energy Resource in the Central -Eastern Sector of Bogotá - Colombia	7980	
14:08	Perez-Astudillo, Daniel	Method for Flagging Shaded Solar Data Using a Semi-Graphical Representation	949	
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19:30-20:30 CEST	G1	Grid Integration	TUE_2C_G1	
19:30	Pinto Costa, Lucas	Evaluation of Technical Feasibility and Financial Attractiveness of a 1MWp Solar Photovoltaic Generator on Ground and Building Rooftops At the Federal University of Santa Catarina - Brazil	3888	
19:32	Hossain, Mohammad Kamal	Intelligent Approach for the Control of PMSG Based Wind Energy System	8367	

19:34	Palm, Sami Florent	Performance Study of a Grid-connected Photovoltaic Solar System Using MATLAB/SIMULINK	3725
19:36	Olivares, Douglas	Characterization of Changes in the Soiling Properties and Deposition Rates Because of Groundworks Near a PV Plant in the Atacama Desert.	1234
19:38	Mahapatra, Sadhan	Novel Hybrid GWO-IC Based MPPT Technique for PV System Under Partial Shading Conditions	3988
19:40	Palomino Töfflinger, Jan Amaru	PV System Performance Analysis for PERC, HIT and CIGS Module Technologies in Lima, Peru	5296
19:42	Hu, Feng	Transient Simulation and Control Strategy of Supercritical CO2 Solar Thermal Power Generation System	2638

19:30-20:30 CEST	H3	SHC Technologies	TUE_2A_H3
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19:30	Ushak, Svetlana	Compatibility Study of Commercial PCM and Metals/alloys for Potential Use in Building Applications	5026
19:32	Christodoulaki, Rosa	Performance Simulation and Monitoring Methodology of a Solar Cooling Installation in Aqaba, Jordan	2546
19:34	Simón Castellano, María José	Drying of Asphalt Plant Aggregates Using Concentrated Solar Energy	1992
19:36	Zhang, Fengyuan	Solar Thermal Cooling Driven Hydrate-Based Carbon Capture Enabled by Tetra-N-Butylammonium Bromide and Sodium Dodecyl Sulphate	6590

19:30-20:30 CEST	M3	Solar Buildings	TUE_2B_M3
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19:30	Felbinger, Jonina	Adaptive Thermal Insulation for Thermal Activation of Building Components	8820
19:32	D'Almeida, Ricardo	Implementation of Solar Strategies Within Different Urban Layouts	4692
19:34	Miscevic, Ljubomir	Projects and Realizations of Advanced High Energy Efficient Architecture as Examples for Achieving Global and EU Goals	5042
19:36	Bahaj, AbuBakr	Scaling Rooftop PV in Cities of Varying Climate: an Essential Step Towards Low Carbon Cities	10740
19:38	Yoo, Seung-Ho	Radiant Cooling and Heating System for Zero Energy Solar Architecture	4151
19:40	Bahaj, AbuBakr	Reducing Air Conditioning Electrical Demand in Hot Arid Climates Using PV: A Case Study in Jeddah, Saudi Arabia	8895



