



29th International Conference on Efficiency,
Cost, Optimization, Simulation and
Environmental Impact of Energy systems
June 19-23, 2016, Portorož, Slovenia

University of Ljubljana
Faculty of Mechanical Engineering



CONFERENCE PROGRAM

Time	SUNDAY, 19.6.2016
13:00 - 15:30	<u>Registration</u>
16:00 - 16:10	<u>Bus Departure from the Hotel Vile Park</u> (200 m from Grand Hotel Bernardin, 50 m from Hotel Histron)
17:30 - 21:30	<u>ECOS Welcome Reception and the 40th Anniversary of the Int.Journal Energy</u> (Postojna Cave)
22:30	<u>Arrival to the Hotel Vile Park</u>

Time	MONDAY, 20.6.2016				
08:00 - 09:30	<u>Registration</u>				
09:30 - 10:15	<u>Opening ceremony</u> (Emerald Ballroom)				
10:20 - 12:20	<u>Plenary Lectures</u> (Emerald Ballroom) Matija Tuma: <i>Prof. Dr. Zoran Rant</i> Osamu Motojima: <i>The Role of Fusion Energy in the Future Energy Mix for the Sustainable Development of the World</i>				
12:30-14:00	Lunch Break				
14:00-14:50	<u>Keynote Lecture</u> (Emerald) Henrik Lund: <i>Smart Heat Europe - The design of smart heating as part of future Sustainable Energy Solutions</i>				
	EMERALD 2	EMERALD 1	MEDITERANEA 1	ADRIA 1	ADRIA 2
	ORC	Refrigeration & air conditioning; Heat pumps	District energy systems & Smart Cities	Process integration, simulation & optimization of energy systems	Engines, furnaces & boilers, combustion/gasification
15:00-16:20	Carlo Francesco Palumbo: <i>Design and cfd analysis of a Ljungström turbine for an ORC cycle in a waste heat recovery application</i>	Marija Macenić: <i>Impact of borehole cement-bentonite grout's thermal conductivities on a long-term ground-source heat pump efficiency</i>	Ryohei Yokoyama: <i>Optimal Operation of Heat Supply Systems With Piping Network</i>	Tuong-Van Nguyen: <i>A preliminary analysis of floating production storage and offloading facilities with gas liquefaction processes</i>	Paul Sapin: <i>Wall temperature and system mass effects in a reciprocating gas spring</i>
	Rémi Dickes: <i>ORCmKit : an open-source library for organic Rankine cycle modeling and analysis</i>	Josipa Kapuralić: <i>Comparing seasonal performance factor of different heat pump systems for residential HVAC in the Dfb climate area of Republic of Croatia</i>	Tjaša Čož: <i>Exergoeconomic optimization of a district cooling network</i>	Riccardo Bergamini: <i>Development of Simplified Process Integration Methodologies in medium size industries</i>	Roberta Masci: <i>A lumped thermodynamic model of gas turbine blade cooling: prediction of first-stage blades temperature and cooling flow rates</i>
	Stephane Schuller: <i>Technical and economic optimization of an organic Rankine cycle dedicated to the production of electricity from a geothermal source using a genetic algorithm</i>	Philipp Mehrfeld: <i>Influences on the Seasonal Performance of Heat Pump Systems Investigated Via Dynamic Simulations</i>	Henrik Saxen: <i>Tool for dimensioning of energy efficient district heating in areas with low-energy buildings</i>	Hassan Harb: <i>Identification of data-driven grey-box models for energy management applications</i>	Vladimir Stevanović: <i>Dynamics of wet flue gas desulfurization in spray absorber</i>
	Dominik Meinel: <i>Flexible two-stage turbine bleeding Organic Rankine Cycles (ORCs) for combined heat and power applications</i>	Gerrit Bode: <i>Mode and storage load based control of a complex building system with a geothermal field</i>		Ryohei Yokoyama: <i>Performance Comparison of Energy Supply Systems Under Uncertain Energy Demands Based on a Mixed-Integer Linear Model</i>	Tuong-Van Nguyen: <i>Techno-economic optimisation of three gas liquefaction processes for small-scale applications</i>
16:20-16:50	Coffee Break				

