IEEES-9 Conference sessions

Solar energy and applications

(A1)
24 - Solar powered drip Irrigation system
37 - Optical performance comparison between a symmetric and an asymmetric mini-CPC in Athens
38 - Investigation of a coaxial flow evacuated tube collector with a mini-compound parabolic concentrator
64 - Application of Taguchi and Response Surface Methods in Optimizing Flat Plate Solar Collector Design parameters
191 - Effectiveness and prospects of implementing a solar water heating system in Astana, Kazakhstan
234 - Optimal operation schedule of semi-fixed PV system

(A2)
43 - Experimental investigation of a passive cooling technique for photovoltaic panels: Preliminary results
238 - Environmental benefits and Economic Feasibility of Single Effect and Multi Effect Active Vertical Solar Desalination Units
298 - Spatial interpolation of global solar radiation in a desert region
218 - Investigation of a Single-Step Mechanical Deposition Technique of Copper Oxide for Enhanced Solar Absorption
223 - Thermoelectric cooling of a photovoltaic panel
101 - Parametric optimization of concentrated photovoltaic-thermoelectric hybrid system

(A3)
84 - Evaluation of the Desiccant Cooling System and Solar Collectors Application as Regeneration Tool, Case Study: Iran
49 - Optimized CPC reflectors for an ICS solar water heater
73 - Dynamic simulation of a phase change material storage tank connected to a parabolic solar concentrator
187 - Solar water heating for aquaculture in cold climates: A case study of Finland
87 – Development of a Solar Thermal System with Thermal Storage for Fresh Water and Power Production

Fuels and combustion technology

(B1)
36 - Experimental methods to investigate the Droplet Combustion characteristics of Pinewood Bio-oil/Butanol
157 - Biodiesel production from non-edible oil using heterogeneous solid base catalysts
168 - Combustion and emission characteristics of wood pyrolysis oil-butanol blended fuel in diesel generator and tractor
114 - Comparison of pretreatment methods for the bioethanol production from kitchen waste
22 - Optimisation of catalytic cracking of biomass pyrolysis oil with mixed catalysts: comparison between simulation and experimental results

(B2)
226 - Methane steam reforming using a membrane reactor equipped with a Pd based composite membrane for effective hydrogen production
45 - Cyclic irregularity and combustion characteristics of DI diesel engine operating with biodiesel and H2/NG gas under dual fuel mode
301 - Thermodynamic Assessment of Modified ORC Integrated with PTC for Hydrogen Production
166 - Research for optimization of two cylinder gasoline engine for RE-EV
29 - Investigation of the Effects of Equivalence Ratio and Thermal Power on the Combustion and Emission Behaviour of Premixed Hydrogen Air Mixture in a Micro Combustor
(B3)
78 - Active modular internal combustion engine system concept analysis
79 - Increasing the efficiency of the cylinder gas exchange at the gasoline engine at part load by using double exhaust valve operation
213 - Novel photocatalytic activity of Vanadium-doped Tantalum Nitride sensitized/protected by Polyaniline for efficient visible light water splitting
07 - Microwave ignited combustion-Exergy depending on dielectric qualities of Coal Types and Ash Minerals
314 - Thermodynamic Assessment of a novel geothermal energy based hydrogen production process

(B4)
09 - Methanation and Pyrolysis of Animal and Human manure with Asphaltite for Power Generation
249 - Investigation of oxygen carriers for hydrogen generation using chemical looping concept
72 – Syngas production by biomass gasification solid waste
205 - Comparative Assessment of Two Integrated Systems Utilizing Liquefied Ammonia as a Fuel for Vehicular Applications
125 - Studying the Effect of Molecular Diffusion and Schmidt Number on Simulation of MILD Combustion Regime using Detailed Chemistry

Fluid Mechanics, Heat and Mass Transfer

(C1)
03 - New Water Wheel Blade Design for Improvement of Water Wheel Efficiency in high Velocity Water Current
211 - Performance Investigation of PAT for the Purpose of Utilization in Water Distribution Network for Pressure Reduction and Power Production Applications
253 - Analytical investigation of magnetohydrodynamics flow and heat transfer over exponentially stretching sheet in presence of thermal radiation using OHAM
89 - Metaheuristic Technique for Section Selection Across the Horizontal Axis Turbines
242 - Performance Evaluation of Shrouded Horizontal Axis Wind Turbines Using Potential Flow Analysis