Time Slot	ISES Code Author	Session Title Presentation Title	Session Code ID	Moderator
14:00-15:00 CEST G2 Grid Integration WED_1B_G2				
14:00	Hobbs, Benjamin	Development of Flexible Ramp Product Procurement for the California ISO using Probabilistic Solar Power Forecasts	1281	
14:02	Pawar, Punam	Hour-Ahead Bivariate and Multivariate Solar PV Power Forecasting for Effective Grid Integration	14047	
14:04	Malik, Abdul	Rural Electrification in Fiji	2820	
14:06	Rządkowska, Agnieszka	Artificial Intelligence Assisted Smart Photovoltaics	5481	
14:08	Kühnel, Sven	Holistic Approach for the Prediction of Electricity Load Profiles of Rural Off-Grid Communities in Sub-Saharan Africa	4902	
14:10	Ferreira Torres, Pedro	Practical Insights for Microgrid Operation with Energy Management Capable Prosumers	4082	
14:12	Quintana, Fernanda	In-Depth Assessment and Feasibility Study of a Solar PV Farm for a High-Altitude Region: Bridging the Gap Between Technical Potential and Market Barriers in Kyrgyzstan	2099	
14:00-15:00 CEST H4 SHC Technologies WED_1A_H4				
14:00	Keuler, Jonas	Energetic Comparison of Different Instantaneous Water Heater Concepts in a Solar Combi-System for a Multi-Family House with TRNSYS	4269	
14:02	Beringer, Jakob	Performance Comparison of Different Types of Solar Thermal Collectors on Residential Space Heating Demand in High-Altitude Cold Climatic Environment: A Simulation-Based Study	2103	
14:04	Nedumparambil, Abinson	Temperature Based Determination of Volume Flow Rates in Pipes as a Low-Cost Option for Energy Measurements of Solar Thermal Systems	5292	
14:06	Jensen, Adam R.	Thermal Performance Assessment of the World's First Fresnel Lens Solar Collector Field	3851	
14:08	Yeh, Chung Yu	Numerical Analyse on Thermal Performance of Shape Stabilized PCM in a Solar Thermal Collector	3517	
14:00-15:00 CEST M4 Solar Buildings WED_1C_M4				
14:00	Roodneshin, Maryam	An Assessment on the Benefits of PV System Implementation on Clusters of Urban Roof-Top (Case Study in Barcelona)	7877	
14:02	Czachura, Agnieszka	Climate Representativeness of Simulation Weather Files in the Light of Climate Change and Urban Heat Islands	1180	
14:04	Bucher, Christof	Glare Hazard Analysis of Novel BIPV PV Module Technologies	1375	
14:06	Molina Fuertes, Juan Omar	In-Situ Characterization and Dynamic Simulation of the Thermal Behavior of a "test Cell" in the Peruvian Highlands at 4500 Masl	2379	
14:08	Campamà Pizarro, Rafael	A Methodology to Streamline the Assessment of Existing Neighbourhoods Towards Climate Neutrality	8241	
14:10	Xiang, Changying	Toward Architectural Design Method for Coloured Façade Integrated Photovoltaics, an Example from the Nodric Context	7949	
19:30-20:30 CEST I2 RE & Efficient Heating and Cooling Systems WED_2B_I2 Ulrike Jordan, Hagen Braas				
19:30	Osorio, Natalia	District Heating Pilot Assessment in a Southernmost City of Chile with Renewable Energy Sources	8570	
19:32	Brumana, Giovanni	Potential of Solar-Driven Cooling Systems in Mena Region	8841	
19:34	Chèze, David	Operational Behaviour of a Solar-Fed Bidirectional Substation for 4GDH Networks	2697	
19:36	Braas, Hagen	Investigating Measures on Space Heating and Domestic Hot Water Preparation Systems in Residential Buildings Regarding Their Impact on the Total Heat Demand and Return Temperatures in District Heating Networks	4000	
19:38	Jiao, Qingtai	Performance of a High Solar Fraction District Heating System	2787	
19:40	Roure, Robin	Model Predictive Control of Sun Coupled Innovative Heat Pumps	2595	

19:42 Neugebauer, Martin PYTRNSYS – An Open Source Python-Based Framework for Setting-Up, Running, and Processing TRNSYS Simulations 4905

19:00-20:00 CEST	J1	Thermal Storage	WED_2C_J1	Luisa Cabeza
19:30	Angelillo, Alfredo	Boundary Conditions and Natural Temperature Decay from Experimental Data Analysis to On-Design of a Tank for CSP Power Plant	6695	
19:32	Calderón-Vásquez, Ignacio	Cyclic Operation of a Radial-Flow Packed-Bed Thermal Energy Storage for High-Temperature Applications	5378	
19:34	Cabeza, Luisa F.	Definition of Key Performance Indicators (KPIs) to Evaluate Innovative Storage Systems in Concentrating Solar Power (CSP) Plants	2065	
19:36	Gaviño, David	A novel discrete approach for thermal modeling of cylindrical packed bed	8539	
19:38	Milian, Yanio E	Solvent and Monomer Evaluation in the Synthesis of LiNO ₃ – SiO ₂ as Thermal Energy Storage Material	5096	
19:40	Cosquillo Mejia, Aldo Miguel	Development of a moving bed reactor for thermochemical energy storage with novel encapsulated Ca(OH) ₂	8554	
19:42	Mendoza, Magin	Evaluation of the Cooling Process of Thermal Storage Tanks with LiNO ₃ -NaNO ₃ -KNO ₃ Ternary Mixture as Working Fluid for CSP Plants	3413	
19:44	Lague, Mauricio	Fluid Dynamic Analysis of a Molten Salt Prilling Tower for the Thermal Energy Storage System of a Solar Concentrating Solar Power Plant Using an Eulerian-Lagrangian Approach	5528	