Time	MONDAY, 20.6.2016				
	MEDITERANEA 1	EMERALD 1	EMERALD 2	ADRIA 1	ADRIA 2
	Energy and buildings	Refrigeration & air conditioning; Heat pumps	Exergy based methods and thermo-economic analysis & optimization	Biomass/biofuels; biorefinery concepts; waste-to-energy	Power generation and CHP with fossil fuels and nuclear
16:50-18:10	Thomas Schütz: Clustering algorithms for the selection of typical demand days for the optimal design of building energy systems	Michael Noeding: Operation Strategy for Heat Recovery of Transcritical CO ₂ Refrigeration Systems with Heat Storages	Noam Lior Exergo Economic Analysis-Based Criteria for Competitiveness of Hybrid Power Cycles using Multiple Heat Sources of Different Temperatures	Malgorzata Wilk: Mineral phase transformation of biomass ashes – thermal analysis and FactSage calculations	Zygmunt Kolenda Thermodynamic analysis of power generation cycles with High Temperature Gas Cooled Nuclear Reactor HTGR and Additional Coolant Heating up to 1600°C
	Olivier Dumontu: Economic assessment of energy storage for load shifting in Positive Energy Building	Adriana Reyes-Lúa: Optimal operation of vapor-compression cycles in off-design conditions	Fabian Bühler Energy, Exergy and Advanced Exergy Analysis of a Milk Processing Factory	Pratham Arora: Remote, small-scale, ‘greener’ routes of ammonia production	Ligang Wang Multi-objective superstructure-free synthesis and optimization of thermal power plants
	Jan Schiefelbein: Clustering of buildings within city districts to reduce runtime for energy system placement optimization	Paride Gullo: Thermodynamic Performance Evaluation of R744 Supermarket Refrigeration Systems by employing Advanced Exergy Analysis	Stefanie Tesch Exergoeconomic analysis applied to the process of regasification of LNG integrated into an air separation process	Ayse Dilan Celebi: Early-stage decision making approach for the selection of optimally integrated biorefinery processes	Michalis Agraniotis: Modern design concepts for thermal power generation towards highest efficiency, increased utilization and reduced carbon footprint
	Henryk Wolisz: Cost optimal dimensioning of energy system components for smart buildings considering changing end-consumer energy market models	Emi Matsui: Accuracy Improvement of Performance Evaluation for Variable Refrigerant Flow Systems	Julio Augusto Mendes da Silva: Allocation of waste and resources in multiproduct plants: thermoeconomics and LCA	Andrej Senegačnik: Gasification and combustion reactor geometry design of a Fast Internal Circulating Fluidized Bed Gasifier	Eike Mollenhauer Increasing the Flexibility of Combined Heat and Power Plants with Heat Pumps and Thermal Energy Storage

Time	TUESDAY, 21.6.2016					
08:30- 09:15	<p align="center">Keynote Lecture (Emerald)</p> <p align="center">Gan Zhong Xue: <i>A novel approach to the optimization of complex energy systems by integration of information, internet, and entropy minimization, and its practical demonstrations</i></p>					
	EMERALD 1	EMERALD 2	MEDITERANEA 2	MEDITERANEA 1	ADRIA 1	ADRIA 2
09:25-10:45	ORC	Energy and buildings	Energy in transportation	Power generation and CHP with fossil fuels and nuclear	System operation, control, diagnostics & prognosis	Environmental, social and sustainability issues associated with energy systems, industrial production, and transportation
	<p>Lorenzo Tocci: <i>Thermodynamic and technical criteria for the optimal selection of the working fluid in a mini-ORC</i></p>	<p>Sanja Stevanovic: <i>Search for the optimal shape of fixed external shading</i></p>	<p>Zlatina Dimitrova: <i>Environomic design of hybrid electric vehicles</i></p>	<p>Jure Smrekar: <i>NOx reduction and efficiency improvement of a 210 MWt coal-fired boiler co-firing biomass</i></p>	<p>Christophe Weber: <i>Analysis of different fouling predictive models in a Heat Exchanger from experimental data</i></p>	<p>Giorgio Bonamini: <i>Cost Allocation strategy for off grid system in rural area a case study on irrigation for rural agricultural lands in India</i></p>
	<p>Rodolfo Taccani: <i>A thermodynamic feasibility study of an Organic Rankine Cycle (ORC) for Heavy Duty Diesel Engine (HDDE) waste heat recovery in off-highway applications</i></p>	<p>Marc Baranski: <i>An Algorithm for Stepwise Exergy-based Model Predictive Control of Building HVAC Supply Chains</i></p>	<p>Alice Bittante: <i>Mixed integer optimization of an LNG supply chain in the Baltic Sea region</i></p>	<p>Turgay Koroglu: <i>Performance Analysis of a Steam Power plant with district heating</i></p>	<p>Elfie Méchaussie: <i>Methodology for streams definition and graphical representation in Total Site Analysis</i></p>	<p>Dominik Franjo Dominković: <i>Benefits of Integrating Geographically Distributed District Heating Systems</i></p>
	<p>Alberto Benato: <i>Recovering gas turbine high-temperature exhaust heat using organic Rankine cycle with mixture as working fluid</i></p>	<p>Camelia Stanciu: <i>Analysis of climatic conditions effect on heating and cooling loads for a household</i></p>	<p>Matteo Piacentini: <i>Thermodynamic analysis and system simulation of a "optimized cascade" LNG process</i></p>	<p>Liqiang Duan: <i>Performance study of a 1000 MW coal-fired power plant integrated with the tower solar energy collector system</i></p>	<p>Paolo Sementa: <i>The effect of Air Direct Injection on gasoline combustion in a small displacement Port Fuel Injection engine</i></p>	<p>Lydia Stougie: <i>Environmental and exergetic sustainability assessment of power generation from biomass</i></p>
	<p>Steven Lecompt: <i>Optimal part-load operation of an 11 kWe organic Rankine cycle for waste heat recovery</i></p>	<p>Valeria Strokova: <i>The efficiency of using antifreezing agents in monolithic construction</i></p>	<p>Francesco Baldi: <i>The application of process integration to the optimisation of cruise ship energy systems: a case study</i></p>	<p>Igor Kuštrin: <i>Practical Approach to Optimization of Operation of Three Units in Power Plant Ljubljana</i></p>	<p>Mounir Asli: <i>Numerical And Experimental Investigation Of Simultaneous Heat And Mass Transfer Within Bio-Based Material</i></p>	
10:45-11:05	Coffee Break					

