ECOS 2021 - Taormina **Preliminary**

Program

PLEASE NOTICE: TIMES INDICATED HERE ARE CENTRAL EUROPE SUMMER TIME (CEST)

giu-28	**morning**	09:00	09:30	10:00	10:30	11:00	11:30	12:00	12:30	13:00	13:30
		Opening Session		**A28,B28,C28**		**break**	**D28,E28,F28**				**lunch**
	afternoon	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:30	18:00	18:30
		Lecture Prof. Lior			**break**	**G28,H28,I28**					
giu-29	**morning**	09:00	09:30	10:00	10:30	11:00	11:30	12:00	12:30	13:00	13:30
		A29,B29,C29				**break**	**D28,E28,F28**				**lunch**
	afternoon	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:30	18:00	18:30
		Lecture Dr. Caro			**break**	**G29,H29,I29**					
giu-30	**morning**	09:00	09:30	10:00	10:30	11:00	11:30	12:00	12:30	13:00	13:30
		A30,B30,C30				**break**	**D30,E30,F30**				**lunch**
	afternoon	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:30	18:00	18:30
		Lecture Dr. Simoni			**break**	**G30,H30,I30**					
	evening	19:00	→		20:30						
		welcome cocktail									
lug-01	**morning**	09:00	09:30	10:00	10:30	11:00	11:30	12:00	12:30	13:00	13:30
		A01,B01,C01				**break**	**R1,R2,R3**				**lunch**
	afternoon	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:30	18:00	18:30
		SC Meeting			**break**	**R4,R5,R6**					
	evening	20:00	→		23:00						
		Conference Dinner									
lug-02	**morning**	09:00	09:30	10:00	10:30	11:00	11:30	12:00	12:30	13:00	13:30
		R7,R8,R9				**break**	**D01,E01,F01**				**lunch**
	afternoon	14:00	14:30	15:00		16:00	16:30				
		G02,H02,I02				**Closing Ceremony**					
	evening	20:00	→		23:00						
		Dinner									

ECOS 2021 - Taormina - June 28 Program

PLEASE NOTICE: TIMES INDICATED HERE ARE CENTRAL EUROPE SUMMER TIME (CEST)

giu-28	Session A28	#	Title
9:30 - 9:50		58	Deep-Neural-Network-based Process Data Simulation Model for Production Well of a Geothermal Power Plant
9:50 - 10:10		154	Conceptual design of a novel hybrid system integrating thermochemical compressed air energy storage and solid oxide fuel cell-gas turbine
10:10 - 10:30		123	Minimizing the unit price of hydrogen production in Power-to-Gas plants by utilizing the Electric Power Exchange
10:30 - 10:50		173	A new approach for estimation of avoidable exergy destruction: A case study of a heat pump unit
	Session B28		
9:30 - 9:50		65	Thermodynamic analysis of the fuel spray evaporation process for wet ethanol during the compression stroke of a direct-injection spark-ignition engine
9:50 - 10:10		15	Trade-offs between productivity, efficiency and costs of biogas plants for agriculture wastes
10:10 - 10:30		25	Maximum Knowledge Gain through Minimum Number of Experiments: Optimal Experimental Design for Model Evaluation of Heat Pump Compressors
10:30 - 10:50		27	Performance simulation of an aeroderivative gas turbine operating at a Brazilian FPSO
	Session C28		
9:30 - 9:50		1	A design model for planar latent thermal energy storage heat exchangers
9:50 - 10:10		26	Feasibility of passive solar tracking through the thermal expansion of a PCM medium in a residential TES application: a numerical analysis
10:10 - 10:30		33	Impact of Parametrization of Battery Energy Storages on Multi-Agent Energy Systems with a High Share of Renewable Energy Sources
10:30 - 10:50		90	Pristinia: A tool for the assessment exergy assessment of topsoil fertility
	Session D28		
11:30 - 11:50		20	Evaluating Urban Heat Island mitigation strategies for a Subtropical City Centre (a case study in Osaka, Japan)
11:50 - 12:10		32	A game theory based optimal operation strategy for neighborhoods
12:10 - 12:30		53	Dynamic analysis of the heat theft issue on the heat metering systems for residential buildings
12:30 - 12:50		170	Thermodynamic analysis of an ejector-assisted ammonia-water absorption-resorption cycle
	Session E28		
11:30 - 11:50		6	Modeling seasonal storage in highly decarbonized national power systems
11:50 - 12:10		31	Impact of Power-to-X on Energy Systems as a Key Technology to Defossilization
12:10 - 12:30		221	Use of ultrasonic technology for the maximization of gas concentration in gas-liquid mixtures
12:30 - 12:50		271	Feasibility of thermally infused water hammer application for hydraulic ram pump
	Session F28		
11:30 - 11:50		8	Exergy analysis of an operating biomass thermal power plant
11:50 - 12:10		13	Optimal use of lignocellulosic biomass for the energy transition, including the non-energy demand: the case of the Belgian energy system
12:10 - 12:30		18	Exergy, Economic and CO2 emissions assessment of the ammonia production from residual bagasse gasification for decarbonization purposes
12:30 - 12:50		97	Effects of the sizing scale on the thermoeconomic and environmental performances of heat production systems for a mixed district in France