Time Slot	ISES Code Author	Session Title Presentation Title	Session Code ID	Moderator
14:00-15:00 CEST	J2	Thermal Storage	THU_1B_J2	Anastasia Stamatou
14:00	Ingenhoven, Philip	Energetic Assessment of a High Temperature Packed Bed Storage System in Combination with a Solar Expanding-Vortex Particle Receiver	3352	
14:02	Koçak, Burcu	Integration of Packed-Bed Thermal Energy Storage in Solar Heat System for a Food Industry	3638	
14:04	Mastronardo, Emanuela	Lab-Scale Reactor Tests on Fe-Doped CaMnO3 for Thermochemical Heat Storage Application	802	
14:06	Mawire, Ashmore	Modelling of Oil Based Medium Temperature Sensible Heat Thermal Energy Storage Systems During Charging	1781	
14:08	Nair, Ajay Muraledharan	Enhancing Heat Transfer in PCMS Using Expanded Graphite and Fins	1045	
14:10	Obasi, Gerard	Experimental Study on the Performance of an Advanced Integral Collector Storage System with Two Types of Phase Change Material Composites	8881	
14:00-15:00 CEST	L3	Solar Resource Assessment	THU_1C_L3	Natalie Hanrieder, Francisco Lima
14:00	Lin, Chin-An	South Asian Air Quality and Solar Energy Interaction	8011	
14:02	Hanrieder, Natalie	Why Natural Cleaning of Solar Collectors Cannot be Described Using Simple Rain Sum Thresholds	2333	
14:04	Di Laccio, José Luis	One-Minute Assessment of Photosynthetic Active Solar Radiation (PAR) Models in Uruguay	3027	
14:06	Ku, Jiyeon	Photovoltaic Site Selection by GIS Analysis for Train Station Power Supply	8089	
14:08	Vermeer, Damien	Towards More Precise Estimates of Land-Use Requirements for Solar Photovoltaic Power Plants	1384	
14:10	Marzo, Aitor	Assessment of the Atmospheric Extinction for Solar Tower Power Plants along the Sun Belt: Preliminary Results.	6610	
14:12	Perez-Astudillo, Daniel	Spectral Solar Radiation Characteristics Under Desert Conditions	2213	
14:14	López Rodríguez, Gabriel	Increasing the Resolution and Spectral Range of Measured Direct Irradiance Spectra for PV Applications	14142	
14:00-15:00 CEST	N1	ISREE	THU_1A_N1	Middleton, Kazmerski
14:00	Ramos Martins, Fernando	Challenges of Education in Energy and Environment: Comparison Before and After Pandemic Constraints	3150	
14:02	Oliphant, Monica	Climate Action and the Future of Education	5820	
14:04	Neumann, Hannah	Development of Open Educational Resources for Renewable Energy and the Energy Transition Process	14245	
14:06	Miscevic, Ljubomir	Experiences in Renewable Energy Education Based on the Long-Term Continuity of Implementation of Various Architectural Courses and Activities	15237	
14:08	Broman, Lars	Interactive Solar Energy Exhibition	872	
14:10	Papapostolou, Christiana	The Role of Universities in Accelerating the Sustainable Development Goals (SDGs): Progress and Lessons Learnt from European Universities	6274	
19:00 - 19:30 CEST	J3	Thermal Storage	THU_2B_J3	Anastasia Stamatou
19:00	Kicker, Harald	Life Cycle Assessment of Large-Scale Thermal Energy Storage Systems for District Heating Networks: Part A - Pit Storage	6133	
19:02	He, Mingfei	A Technical Introduction of Water Pit for Long-Term Seasonal Solar Thermal Energy Storage	3471	
19:04	Jensen, Adam R.	Thermal Inspection of Water Pit Heat Storages Using Drones	3824	
19:06	Torbarina, Fran	Numerical Model of System with Heat Pump and Latent Thermal Energy Storage	1940	
19:08	Mendoza, Magin	Thermal Performance Evaluation of a Shell and Tube Thermal Energy Storage System with Solar Salt for Low Temperature Applications	5591	
19:10	Schmidt, Matthias	Balance of Renewable Electricity and Heat Demand in Buildings – Pilot Plant Operation of a Novel Seasonal Thermochemical Storage System	3924	