Time	TUESDAY, 21.6.2016					
	EMERALD 1	EMERALD 2	MEDITERANEA 1	MEDITERANEA 2	ADRIA 1	ADRIA 2
11:05-12:45	Refrigeration & air conditioning; Heat pumps	Exergy based methods and thermo-economic analysis & optimization	Energy Storage (thermal, electric, hydrogen, alternatives)	Energy policy & planning	Chemical reactions & reaction engineering	Biomass/biofuels; biorefinery concepts; waste-to-energy
	<i>Jose Blancarte: Easy Advanced Control for energy efficiency applied to refrigeration</i>	<i>Enrico Sciubba: A critical reassessment of the Hess-Murray law</i>	<i>Ligang Wang: Time-dependent performance of an integrated solar-driven hydrogen generation device</i>	<i>Daniel Favrat: The information platform energy.scoop.ch on energy transition</i>	<i>Daniel Florez-Orrego: Exergy Modeling and Optimization of an Ammonia Production Plant</i>	<i>Matteo Morandin: Thermochemical recycling of plastics for production of chemical intermediates at a Swedish chemical complex site</i>
	<i>Alex Magdanz: Transient refrigeration cycles - simulation results</i>	<i>Enrico Sciubba: Exergy dynamics of a sphere undergoing a non-equilibrium concentration transient</i>	<i>Nathanael Beeker: An optimization algorithm for load-shifting of large sets of electric hot water tanks</i>	<i>Ville Olkkonen: Benefits of DSM measures in the future Finnish energy system</i>	<i>Mathias Penkuhn: Comparison of different ammonia synthesis loop configurations with the aid of advanced exergy analysis</i>	<i>Mohamed Magdeldin: Techno-economic assessment of hydrothermal liquefaction of lignocellulosic biomass, a Finnish case study</i>
	<i>Paride Gullo: Comparative Exergoeconomic Analysis of Various Transcritical R744 Commercial Refrigeration Systems</i>	<i>Hossein Khajeh Pour: Extended Exergoenvironmental Method as a Tool for Environmental Responsibility Accounting in Complex Energy Systems: Case Study of Assaluyeh</i>	<i>Adriano Sciacovelli: Adiabatic compressed air energy storage - a study on dynamic performance with sensible and latent thermal storage</i>	<i>Ana Cristina Ferreira: Energy Evaluation of Regions and Sub-Regions: Application to Portugal</i>	<i>Zornitza Kirova-Yordanova: Exergy-Based Estimation and Comparison of Urea and Ammonium Nitrate Production Efficiency and Environmental Impact</i>	<i>Assaad Zoughaib: Design of an Integrated Waste Wood to Heat and Hydrogen Conversion System: A Parametric Study</i>
	<i>Elie Keryakos: Modeling of Frost Growth and Evaporation of Refrigerant Blends in a Fin-and-Tube Heat Exchanger</i>	<i>Young Duk Lee: Exergetic and exergoeconomic evaluation of a SOFC/engine hybrid power generation system</i>	<i>Alexander Studniorz: Active PCM cold storage in off grid telecommunication base stations- potential assessment of primary energy savings</i>	<i>Jakob Kopsike: Power plant flexibility and the value of flexibility in power systems with high shares of variable renewables: a scenario outlook for Germany in 2035</i>	<i>Francesco Desogus: Design of a chemical reactor under microwave irradiation in resonance conditions</i>	<i>Danahe Marmolejo-Correa: Advances on Exergy Targeting of a Biofuel Plant</i>
		<i>Waldyr Gallo: Exergy assessment of the compression systems and its prime movers for a FPSO unit</i>	<i>Alberto Benato: Economic and energy analysis of a Thermal Energy Storage power system</i>	<i>Paula Ferreira: Electricity planning in Algeria</i>	<i>Marco A. Barranco-Jiménez: Thermo-economic optimization for an endoreversible chemical engine model</i>	<i>Kai Whiting: Bio-products: A new way to calculate fossil fuels in the cradle to cradle exergy assessment</i>
12:45-14:00	Lunch Break					