Session G28

16:00 - 16:20	**87**	Operational optimization of a 4th generation district heating network using mixed integer quadratically constrained programming
16:20 - 16:40	**253**	Integration of CO2 adsorption capture unit with flue gas conditioning by absorption chiller
16:40 - 17:00	**34**	Thermodynamic Analysis of a Falling Film Evaporator
17:00 - 17:20	**114**	Holistic modelling and optimisation of thermal load forecasting, heat generation and plant dispatch for a district heating network
17:20 - 17:40		
17:40 - 18:00		

Session H28

16:00 - 16:20	**186**	District Energy Systems: First Insights from a High-Efficiency Building Case Study in Germany
16:20 - 16:40	**9**	Simulating uncontrolled and controlled electric vehicle charging loads: temporal and spatial flexibility of demand
16:40 - 17:00	**95**	Navigation and localization of a mobile robot for the charging of electric vehicles
17:00 - 17:20	**96**	Fuel cells as auxiliary power unit for range extender electric vehicles
17:20 - 17:40	**287**	Comparative analysis of aggregate battery models to characterize the flexibility of electric water heaters
17:40 - 18:00		

Session I28

16:00 - 16:20		
16:20 - 16:40	**249**	Design and construction challenges for a hybrid air and thermal energy storage system built in the post-mining shaft
16:40 - 17:00		
17:00 - 17:20	**141**	Extraction energy as a function of ore grade decline: the case of coltan
17:20 - 17:40	**102**	Study and Test of a Post Combustion Chamber for a Recuperative Reheat Stirling Machine

ECOS 2021 - Taormina - June 29 Program

PLEASE NOTICE: TIMES INDICATED HERE ARE CENTRAL EUROPE SUMMER TIME (CEST)