19:12	Reinaga, Nicole	Desing of Phase Diagram of Nitrate Salt Based Mixture with Potential in Solar Heating Application	5748
19:14	Dragsted, Janne	Investigation of TRNSYS Model of an Air-Water Heat Pump with a PCM Storage and Control Unit	4749

19:00-20:00 CEST	L4	Solar Resource Assessment	THU_2C_L4	Hans Georg Beyer, Rodrigo Alonso-Suárez
19:00	Herrerias, Martin	Probabilistic Estimation of Irradiance Components: a State Space Framework to Integrate Empirical Models, Forecasts, and Imperfect Sensor Measurements	4233	
19:02	Thebault, Martin	Benchmark Study of Simulation Tools to Model the Solar Irradiation on Building Facades	3945	
19:04	Wang, Leilei	Design and Focusing Performance Simulation of Trough Solar Concentrator	3312	
19:06	Piccioli, Inti	Azimuth Detection from Solar Irradiance on Tilted Surfaces	4610	
19:08	Danjuma Safyanu, Bashir	Solar Energy Potentials to Develop Power Device Sizing and Integration for Solar-Powered Aircraft (UAV) Application	709	



Time Slot	ISES Code Author	Session Title Presentation Title	Session Code ID	Moderator
12:00-13:00 CEST	B1	c-Si Photovoltaics	FRI_1C_B1	Yamaguchi, Hallam
12:00	Tahir, Zia ul Rehman	Effect of Temperature and Wind Speed on Efficiency of Five Photovoltaic Module Technologies for Different Climatic Zones	893	
12:02	Töfflinger, Jan Amaru Palomino	Module-Performance Evaluation of Seven Photovoltaic Technologies in Lima-Peru	5409	
12:04	Hossain, Mohammad Kamal	Nitrogen-rich MZnO: Efficient Metal-doped Zinc Oxide for Thin Film Solar Cell Applications	7816	
12:06	Weiß, Karl-Anders	Needs, Challenges and Approaches for new Service Life Estimation Models for PV Modules – Results from IEA PVPS Task 13 Subtask 1.4	7735	
12:08	Zhang, Yuchao	Sustainability of Screen-Printed Solar Cells: Perspectives of a Multi-Terawatt Industry	2733	
12:10	Li, Xiaodong	Valuable Materials Recycling from C-Si Photovoltaic (PV) Modules	7993	
12:00-13:00 CEST	E2	Solar Thermal Electricity	FRI_1B_E2	
12:00	Pérez-Álvarez, Rafael	Creep-Fatigue Damage of Solar Tower Receiver Tubes Caused by Their Start-Up Preheating	5142	
12:02	Laporte-Azcúé, Marta	Creep and Fatigue Damage Assessment for Molten-Salt Central Receivers	2851	
12:04	Sanchez SeÑoran, Daniel	Numerical Simulation of Convective Heat Transfer Coefficient in Wire Mesh Absorbers	4815	
12:06	Resch, Alois	Triethylenglycol as Novel Heat Transfer Fluid for CPVT Collectors with Spectral Splitting	1269	
12:08	Ayala-Cortés, Alejandro	Solar Hydrothermal Liquefaction: Effect of the Operational Parameters on the Fuels	6462	
12:10	Serafim Martins, João Humberto	Assessment of Concentrated Solar Power Design Parameters for Levelized Cost of Energy Reduction and Capacity Factor Enhancement	1204	
12:12	Larsson-Mastonstråle, Stefan	Development of a 2-axis CSP Concentrator with Integrated Thermal Storage	5236	
12:14	Asaad Hameed Sayer, Asaad	An Evaluation to the Evacuated Tube Solar Collectors for Arid and Hot Areas	2782	
12:00-13:00 CEST	I3	RE & Efficient Heating and Cooling Systems	FRI_1A_I3	Eduardo Zarza, Alan Bigelow