Time	TUESDAY, 21.6.2016				
14:00- 14:45	<p align="center">Keynote Lecture (Emerald)</p> <p align="center">Christian Bahl: <i>Trends And Frontiers In Solid State Energy Conversion - Materials And Technologies</i></p>				
	EMERALD 1	MEDITERANEA 1	EMERALD 2	ADRIA 1	ADRIA 2
	Refrigeration & air conditioning; Heat pumps	Energy and buildings	Power generation and CHP with RENEWABLES and WASTE	Energy policy & planning	Energy in transportation
14:55-16:15	<p>Go Sota: <i>Performance Analysis of Magnetocaloric Heat Pump with Manganese-Based Compounds as a Magnetic Refrigerant</i></p>	<p>Gerardo Maria Mauro: <i>Cost-optimal building thermal design in presence of multi-objective model predictive control for energy systems</i></p>	<p>Fabio Schiro: <i>Steady-state and transient models of a cooling system for improving the performances of a PV field</i></p>	<p>Sylvain Quoilin: <i>Techno-economic evaluation of self-consumption with PVbattery systems under different regulation schemes</i></p>	<p>William David Valencia: <i>Measurement and comparison of deterioration index of two vehicle catalytic converters operated with ethanol-gasoline blends E10 and E20</i></p>
	<p>Shigeki Hirano: <i>Three Dimensional Molding of Manganese Related Magneto Caloric Material by use of Selective Laser Sintering Machine</i></p>	<p>Gerardo Maria Mauro: <i>From a hospital Reference Building to all represented healthcare facilities: A new approach to assess energy performance and retrofit potentials</i></p>	<p>David MacPhee: <i>Experimental Analysis of a Flexible Bladed Horizontal Axis Wind Turbine</i></p>	<p>Nasibeh Pouransari: <i>Energy strategy programs in Canton of Vaud of Switzerland: Specific actions</i></p>	<p>Mikhail Sorin: <i>Thermodynamic and economic evaluation of heat transport and valorization systems</i></p>
	<p>Tian Lei: <i>Optimization of Multi-layer Active Magnetic Regenerator towards Compact and Efficient Refrigeration</i></p>	<p>Akira Yoshida: <i>Optimal Scheduling for Residential PEM Fuel Cell Cogeneration System under Uncertainty of PV Output and Energy Demand Using MISOCP Approach</i></p>	<p>Ana Cristina Ferreira: <i>Thermal-economic design of a solar dish Stirling cogeneration system using a multi-objective optimization approach</i></p>	<p>Imran Shabbir: <i>Energy efficiency improvement potentials of pulp and paper sector through energy benchmarking and cogeneration</i></p>	<p>Blaž Luin: <i>Impact of Traffic Congestions on Energy Consumption and Emissions</i></p>
		<p>Johannes Fütterer: <i>Simulation-based assessment of an easy-to-apply, automated control tuning method for typical PID control loops in building energy systems</i></p>	<p>Chantal Maatouk: <i>Modeling and Parametric Analysis of a Waste –to-Energy Facilities performance for electrical energy production</i></p>	<p>Maike Hennen: <i>How to Explore and Analyze the Decision Space in the Synthesis of Energy Supply Systems.</i></p>	
16:15-16:35	Coffee Break				

Time	TUESDAY, 21.6.2016					
	EMERALD 1	EMERALD 2	MEDITERANEA 2	MEDITERANEA 1	ADRIA 1	ADRIA 2
	Refrigeration & air conditioning; Heat pumps	Exergy based methods and thermo-economic analysis & optimization	Engines, furnaces & boilers, combustion/gasification	District energy systems & Smart Cities	Combined Energy & water interactions, use of water resources + Advanced fossil energy: clean coal, oil, natural gas, carbon dioxide capture, utilization & storage	Energy in transportation
16:35-17:55	Noé Demesa: Efficient waste heat recovery in a cryogenic distillation air separation plant using heat pumps	Alencar Migliavacca: Exergy analysis applied to the heating process of aviaries for broiler production in Brazil	Asfaw Beyene: The Impact of Air Quality and Site Selection on Gas Turbine Engine Performance	Aira Hast: The role of heat storages in facilitating the adaptation of DH systems to large amount of variable RES electricity	Ana M Blanco-Marigorta: A critical review of definitions for exergetic efficiency in reverse osmosis desalination plants.	Daniel Bender: Exergy-Based Analysis of Aircraft Environmental Control Systems – Integration into Model-Based Design and Potential for Aircraft System Evaluation
	Primož Poredoš: Thermo-Economic Assessment Based on Field Test Results for the Air-to-Water Heat Pump	Alejandro Abadías: Thermo-economic Analysis Of A Cement Production Plant	Silvia Scorza: Design And CFD Analysis Of An Odontoiatric Turbine	Natalia Kabalina: Energy and economic assessment of a polygeneration district heating and cooling system based on gasification of refuse derived fuels	Liqiang Duan: Optimization and comparison of CAL CO2 capture systems with recarbonation process integrated in coal-fired power plant	Jose Luis Osorio-Tejada: Sustainability assessment of alternative fuels for freight transport: methodological approach and case study for liquefied natural gas
	Valerius Venzik: Propene/isobutane mixtures in heat pumps: an experimental investigation	Pieter Mergenthaler: Application of exergoeconomic, exergoenvironmental and advanced exergy analyses on Carbon Black production	Alvaro Durante: Numerical model of an externally fired gas turbine, including an arbitrary number of stages in expansion and compression processes	Raluca Suci: Towards Energy-Autonomous Cities: CO ₂ Networks	Stefanie Tesch: Liquefaction of natural gas integrated into an air separation plant: Evaluation of a novel concept	
	Ruzhu Wang: Study on Performances of A Novel Residential Air Source Heat Pump System for Heating	Timo Blumberg: Comparative exergoeconomic evaluation of two modern combined-cycle power plants	Gabriel Pena: Optimizing the efficiency of an externally fired gas turbine			
18:20-20:00	Scientific Committee Meeting					