giu-29	Session A29	#	Title
9:00 - 9:20	66	Optimizing Operation of Geothermal Fields using Nonlinear Model Predictive Control and Moving Horizon Estimation
9:20 - 9:40	105	Mass and heat valorization networks design for eco-industrial parks in non-cooperative schemes.
9:40 - 10:00		
10:00 - 10:20	74	Thermoeconomics as a cost accounting methodology for Spiral Economy and Industrial Symbiosis
10:20 - 10:40	112	A modelling framework for assessing the impact of green mobility technologies on energy systems
10:40 - 11:00	113	An analysis of the impacts of green mobility strategies and technologies on different European energy systems
Session B29	101	Flexible waste heat management and recovery for an electro-intensive industrial process through energy/exergy criteria
9:00 - 9:20		
9:20 - 9:40	46	Tidal current turbine blade optimisation using a coupled Genetic Algorithm and Blade Element Momentum Theory model
9:40 - 10:00	49	An investigation of a hybrid BEM-actuator disk approach in predicting wake development in a RANS-CFD model
10:00 - 10:20	50	ON THE THERMOECONOMIC DIAGNOSIS THROUGH THE LOCALIZED PHYSICAL EXERGY DISAGGREGATION FOR DISSIPATIVE COMPONENT ISOL
10:20 - 10:40	64	Exergoeconomic analysis of Goswami cycle to exploit medium temperature heat from a geothermal site
10:40 - 11:00	215	Comparison of three power-to-X storage solutions for the path of decarbonization: Germany as a case study
Session C29		
9:00 - 9:20	181	Assessment of Different More Electric and Hybrid-Electric Configurations for Long-Range Multi-Engine Aircraft
9:20 - 9:40	76	Evaluation of different pumped thermal energy storage systems
9:40 - 10:00	57	Daily and seasonal thermal energy storage for enhanced flexible operation of low-temperature heating and cooling network
10:00 - 10:20	89	A thermodynamic and technical feasibility study of the subsurface storage of energy in the North Sea abandoned reservoirs
10:20 - 10:40	111	Performance maximization of closed-system thermochemical energy storage through reactor design and dynamic operating condition formulation
10:40 - 11:00	127	Potential of Carnot batteries for load shifting of solar PV-production
Session D29		
11:30 - 11:50	255	Efficiency trade-offs in the Brazilian passenger vehicle fleet
11:50 - 12:10	72	An inclusive decision-making approach for selection of comprehensive energy-retrofit combinations in a typical Italian 1960s' multi-family house
12:10 - 12:30	73	Integration of Advanced Control Methods into Mode-Based Control Logics of Building Energy Systems
12:30 - 12:50	100	A data-driven based validation and calibration approach to building energy simulation model for accurate pre-retrofit design predictions
Session E29		
11:30 - 11:50	275	CFD-assisted design of an improved hybrid turbocompound system for a light urban vehicle
11:50 - 12:10	38	Impact of Different Forecast Horizons in Energy System Simulations
12:10 - 12:30	48	Towards energy efficient planning of Danish cities and neighborhoods
12:30 - 12:50	51	Is COVID-19 pandemic a "Black Swan" event? The impact of the pandemic on the Energy Market.

Session F29

11:30 - 11:50	**155**	Aviation and maritime biofuels production via a combined thermochemical/biochemical pathway: A conceptual design and process simulation study
11:50 - 12:10	**162**	Decentralized Forest Biomass Residues Thermal Power Plant Potential: An Economic and Environmental Perspective
12:10 - 12:30	**163**	Cooling fermentation in the sugar and ethanol production process using an ejector cooling system: Energy usage and impacts on cogeneration system
12:30 - 12:50	**164**	Energy and exergy assessment of fast pyrolysis of sugarcane straw integrated and non-integrated into the conventional ethanol production process

Session G29

16:00 - 16:20	**10**	Energy and exergy analysis of a biomass-fuelled micro-CHP unit
16:20 - 16:40	**142**	Behavior of the specific mining energy with ore grade decline: the case of nickel, cobalt and PGMs
16:40 - 17:00	**24**	Process synthesis and genetic algorithm-based multi-objective optimization for reduction of topsides dry weight and footprint
17:00 - 17:20	**218**	Assessment of exergetic efficiency of cities evaluating effects of municipal solid waste mixing entropy
17:20 - 17:40	**242**	Energy and Exergy Analysis of an Industrial Gas Turbine-Generator Operating Under Uncertainties in Electrical and Steam Demand Located in Hot and Humid A
17:40 - 18:00	**279**	Experimental Heat Transfer Study Using Liquid Crystals on a Swirl Cooling Flow Circular Chamber with and without Elbow