12:00	Bigelow, Alan	Development and Implementation of a Performance Evaluation Process (PEP) for Solar Thermal Cooking Devices	1483	
12:02	González-Mora, Eduardo	Optical Evaluation of Tolokatzin-2020 High-Efficiency Solar Cooker	3897	
12:04	Nielsen, Elsabet	Solar Cooking Using PCM Heat Storage - Experimental Investigations of the Sunstore Solar Cooker	4198	
12:06	Castillo Téllez, Margarita	Direct and Mixed Solar Drying Effect on Kinetics and Colorimetry of Edamame (Glycine max (L.) Merr.)	5837	
12:08	Liyew, Kassa Wudineh	A Techno-Economic Analysis of Solar Injera Baking Systems	3779	
12:10	Molaroli, Luca	Energy and Economic Analysis of a Solar Assisted Heat Pump for Pasteurization Process	1955	
12:12	Pino, Alan	Solar Energy Opportunity Map for the Spanish Microbrewery Industry	3676	
14:30-15:30 CEST	C1	Other PV Technologies	FRI_2B_C1	Michael Graetzel
14:30	Salum, Graciela	Analysis of the Solar Resource, Photocurrent, Electricity Production and Greenhouse Gases Emission Reduction of an Experimental Photovoltaic Power Plant to be Placed in a University Campus	4524	
14:32	Sevillano-Bendezú, Miguel Angel	Benchmarking of Analytical Single-Diode Parameter Extraction Methods Applied to Outdoor I-V Measurements of Thin-Film PV Modules	2888	
14:34	Tyukhov, Igor	Characterization of ZnO Films Doped by Europium for Solar Cells as Window Layer	2893	
14:36	Yamaguchi, Masafumi	Overview of Concentrator Solar Cells and Analysis for Their Non-Radiative Recombination		

14:38	Vigil, Elena	Analysis of Nanostructured CuO Thin Films Grown with Microwave Activated Chemical Bath Deposition When Process Is Repeated for Thickness Increase	3430	
14:40	Ma, Zhangquan	A Promising Photovoltaic Architecture with Dual Quantum Tunneling in a Monolithic Perovskite/si Tandem Device	8386	
14:30-15:30 CEST H5 SHC Technologies FRI_2C_H5				
14:30	Yao, Jian	Experimental Investigation on Direct Expansion Solar Assisted Heat Pump System Employing a Novel PVT Module	2576	
14:32	Rodríguez-Muñoz, Juan	A Detailed Dynamic Parameter Identification Procedure for Quasi-Dynamic Testing of Solar Thermal Collectors	3119	
14:34	Chèze, David	Semi-Virtual Dynamic Tests of Hybrid Systems Coupling Solar Thermal and PV Panels with Heat Pumps	2612	
14:36	Dragsted, Janne	Demonstration of a Domestic Photovoltaic-Thermal (pvt)-Heat Pump System, Performance Simulation, and Economic Analysis for Different Climates	8348	
14:38	Famiglietti, Antonio	Experimental Characterization of a Latent Heat Storage Unit with Lithium Nitrate Inside Finned Cylinders for Assisting Solar Air Heating	2453	
14:40	Paing, Si Thu	Estimation of Natural Convection Heat Transfer Inside Vertical Cylindrical Solar Storage Tanks	2946	
14:42	Mawire, Ashmore	A Thermal Model of a Solar Cooker with Thermal Energy Storage Using Computational Fluid Dynamics	2154	
14:30-15:30 CEST I4 RE & Efficient Heating and Cooling Systems FRI_2A_L5				
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