(C2)
39 - Industrial validation of thermal model applied to steel coils annealed under hydrogen gas
47 - Numerical Investigations of the Cavitating Behaviour of Screw Pumps
160 - Statistical Estimation of Nano-Fluidic Characteristics in Heterogeneous Porous Gas Diffusion Layer using Lattice-Boltzmann Method
183 - Investigation on Hypersonic Wind Tunnel Heaters: Past to Present
227 - Investigating albedo’s effect to develop cool pavement in urban areas
32 - Experimental And Numerical Investigations Of Small Wind Turbine Airfoils For Low Reynolds Number Condition

Sustainable development, energy planning, energy management

(D1)
27 - Development of a concept and plan-driven energy management architecture for green ships
118 - A Data-driven Framework for Extending Electric Vehicle Charging Infrastructure
75 - Grids energy integration using H2 as an energy carrier. Boosting smart hydrogen economy
293 - PPI4Waste project: Innovative solutions for the waste management sector
286 - Endorsing Stable and Steady Power Supply by Exploiting Energy Storage Technologies –A Study of Kuwait’s Power Sector
### Fuel cells

- PEM single fuel cell as a dedicated power source for superconducting coils
- Experiment and modelling of Pd membrane module with Ni-foam catalyst for hydrogen production for PEM FC
- Hydrogen production from ethanol steam reforming followed by water gas shift reaction
- Finite Time Thermodynamic Analysis of a Solar Hydrogen and Electricity Production Plant Using High Temperature PEM Electrolyzer
- Thermodynamic and Experimental Investigation of a Unique Photoelectrochemical Hydrogen Production System

### Energy storage, CO2 issues, Environment

- Development of hydrogen production by liquid phase plasma process of water with Ni-TiO2/carbon nanotube photocatalysts
- New concentrated solar power plants based on fuel cells
- Analysis and Performance Assessment of NH3 and H2 fed SOFC with Proton-Conducting Electrolyte
- Fabrication of PEO and Nafion nanofibers for PEM fuel cells by the forcespinning technique
243 - A Study on pesticide use pattern among farmers in Haryana, India
63 - Experimental investigation of the multidisciplinary electric-thermal-mechanical interaction of Lithium-ion battery
235 - Investigation of cultivation and wastewater treatment potential of microalgae and cyanobacteria in controlled environment minkery wastewater
236 - Comparative analysis of four analytical methods for measurement of microalgae and cyanobacteria biomass in controlled environment minkery wastewater
246 - DFT Simulation of Hydrogen Storage on Manganese Phosphorous Trisulphide (MnPS3)
74 - Thermal performance assessment of thermal energy storage systems using composite phase change materials
169 - Synthesis of Tungsten Oxide doped TiO2 Photocatalyst using Liquid Phase Plasma method and Its Photocatalytic Activity

309 - Effect of Pollution in Cooling Water Circuit and in fuel of Main Engine on Safety Valve and Funnel of Vessels
172 - Electrochemical oxidation of sulphites by DWCNTs, MWCNTs, higher fullerenes and manganese
295 - Thermodynamic Analysis for Sensible Thermal Energy Storage into PET Bottles Filled with Water
197 - Porous hard carbon prepared from polymeric precursor for hydrogen storage
265 - Reduced graphene oxide@Cu6Sn5 nanocomposite anode electrodes for high-performance lithium ion batteries
224 – Effect of electrolyte concentration on the electrochemical properties of the perovskite-type oxide LaGaO3 used as a novel anode material for Ni-MH secondary batteries

190 - Raw material conservation and pollutants emissions reduction by coprocessing of wastes in cement rotary kilns
264 - Enhanced electrochemical performance of graphene based intermetallic Ni3Sn4 anode electrodes for lithium ion batteries
260 - A flexible free-standing Si@C/graphene paper for high-stability li-ion battery anodes
262 - Cr doped graphene based LiMn2O4 cathode electrodes for high efficiency lithium ion batteries
255 - Kinetic model development and bi-objective optimization of levulinic acid production from sugar cane bagasse
200 - Selection of metal hydrides-based thermal energy storage: energy storage efficiency and density targets

Thermal systems, Components & Applications

80 - A feasibility study of Organic Rankin Cycle (ORC) power generation using thermal and cryogenic waste energy on board an LNG passenger vessel
147 - Prospect of Compressors, Condensing units, Evaporators, Heat Exchangers, Fans and Testing Equipment for Heat Pumps
230 - Performance analysis of an integrated solar-based power generation plant using nanofluids
117 - Investigations of the thermal performance of a cylindrical wicked heat pipe
85 - Experimental study on a thermoacoustic refrigerator driven by a cascade thermoacoustic engine
56 - Self-healing distribution network design with renewable power sources considering adaptive relay protection
184 - The thermodynamic analysis of a refrigeration system operating with R1234yf