Session H29

16:00 - 16:20	**109**	Experimental analysis of the flow dynamics of multiple jets impinging a non-flat plate
16:20 - 16:40	**205**	Replacing natural gas with renewable hydrogen in combined heat and power plants
16:40 - 17:00	**37**	An exergy-based methodology to determine thermal network's optimal temperature level
17:00 - 17:20	**258**	Part load operation analysis of a biomass steam generator integrated with a concentrated solar power plant
17:20 - 17:40	**259**	ENERGY AND EXERGY PERFORMANCE EVALUATION OF A SOLAR-BIOMASS HYBRID COGENERATION CYCLE APPLIED TO THE CORN ETHANOL I
17:40 - 18:00	**63**	Dynamic Performance Analysis of a Thermochemical Resorption System for Low-grade Heat Storage and Cogeneration of Power and Cold

ECOS 2021 - Taormina - June 30 Program

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giu-30	Session A30		#		Title
	9:00 - 9:20		178		Heat loss analysis in a solar compound parabolic collector with aerogel and polycarbonate cover
	9:20 - 9:40		182		Comprehensive Energy and Exergy Analysis of the Ground Source Heat Pump Evaporator
	9:40 - 10:00		195		Hierarchical Residential Aggregation Method Incorporating Energy Demand Forecast
	10:00 - 10:20		204		Development of a Dynamic Multi-Sector Energy Economic Model to Analyze the Effects of Indigenous Natural Resources and Imported Fuel on the Economy ar
	10:20 - 10:40		212		Efficiency Improvement of a Solid Oxide Fuel Cell System Fueled with Ammonia
	10:40 - 11:00		132		Thermogravimetric analysis of thermal degradation of municipal solid waste (MSW) in N2, CO2 and O2/CO2 atmospheres
	Session B30				
	9:00 - 9:20		110		Modelling the energetic performance of a pig stable
	9:20 - 9:40		117		Piston path optimization of Stirling engines
	9:40 - 10:00		129		Long-term operational optimization of a building energy system coupled to a geothermal field
	10:00 - 10:20		134		THERMODYNAMIC MODELING AND OPTIMIZATION OF A SOLAR-THERMAL / PELLET BOILER DISTRICT HEATING PLANT INTEGRATING NANOTECH
	10:20 - 10:40		179		Influence of Cost Functions on Optimal Design of Heat Pump Systems in Mixed-Integer Linear Programming
	10:40 - 11:00		151		Thermodynamic analysis of the integrated Power to SNG system using heat from process gas and methanation reactor cooling to produce steam for solid oxid
	Session C30				
	9:00 - 9:20		103		Energetic and exergetic analysis of solar cooling technology in a low capacity absorption chiller
	9:20 - 9:40				
	9:40 - 10:00		198		Systematic numerical investigation of a high temperature packed bed for energy storage applications
	10:00 - 10:20		214		Dynamic modelling and energy analysis of offshore compressed air storage in the North Sea region
	10:20 - 10:40				
	10:40 - 11:00		254		Comparing Efficiencies of Converting Excess Electricity and Biomass to Hydrogen and other Synthetic Fuels
	Session D30				
	11:30 - 11:50		159		Renewable Energy Based Systems with Heat Pumps for Supplying Heating and Cooling in Residential Buildings
	11:50 - 12:10		165		Use of industrial excess heat to produce district cooling in tropical countries
	12:10 - 12:30		192		Exergy analysis as a tool for the rational use of energy in an average house and everyday personal habits
	12:30 - 12:50		188		A General MATLAB Model of Biomass Gasification in a Fluidised Bed Reactor
	Session E30				
	11:30 - 11:50		194		AN EXERGOECONOMIC PERFORMANCE INDICATOR FOR EVALUATION OF EXISTING THERMAL POWER PLANTS
	11:50 - 12:10		84		Offshore utility systems for FPSOs: techno-economic, environmental assessment and trade-offs between gas price, carbon taxation and opportunity cost
	12:10 - 12:30				
	12:30 - 12:50		118		Exploring the tradeoff between Installed capacity and unserved energy in rural electrification
	Session F30				
	11:30 - 11:50		206		Integrated organic Rankine cycle (ORC) and heat pump (HP) systems for domestic heating
	11:50 - 12:10		213		Multi-objective optimization of organic Rankine cycle systems considering their dynamic performance
	12:10 - 12:30		196		Performance investigation of a Closed Greenhouse in a Hot Arid Egyptian Climate
	12:30 - 12:50		244		Automatic digital twin generation of building energy systems using piping and instrumentation diagrams
	Session G30				