Time	WEDNESDAY, 22.6.2016					
08:30- 09:15	<p align="center">Keynote Lecture (Emerald)</p> <p align="center">Jean-Pierre Bedecarrats : <i>Potential role and challenges of thermal energy storage</i></p>					
	EMERALD 1	EMERALD 2	MEDITERANEA 1	MEDITERANEA 2	ADRIA 1	ADRIA 2
09:25-10:45	Refrigeration & air conditioning; Heat pumps	Exergy based methods and thermo-economic analysis & optimization	ORC	Energy Storage (thermal, electric, hydrogen, alternatives)	Heat & mass transfer, fluid dynamics	Power generation and CHP with fossil fuels and nuclear
	Yuqi Shi: <i>Experimental Study of a Novel Ejector-absorption Refrigeration Cycle Driven by Multi-heat sources</i>	Johannes Wellmann: <i>Exergoeconomic evaluation of a CSP plant in combination with a desalination unit</i>	Asfaw Beyene: <i>Design Challenges of Low Grade Heat Recovery ORCs for Low Power Output</i>	Adriano Sciacovelli: <i>Liquid air energy storage – operation and performance of the first pilot plant in the world</i>	Dimitrios Korres: <i>Thermal analysis of an entire Flat Plate Collector with a Serpentine flow system and determination of the water and air flow and convection regime</i>	Sotirios Karellas: <i>Simulation on the Flue Gas Pre-Dried Lignite-Fired Power Plants Firing High Moisture Lignite</i>
	Antonio Gallego: <i>Thermodynamic modelling and exergetic analysis of ammonia-water absorption refrigeration system.</i>	Nilton Fukushima: <i>Exergetic Analysis Of Stillage Concentration</i>	Van Long Le: <i>Performance Evaluation Of An Organic Rankine Cycle (ORC) Connected To Two-Phase Closed Thermosyphons.</i>	Annelies Vandersickel: <i>Small-scale Pumped Heat Electricity Storage for decentralised combined Heat and Power Generation</i>	Ioannis Alexopoulos: <i>Simulation of a Heat Exchanger</i>	Julia Hentschel: <i>Dynamic simulation of a 550MWel coal fired power plant for extended secondary control power output</i>
	Jonas Kjaer Jensen: <i>Design of serially connected ammonia-water hybrid absorption-compression heat pumps for district heating with the utilisation of a geothermal heat source</i>	Goran Vučković: <i>Improving the accuracy of the results of exergy analysis and exergoeconomics evaluation for the complex energy system using the CFD technique</i>	Andrea Lazzaretto: <i>Performance comparison between single and dual pressure Organic Rankine Cycle systems</i>	Donald Olsen: <i>Systematic Thermal Energy Storage Integration in Industry Using Pinch Analysis</i>	Shobhana Singh: <i>Performance study of a fin and tube heat exchanger with different fin geometry</i>	Aldo Bischi: <i>Scheduling optimization of Combined Heat and Power units with multiple degrees of freedom based on the superposition principle</i>
	Bosheng Su: <i>Proposal and assessment of a two-stage liquid desiccant dehumidification system driven by low-temperature heat and power</i>	Juan Carlos Pacheco: <i>Finite-time thermoeconomic optimization of a non-endoreversible Novikov power plant model under different regimes of performance with Dulong-Petit's heat transfer law</i>	Turgay Koroglu: <i>Advanced Exergoeconomic Analysis of Organic Rankine Cycle Waste Heat Recovery System of a Marine Power Plant</i>	Georges Descombes: <i>A modeling and simulation approach for thermal energy storage devices</i>	Mladen Tomic: <i>Experimental and Numerical Investigation of Thermal and Fluid Flow Processes in a Matrix Heat Exchanger</i>	Yi Chen: <i>Investigation of an ammonia-water combined power and cooling system driven by jacket water and exhaust gas heat of internal combustion engine</i>
10:45-11:05	Coffee Break					