Desiccant Wheel Design Using Metaheuristic Approach
126 – Analysis of a Combined 660MWe Supercritical Rankine –Kalina Cycle Thermal Power Plant for Condenser Waste Heat Recovery
171 - Development of Cooling Performance of Clinker Cooler Process Based On Energy Audit
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### Energy and Buildings, Energy Efficiency

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- 107 - Framework for calculating the rooftop solar photovoltaic (PV) footprint considering building electricity supply and demand from the urban-level
- 115 - Experimental estimation of factors influencing the equivalent outdoor temperature for the multi-family building
- 208 - Thermo- Economic and Environmental Analysis of Solar Energy Water Heating System in Public Buildings
- 77 - Building trust in Energy Performance Contracting for tertiary sector energy efficiency and sustainable energy projects in Southern European Countries. The Trust EPC South European initiative.
- 312 – Thermal extras of vegetation walls in Belgrade climate conditions
- 201 – Multi-objective optimization on the use of Phase Change Materials (PCM) in the building envelope in Mediterranean climates

**(2)**

- 225 - Interpretation on the function of the naturally circulating solar heating system with the wall-installed thermal collector and the Research on the development of the design program
- 285 - Analysis of solar collectors application and domestic hot water consumption on energy consumption in multi-family buildings with implementation of LCA methodology
- 294 - Effect of Encapsulated Ice Thermal Storage System on the Cooling Cost for a Hypermarket
- 69 – EPBD recast: The effect of embodied impact on the cost optimal levels of nearly zero energy residential buildings - A case study in Greece
- 76 – Numerical simulation of building envelopes with phase change material
- 189 - Energy Efficiency in a Municipal Building: The Case Study of Ekurhuleni Metropolitan Municipality in South Africa

**(3)**

- 303 - Effective envelop insulation and heating strategies in apartment buildings in mid-temperate regions: A case study of Nova Scotia, Canada
- 159 - Comparative study on energy saving in hospitals of Spain
- 105 - LED Lighting for Healthcare Facilities
- 140 - Numerical analysis of energy efficiency performance and noise emissions of building roof fan
- 203 - Energy and economic analysis of an auditorium’s air conditioning system with heat recovery in various climatic zones
- 26 - From energy demand calculation to life cycle environmental performance assessment for buildings: status and trends
177 - Energy and thermal modelling of building façade integrated photovoltaics
13 - Thermoeconomic analysis and evaluation of a Building Integrated Photovoltaic (BIPV) system based on actual operational data
202 - Life Cycle Analysis (LCA) and Life Cycle Cost Analysis (LCCA) of Phase Change Materials (PCM) application: State of the art
99 – Comfort sensation vs Environmental Aspects in Office Buildings
97 - Improving the energy and environmental efficiency of the hotel sector
98 - Life Cycle Analysis of Solar Thermal Systems in hotel buildings

POSTER PRESENTATIONS:

(PT1)

81 - Converting an automotive fuel cell system to a stationary power generation system
82 - Tracking the process at PEM fuel cell cathode in h-x diagram
83 - Small-scale stand-alone renewable hydrogen energy system
02 - Heat exchanger’s technology and applications in heat exchanger engineering
212 - Landscape dynamics and spatial changes in the steppe ecosystem of North-West of Algeria-
106 - LED Lighting Solutions for Energy Efficient Greenhouse Lighting
268 - Numerical investigations of photovoltaic panels coupled with phase change material
296 - The IAEA DE-TOP: A Tool for Thermodynamic Assessment of Nuclear Cogeneration

(PT2)

90 - Energy Efficiency of Induction Motors
148 - Iran’s Strategy for Natural Gas
149 - Inter-comparison of solar radiation from different sources: case of some Algerian sites
164 - Assessment Energy Performance Indicators of Low-Charge Multiplex Refrigeration Systems used in Supermarket
14 - Mathematical Modelling and Simulation of an Irreversible Heat Engine
277 - Eddy-Diffusion Turbulent Transport Theory for Wind Energy Application
65 - Syn-gas production by BFB biomass gasification: Comparison study among white-pine, Posidonia Oceanica and citrus peel feedstocks

(PT3)

252 - The investigate of concrete pavements for energy saving in urban area
269 - Evaluation of the thermal and visual comfort: strategies bioclimatic in office buildings
270 - Criteria and indicators for the development of sustainable tourist sites
195 - Performance of supercapacitors based on different electrolytes from polymeric precursor-based activated hard carbons: III. Physical activation mechanism and electrochemical properties
90 - Finding The Losses of a Special Squirrel Cage Induction Motor
12 - Numerical and experimental study of operative temperature related energy savings using different types of heat emitters