16:00 - 16:20	**16**	HENDling: Simultaneous Heat-Exchanger-Network Design and Scheduling for Batch Processes
16:20 - 16:40	**274**	Simulation, optimization and design of a heating network at an industrial plant
16:40 - 17:00	**2**	Energy, Exergy, Exergoeconomic and multi-objective optimization of an integrated geothermal trigeneration system
17:00 - 17:20	**3**	Energy, exergy and exergo-economic assessment of a geothermal power plant with NCGs reinjection
17:20 - 17:40	**260**	Challenges of working with a large building energy database. Combining datasets from different scales
17:40 - 18:00		

ECOS 2021 - Taormina - July 01 Program

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giu-01	Session A01	#	Title
	9:00 - 9:20	269	The role of the Thermoeconomic Environment in the exergy based cost accounting of technological and biological systems
	9:20 - 9:40	278	Assessment of the thermodynamic rarity of Mobile Phones PCBs
	9:40 - 10:00	52	Dynamic modelling and analysis of novel control strategies for modular cogeneration units operation in hospital facility
	10:00 - 10:20	54	Arbitrariness and Waste Cost Treatment of a Cogeneration System with Intercooler and Supplementary Firing
	10:20 - 10:40	88	Thermodynamic and Economic Optimization of CO2 Plume Geothermal Systems for Combined Heat and Power Production
	10:40 - 11:00	216	Development of an Advanced Monitoring Application for the Power and Efficiency of Air-cooled Geothermal Power Plants
	Session B01		
	9:00 - 9:20	35	Approximate Optimal Control for Heat Pumps in Building Energy Systems
	9:20 - 9:40	148	Experimental evaluation of a commercially available PEM fuel cell for residential buildings application
	9:40 - 10:00	158	Waste heat recovery with high-temperature heat pumps for steam generation: performance and cost effects
	10:00 - 10:20	222	Field-test economic and ecological performance of Proton Exchange Membrane Fuel Cells (PEMFC) used in residential micro-combined heat and power appli
	10:20 - 10:40	237	3D heat transport system for prismatic battery pack
	10:40 - 11:00	149	Numerical and experimental study on 10 kWe metal-halide solar simulator for parabolic-trough collector testing
	Session C01		
	9:00 - 9:20	106	Design and Simulation of Turbogenerators for Series Hybrid Electric Vehicles
	9:20 - 9:40	130	Exploiting the potential of electric vehicle charging combined with a stationary battery within non-residential buildings using hierarchical MPC
	9:40 - 10:00	171	Thermodynamic analysis of power production based on nitrogen liquefaction cold energy using the cryogenic method
	10:00 - 10:20	126	Thermodynamic analysis of hydrogen production system based on solar energy
	10:20 - 10:40	175	On Board Applications of a Reformed Methanol Fuel Cells Plant
	10:40 - 11:00	280	New incentive systems for renewable penetration considering local climatic characteristics and sources availability: the case of Italy
	Session R1		
	11:30 - 11:50	28	Data reduction for mixed integer linear programming in complex energy systems
	11:50 - 12:10	41	Dynamic exergoeconomic analysis of a solar district heating system located in the North West of France
	12:10 - 12:30	45	Flexibility options in a multi-regional whole-energy system: the role of energy carriers in the Italian energy transition
	12:30 - 12:50	75	Thermo- economic analysis of energy saving measures for hospital facilities equipped with trigeneration plants
	Session R2		
	11:30 - 11:50	30	A study on synergies of combined pulp and fuel production
	11:50 - 12:10	98	Techno-economical analysis of the mixing of combined heat and power with demand-side management in a local network
	12:10 - 12:30	115	Assessment of the Contribution of Power-To-Hydrogen to the Flexibility of the Future European Energy System
	12:30 - 12:50	4	Development of an exergo-economic and exergo-environmental tool for power plant assessment: evaluation of a geothermal case study