Time	WEDNESDAY, 22.6.2016					
	EMERALD 1	EMERALD 2	MEDITERANEA 1	MEDITERANEA 2	ADRIA 1	ADRIA 2
	Refrigeration & air conditioning; Heat pumps	Power generation and CHP with RENEWABLES and WASTE	Energy Storage (thermal, electric, hydrogen, alternatives)	Environmental, social and sustainability issues associated with energy systems, industrial production, and transportation	Energy policy & planning	Heat & mass transfer, fluid dynamics
11:05-12:45	Louis Lamarche: Short-Time modeling of geothermal systems	Pascal Stouffs: Theoretical and experimental investigations on the instantaneous heat transfer in the cylinder of an Ericsson engine	Ioannis Alexopoulos: Simulation of a heat tank with Phase Change Materials (PCM)	Andreas Bertram: Potential Environmental Impacts of Hydraulic and Chemical Stimulations in Deep Geothermal Wells – a German Perspective	Uroš Stritih: Integration of Renewable energy sources and Forecast of development of electricity consumption in the Slovenian transmission network till 2050	Giampaolo Manfreda: Fluid Dynamics Assessment Of Tesla Turbine Rotor
	Ruzhu Wang: Investigation on annual energy performance of a VWV air-source heat pump system	Juan Camilo Lopez: Thermo-economic analysis of a sugarcane cogeneration cycle by subcycle decomposition	Michael Angerer: Simulation of cogeneration combined cycle plant flexibilization by thermochemical energy storage	Jorge Cunha: A cross-country assessment of energy-related CO ₂ emissions: A combined decomposition and decoupling approach	Amer Karabegović: Local community as the pillar of developing a sustainable energy strategy	Enrico Sciubba: Microfluidic in-chip temperature control via heat of mixing release
	Nordin Aranzabal: Enhanced thermal response test using fiber optics for a double U-pipe borehole heat exchanger analysed by numerical modeling	Barbara Hetterich: Optimal energy supply system and hourly operation plan for the TUM campus Garching using linear programming model URBS	Youssef Mazloum: Exergoeconomic analysis and optimization of a novel isobaric adiabatic compressed air energy storage system	Lidia Lombardi: Environmental impacts of electricity production of micro wind turbines with vertical axis	Victor Codina Girones: Optimal use of biomass in large-scale energy systems: insights for energy policy	Federico Fontana: CFD modelling to aid the design of steel sheet multistage pumps
		Túlio Freitas: Methodology to evaluate the viability of windfarm – cases study	Wenyi Liu: Performance Analysis of Adiabatic Compressed Air Energy Storage and Solar Hybrid System	Anabela C. Alves: Comparing Lean-Green models for eco-efficient production	Georg Wagener-Lohse: Waking the sleeping giant – deriving a strategy for dynamic renewable heat markets in Germany	Jifeng Song: A simpler finite element method for the flux density distribution of a parabolic trough concentrator
				Christiane Lohse: Environmental Impact by Hydrogeothermal Energy Generation in Low-Enthalpy Regions	Sergio Juárez-Hernández: Energy and CO ₂ emissions of the Mexican white maize agroindustry	Moritz Gleinser: New approach for transient simulation of closed batch evaporation in a plate heat exchanger
12:45-14:00	Lunch Break					

Time	WEDNESDAY, 22.6.2016					
14:00- 14:45	<p align="center">Keynote Lecture (Emerald)</p> <p align="center">Peter Novak: <i>Sustainable energy or exergy system?</i></p>					
	EMERALD 1	EMERALD 2	MEDITERANEA 1	MEDITERANEA 2	ADRIA 1	ADRIA 2
14:55-16:15	ORC	Power generation and CHP with RENEWABLES and WASTE	Energy and buildings	Nonbiomass RENEWABLE thermal systems	Engines, furnaces & boilers, combustion/gasification	Environmental, social and sustainability issues associated with energy systems, industrial production, and transportation
	<p>Mauro Reini: <i>Multiple Expansion ORC For Small Scale – Low Temperature Heat Recovery</i></p>	<p>Lidia Lombardi: <i>Analysis of environmental impact of wind turbines at increasing size</i></p>	<p>Kevin Sartor: <i>Exergy analysis applied to performance of buildings in Europe</i></p>	<p>Dimitrios Korres: <i>Optical and thermal analysis of a new U-type Evacuated Tube Collector with a Mini-Compound Parabolic Concentrator and a cylindrical absorber.</i></p>	<p>Vittorio Tola: <i>Optimization Of A Syngas Purification Line And CO₂ Capture Systems Integrated With A Small-Scale Up-Draft Gasifier</i></p>	<p>Biljana Milutinović: <i>Life Cycle Assessment Of Waste Management Scenarios With Energy Recovery Using Multi-Criteria Analysis: Case Study Of City Of Niš</i></p>
	<p>Jean-François Oudkerk: <i>Development of a semi-analytical model of volumetric expander for system-level simulation.</i></p>	<p>Maurizio La Villetta: <i>Numerical analysis of a compression ignition engine for CHP applications powered in the dual-fuel mode with syngas and biodiesel</i></p>	<p>Muhyiddine Jradi: <i>Towards Energy Efficient Office Buildings in Denmark: The Maersk Building Case Study</i></p>	<p>Daniel R. Rousse: <i>A one year performance comparison of transparent and unglazed transpired collector</i></p>	<p>Ricardo Hartmann: <i>Thermodynamic Approach To Assess Premixed Spherical Flame Propagation: Calculation of Laminar Flame Speed, Radius Profile and Exergy Destruction Using Experimental Pressure Traces as Input</i></p>	<p>Biljana Milutinović: <i>Environmental, Economic And Technical Assessment Of Rubber Bledns With Multi-Criteria Analysis</i></p>
	<p>Paulo de Mello: <i>A novel scroll expander for flank leakage investigation: preliminary tests</i></p>	<p>Borcilă Bogdan: <i>New Methodology for Computing Performance of Solar Stirling Engines with Cogeneration using Fresnel Mirrors, Developed in the Framework of Thermodynamics with Finite Speed and the Direct Method</i></p>	<p>Umberto Desideri: <i>Design methodology of passive houses in different climatic zones in Italy</i></p>	<p>Anna Wallerand: <i>Targeting optimal design and control of solar heated industrial processes: MILP models and results for a solar heated dairy</i></p>	<p>Wojciech Stanek: <i>Thermodynamic assessment of an integrated mild oxy combustion power plant</i></p>	<p>Hossein Khajeh Pour: <i>Establishing the Local Emission Standard Level: the Case of Assaluyeh</i></p>
	<p>Caio Gracco Fonseca do Val: <i>Deep water cooled ORC for floating oil platform applications</i></p>	<p>Tatiana Potapenko: <i>Research of lightning protection features for a wind mill by the method of tracing the lines of stream function</i></p>	<p>Alex Bertrand: <i>In-building waste water heat recovery: an urban scale method for energy saving assessments</i></p>	<p>Christos Markides: <i>Experimental validation of a 3-D dynamic solarthermal collector model under time-varying environmental conditions</i></p>	<p>Mauro Venturini: <i>Set-up of a robust NARX model simulator of gas turbine start-up</i></p>	<p>Maria Jaen: HYACINTH: <i>Hydrogen Acceptance In the Transition pHase</i></p>
16:15-16:35	Cofee Break					