Session R3

11:30 - 11:50	**189**	Electrification of the heat supply in the brewing industry through heat pumps
11:50 - 12:10	**22**	Towards an Integrated Design of Heat Pump Systems: Application and Assessment of Process Intensification using Two-Stage Optimization
12:10 - 12:30	**43**	System LCOE: applying a whole-energy system to estimate the integration costs of photovoltaic
12:30 - 12:50	**61**	Model Predictive Climate Control of a building based on linear programming

Session R4

16:00 - 16:20	**17**	Comprehensive integration of the non-energy demand within a whole-energy system: Towards a defossilisation of the chemical industry in Belgium
16:20 - 16:40	**21**	Towards a sustainable supply chain on plastic waste management: multi-criteria optimization approach
16:40 - 17:00	**56**	Our exergy footprint, a new thermodynamic measure of the degree of (un)sustainability of a human society
17:00 - 17:20	**62**	A contribution to the search for a Thermodynamics-based sustainability indicator: Extended Exergy Analysis of the Italian System (1990-2012) and Comparisor
17:20 - 17:40	**78**	Assessing the Contribution of District Heating to the Flexibility of the Italian Power System in High Renewables Penetration Scenarios
17:40 - 18:00	**5**	Theoretical Assessment of Binary Mixtures as Working Fluids in Heat Pump Cycles

Session R5

16:00 - 16:20		
16:20 - 16:40	**228**	Waste Heat Recovery from Algerian cement industries: SRC and ORC thermodynamic optimization, and economic and environmental factors
16:40 - 17:00	**99**	Optimised design of the extension of a district heating network considering demand-side management
17:00 - 17:20	**119**	Tool for the Optimization of the Sizing and the Outline of District Heating Networks using a Geographic Information System: Application to a Real Case Study
17:20 - 17:40	**233**	The challenge of reducing supply temperature in existing district heating networks
17:40 - 18:00	**245**	Integration of prosumers in high temperature and low temperature district heating networks

Session R6

16:00 - 16:20	**14**	Adaptive Rolling Horizon for operational optimization of multi-energy systems
16:20 - 16:40	**39**	Optimal multi-stage planning of decentralized multi-energy systems considering seasonal energy storage
16:40 - 17:00	**202**	Modelling the internal combustion engine waste heat recovery using thermoelectric modules
17:00 - 17:20	**203**	Dynamic Modelling of a Free Liquid Piston Ericsson Engine (FLPEE)
17:20 - 17:40	**207**	Design considerations and numerical simulations of variable thickness scroll geometries
17:40 - 18:00	**209**	Numerical study of a centrifugal pump using Harmonic Balance Method in OpenFOAM

ECOS 2021 - Taormina - July 02 Program

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giu-02	Session R7		#		Title
	9:00 - 9:20		145		Valorization of blackcurrant pomace through thermochemical liquefaction in mixed solvents
	9:20 - 9:40		150		Multi-scale modeling of a shell-and-tube Latent Heat Thermal Storage unit for building-level dynamic simulation
	9:40 - 10:00		217		Integration of pumped thermal energy storage systems based on Brayton cycle with CSP plants
	10:00 - 10:20		174		Integrated optimal scheduling of direct current distribution systems and direct current driven HVAC in buildings
	10:20 - 10:40		200		Enhancing building RES integration through Solar Cooling and Latent Heat Storage combined operation
	10:40 - 11:00		273		Mid term performance simulation of a dual source heat pump
	Session R8				
	9:00 - 9:20		286		A numerical analysis of the temperature field evolution during an optimization of the catalyst distribution in a steam reforming reactor
	9:20 - 9:40		69		Optimal design of pathways towards the decarbonization of small islands: The case of Lampedusa
	9:40 - 10:00		125		CFD-aided design of a liquid-to-liquid supercompact disc-shaped heat exchanger: comparison of Fractal, Constructal and EGM configurations
	10:00 - 10:20		139		Strategies for the decarbonization of an industrial area: the case of the port of Trieste
	10:20 - 10:40		191		Numerical analytical study of heat transfer inside the stack of a thermoacoustic device
	10:40 - 11:00		77		Thermal Energy Storage (TES) to increase flexibility of cogeneration units in District Heating (DH) networks
	Session R9				
	9:00 - 9:20		223		Green hydrogen from wind energy: mitigation of operating point fluctuations
	9:20 - 9:40		281		How to Reduce the Design of Disc-Shaped Heat Exchangers to a Zero-Degrees-of-Freedom Task
	9:40 - 10:00		283		Possibilities of using molten boron compounds as electrolyte for medium temperature fuel cells
	10:00 - 10:20		227		DEVELOPMENT OF NEURAL NETWORKS FOR REMOTE MONITORING OF ENERGY CONSUMPTION IN TELECOMMUNICATION SITES
	10:20 - 10:40		230		Performance evaluation of different Low Temperature A-CAES configurations
	10:40 - 11:00		23		Application of artificial intelligence on uncertainty analysis for long-term energy system planning

Session R10		
11:30 - 11:50	**108**	Energy transition planning in developing countries: The case of Bolivian interconnected power system
11:50 - 12:10	**291**	A critical assessment of three possible exergy-based sustainability indicators
12:10 - 12:30	**12**	Life cycle analysis of a carnot battery (Pumped thermal energy storage)
12:30 - 12:50		
Session D02		
11:30 - 11:50	**201**	Dynamic modelling of performance and refrigerant charge distribution of a Heat Recovery Ventilation Heat Pump Water Heater
11:50 - 12:10	**240**	Operational challenges in large-scale ammonia heat pump systems
12:10 - 12:30		
12:30 - 12:50	**293**	Absorption-based carbon capture energy penalty reduction for micro gas turbine application: pre-assessment of the impact of appropriate amine solvent and
Session E02		
11:30 - 11:50	**235**	Numerical assessment of increasing photovoltaic self-sufficiency of a low energy residential building in Belgium by using heat pump and energy storage
11:50 - 12:10	**71**	Characteristic of the installation for the production of hydrogen powered by renewable photovoltaic energy
12:10 - 12:30	**157**	Hybrid Brayton thermosolar plants at different latitudes and different power scales
12:30 - 12:50	**147**	Using liquid metals for high energy dissipation
Session F02		
11:30 - 11:50	**262**	Solar-thermal heating potential in the UK: A techno-economic whole-energy system analysis
11:50 - 12:10	**277**	Effect of temporal resolution on long-term power system planning modelling
12:10 - 12:30		
12:30 - 12:50	**232**	Increasing the efficiency of the parabolic trough collector under variable solar irradiance by internal flow turbulization - a numerical study
Session G02		
14:00 - 14:20	**36**	Modelling of energy systems with seasonal storage and system state dependent boundary conditions using time series aggregation and segmentation
14:20 - 14:40	**128**	Thermochemical Energy Storage for Increasing the Flexibility of an Industrial Combined Heat and Power Plant
14:40 - 15:00	**156**	Analysis of The Energy Consumption Structure and Evaluation of Energy Performance Indicators of The Italian Ceramic Industry
15:00 - 15:20	**199**	Performance evaluation of an active PCM cooling application in Northern European climate
15:20 - 15:40	**124**	Prediction of Stirling-cycle-based heat pump performance and environmental footprint using exergy analysis and LCA
15:40 - 16:00	**272**	Design and thermal evaluation of a double pass solar air heater with PCM