Time	WEDNESDAY, 22.6.2016				
	EMERALD 1	EMERALD 2	MEDITERANEA 1	MEDITERANEA 2	ADRIA 1
	Energy and buildings	Power generation and CHP with RENEWABLES and WASTE	District energy systems & Smart Cities	Process integration, simulation & optimization of energy systems	Basic & applied thermodynamics
	Soteris Kalogirou: <i>Exergy Analysis of a Naturally Ventilated Building Integrated Photovoltaic (BIPV) System</i>	Rodolfo Taccani: <i>Parametric analysis of a solar thermal power plant with an organic Rankine cycle (ORC) generator</i>	Mattias Vesterlund: <i>Optimization of multi-source complex district heating network, a case study</i>	Franziska Klaucke: <i>Demand Response Potential at the Chemical Industry: Review</i>	Assaad Zoughaib: <i>Exergy recovery during LNG gasification using ambient air as heat source</i>
16:35-17:55	Soteris Kalogirou: <i>Thermal Analysis of a Building Integrated Photovoltaic (BIPV) System</i>	Claudia Toro: <i>Simulation and comparative Thermo-economic analysis of Central Receiver Concentrated Solar plants using air as heat transfer fluid</i>	Tetsuya Wakui: <i>Optimal Operational Management of Residential Energy Supply Networks with Power and Heat Interchanges</i>	Antonio Valero: <i>»Composed thermodynamic rarity» of the materials in electric and electronic equipment</i>	Ricardo T. Pérez-Hernández: <i>Local Stability of a Curzon and Ahlborn Engine by Using Simplified Expressions of Efficiency</i>
	Hang Dao: <i>Modelling and Residential Energy Performance Analysis - Toward Net Zero Energy House</i>	Paula Ferreira: <i>Limitations of thermal power plants to solar and wind development in Brazil</i>	Alberto Pizzolato: <i>Robust design of large district heating networks through topology optimization</i>	Edgar Fernando Cortes Rodriguez: <i>Heat integration of a vinasse concentration system and juice evaporation system to the conventional ethanol production process</i>	Jean-Noël Jaubert: <i>Mathematical constraints for an optimal design of temperature-dependent attractive parameter expressions in cubic equations of state</i>
	Rory Greenan: <i>Adaptive Reuse of Chimney Flues in Historic Buildings in Australia</i>	Mexitli Sandoval: <i>Feasibility analysis of an electricity, cooling and heating microgrid developed for a University Campus in Lisbon, Portugal using Combined Heat, Cooling and Power</i>		Kevin Sartor: <i>Experimental validation of heat transport modelling in district heating network</i>	
20:00-24:00	Gala Dinner (In front of hotel Histrion - old Church)				

Time	THURSDAY, 23.6.2016				
08:30- 09:15	<p align="center">Keynote Lecture (Emerald) Özer Arnas: <i>Correct Use of Thermodynamics</i></p>				
	EMERALD 1	EMERALD 2	MEDITERANEA 1	ADRIA 1	MEDITERANEA 2
	Exergy based methods and thermo-economic analysis & optimization	ORC	Power generation and CHP with RENEWABLES and WASTE	Fuel Cells	Energy Storage (thermal, electric, hydrogen, alternatives)
09:25-11:05	Mauro Reini: Application of the Mixed Integer Linearized Exergoeconomic (MILE) method with evolutionary optimization to a CHP and DH	Adriano Desideri: <i>Steady-state and dynamic modeling of a 1 MWel commercial waste heat recovery ORC power plant</i>	Luca Migliari: <i>Capability of a small size CSP plant to provide dispatch power</i>	Jarek Milewski: <i>Influence of talc dust impurities in the MCFC cathode inlet gas mixture</i>	Sarah Hamdy: <i>Evaluation of cryogenics-based energy storage concepts</i>
	Mauro Reini: Exergy analysis with variable ambient conditions	Olivier Dumont: <i>Energy performance and economic evaluation of heat pump/organic Rankine cycle system with sensible thermal storage</i>	Mario Petrollese: <i>Techno-economic analysis of a hybrid CSP-CPV power plant</i>	Mitja Mori: <i>LCA study of the Fuel Cell based UPS in manufacturing and operational phase</i>	Sergio Balderrama: <i>Techno-economic optimization of isolate micro-grids including PV and Li-Ion Batteries in the Bolivian context</i>
	Izabela Henriques: Exergy destroyed in the arteries due to stenosis	Davide Ziviani: <i>Organic Rankine cycle modeling and the ORCmKit library: analysis of R1234ze(Z) as drop-in working fluid replacement of R245fa for low-grade waste heat recovery</i>	A. Medina: <i>Thermodynamic Model of a Hybrid Brayton Thermosolar Plant</i>	Andrej Lotrič: <i>Conceptual Design of a Small Portable Heat Integrated Methanol Steam Reformer – High Temperature PEM Fuel Cell System</i>	Piotr Krawczyk: <i>Comparative energy and exergy analysis of compressed air energy storage and liquid air energy storage systems</i>
	Saeed Sayadi: <i>A New Approach for Applying Dynamic Exergy Analysis and Exergoeconomics to a Building Envelope</i>	Christoph Kirmse: <i>Performance of working-fluid mixtures in an ORC-CHP system for waste-heat recovery</i>	Yury Koshlich: <i>Automated Dispatch Control System Of Thermal Solar Power Plant</i>	Shivom Sharma: <i>Multi-objective Optimization of Solid Oxide Fuel Cell–Gas Turbine Hybrid Cycle and Uncertainty Analysis</i>	Lauren Farcot: <i>Numerical investigation of a continuous thermochemical heat storage reactor</i>
		Martina Ciani Bassetti: <i>Thermal decline mitigation in a geothermal plant by hybridization with a concentrating solar power system</i>	Daniel Tavares: <i>Energy Opportunities in a Tyre Plant</i>		
11:05-11:25	Coffee Break				

Time	THURSDAY, 23.6.2016				
	EMERALD 1	EMERALD 2	MEDITERANEA 1	MEDITERANEA 2	ADRIA 1
11:25-12:25	District energy systems & Smart Cities	Combined Power generation and CHP with RENEWABLES and WASTE and Nonbiomass RENEWABLE thermal systems	Engines, furnaces & boilers, combustion/gasification	Biomass/biofuels; biorefinery concepts; waste-to-energy	Basic & applied thermodynamics
	<i>Elisa Guelpa: Thermal load peak shaving in district heating systems through optimization of users request</i>	<i>Feng Liu: Thermodynamic performances on typical days of a steam generation system with a solar assisted absorption heat transformer</i>	<i>Sergio Rech: Quasi-dimensional model of an optically accessible spark ignition engine</i>	<i>Urban Žvar Baškovič: Feasibility analysis of 100% tire pyrolysis oil in a common rail Diesel engine</i>	<i>Mathilde Blaise: Optimization of an irreversible Carnot engine with a changing phase working fluid</i>
	<i>Stefano Coss: Industrial waste heat integration for providing energy service to district heating networks</i>	<i>Matteo Bortolato: Nanofluids application in direct absorption solar collectors: review and numerical model</i>	<i>Dino Ricci: Process simulation of an air cooled gas turbine blade</i>	<i>Tomas Mora: Finite rate reaction mechanism adapted for modeling and simulation of pseudo-equilibrium cellulose pyrolysis</i>	<i>Mathilde Blaise: New results concerning optimization of Carnot engine</i>
	<i>Daniel Woldemariam: District heating-driven membrane distillation in industrial-scale bioethanol production: Techno economic study</i>	<i>Rok Stropnik: Connecting Individual Residential Hydrogen CHP Energy Systems With Renewables Into Different Sized Grids</i>	<i>Massimiliano Zito: Design and CFD analysis of a Curtis turbine stage</i>	<i>Francesco Desogus: Setup of an experimental system to study the gas phase kinetics in pyrolysis processing</i>	<i>Romain Privat: 10 years with the PPR78 model: capabilities and limitations of predictive cubic equations of state involving classical mixing rules</i>
12:30-13:15	Closing Session and Welcome to ECOS 2017 (Emerald)				
13:15-14:30	Lunch Break				