ICAE 2013

CONFERENCE PROGRAM

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Welcome Message

Dear Colleagues,

It is my great honor and pleasure to welcome you to the ICAE2013, the Fifth International Conference on Applied Energy, and to the beautiful city Pretoria. The ICAE has grown substantially after the successful conferences in Hong Kong (2009), Singapore (2010), Italy (2011), China (2012) and firmly established itself as one of the premier international platforms in all areas of energy research and applications.

Same as the post ICAE conferences, the ICAE2013, powered by the international journal, Applied Energy, seeks to showcase what is new and exciting in energy research and development that offer opportunities for translation into sustainable solutions. With "Energy innovations for a sustainable world" being the theme, major topics of the ICAE 2013 include renewable and green energy resources, advanced energy technologies, energy conservation in buildings, energy systems, environment and climate change in both technology and policy issues. Selected papers from the conference will be recommended by the scientific committee for further consideration of publication in prestigious journals including Applied Energy, and other renowned international journals. Awards for best papers will be evaluated and announced by the scientific committee during the conference.

Pretoria, the host city of ICAE2013, is the political capital of South Africa and is 50 km away from Johannesburg. Attractions of Pretoria include the Union Buildings for South African presidency, the Botanical Gardens, National Zoological Gardens, Wonderboom Nature Reserves, and many museums and galleries. You may also visit the most fantastic sites such as Cape Town and the Kruger National Park after the conference. Enjoy the conference and the tour in South Africa!

Prof. J. YAN

Editor-in-Chief of Applied Energy

Organisations

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Acknowledgement

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51	123	234	308	375	509	615	695
53	124	235	309	377	514	616	696
56	127	236	315	379	516	620	697
60	128	237	317	382	517	625	706
61	131	240	322	388	518	629	711
64	137	242	323	389	519	638	712
65	139	244	325	404	523	642	717
67	140	249	326	408	524	646	725
71	141	251	327	410	528	647	726
75	144	252	328	411	532	649	432
76	146	256	329	412	545	651	437
79	155	258	330	421	547	652	

The papers were selected based on the recommendations of session chairs and the comments of the scientific committee.

LIST OF ACCEPTED PAPERS

Papers in the list bellow had been accepted by the upcoming ICAE2013 congress.

PAPER ID	Title	Submitter
5	Distribution of income, energy consumption and CO2 emissions in German – adapting Thurow's approach of pure public good to the German energy sector and its CO2 emissions	Holger Schloer
6	Fabrication and Electrocatalytic Performance of Platinum Nanoparticles Supported on Mesoporous Carbons for Methanol Tolerant Oxygen Reduction Reaction	Chang-Mao Hung
7	Retrofitting with CCS. Options for the inventory of modern Chinese coal-power plants	Jens Hetland
8	Distribution of industrial waster heat and characteristics of heat trading among district heating companies in Korea	Mo Chung
10	Energy efficiency practice strategies for the residental buildings in Bauchi-Nigeria	Ibrahim Udale Hussaini
11	Energy consumption, associated questions and some answers	Ismet Ugursal
12	Performance Studies of Improved Wood Cook Stoves and Some Quantification of Carbon Savings	Shailendra Kumar Shukla
13	Ownership reform, innovation and energy intensity. Further research across the Chinese regions.	Maria Jesus Herrerias
14	Solar combisystem performance in Canadian houses.	Rasoul Asaee
15	Community based social marketing for energy efficiency improvements in residential sector.	Gireesh Nair
16	System analysis and CO2 reductions using industrial excess heat – A case study in Gävleborg county in Sweden	Sarah Broberg
17	Saving water from energy in China: explore the nexus between water saving and energy conservation during 12th Five-Year Plan	Alun Gu
18	Systematic risk and Expectations of Returns in Carbon Market—on the comparison analysis of the CDM and EU ETS	Bao-Jun Tang
19	Development of New Configurations of Rankine Cycles for the Utilization of Industrial Waste Heat	Lucien Bronicki
21	On The Reactivity of Carbonate Rocks Utilized in Wet Flue Gas Desulfurization: Modeling the Reaction Kinetics of Solid Particles by a Step-Wise Titration Method with Turbulent Conditions.	Cataldo De Blasio
22	An overview of energy needs in Turkey and energy savings in a building	Nilgun Fazilet Bayraktar
23	Framework to Benchmark Sustainability of Biomethane Supply Chains - Facilitating Sustainability Decision Making in Using Biomethane as a Transportation Fuel in Western Europe	Tharaka Gunaratne
26	An experimental study on the effect of downwards flowing of melted frost over a multi-circuit outdoor coil in an air source heat pump during reserve cycle defrosting	Mengjie Song

240	Economic evaluation of Pre-Combustion CO2-capture in IGCC power plants by polymeric and ceramic membranes	Johannes Franz
242	ELECTRICITY AND HYDROGEN CO-PRODUCTION FROM A BIO-PHOTOELECTROCHEMICAL CELL WITH ACETATE SUBSTRATE	Qing-Yun Chen
243	Optimization of the Sacvenging System on an Opposed-Piston two-stroke Diesel Engine using a New Optimization objective	Zhang Zhen-Yu
244	How will the emission trading scheme save cost for achieving China's intensity targets by 2020?	Lian-Biao Cui
249	Influence of wet and dry torrefaction process on biomass to liquid fuel production through Fischer-Tropsch under Norwegian conditions	Rajesh S Kempegowda
250	Parametric and Exergetic Analysis of a Two-stage Transcritical Combined Organic Rankine Cycle Used for Multiple Grades Waste Heat Recovery of Diesel Engine	Tian Hua
251	Geothermal heat for freshwater production from groundwater, wastewater and seawater	Jochen Bundschuh
252	Multi-objective optimization for the design and synthesis of steam power system with emission reduction technology concerns	Xianglong Luo
253	The Energy of Submarine Geothermal Systems	Mario César Suárez Arriaga
254	The energy of the future: geothermal systems at supercritical conditions	Mario Cesar Suarez Arriaga
255	Initial allowance allocation and regional equity in China's Domestic carbon emissions trade system	Shenghua Cai
256	Performance Evaluation Of Air-cooled Condenser With Liquid-vapor Separators	Ying Chen
258	Heat Transfer and Thermodynamic Performance of a Parabolic Trough Receiver with Perforated Plate Inserts	Aggrey Mwesigye
259	Fuel cost minimisation for an off-grid photovoltaic hybrid power supply system	Henerica Tazvinga
260	Numerical simulation of a novel energy-efficient dew point evaporative air cooler	Xin Cui
262	Water Desalination using New Mutiple Tray Solar Distillation	Abderrahmane Diaf
263	Experimental study on characteristics of a diesel engine fueled by pine oil biofuel when blended with biodiesel	Vallinayagam Raman
264	Influence of additive (1-4 Dioxane) on the performance and emission characteristics of kapok oil biodiesel	Vedharaj Sivasankaralingam
267	Effect of Operating Parameters on the Transient Performance of a PEMFC Stack with a Dead-End Anode	Abhishek Raj
268	Numerical Investigation of the Effect of Operating Parameters on a Planar Solid Oxide Fuel Cell	Abhishek Raj
269	Techno-economic analysis of ammonia production via integrated biomass gasification	Jim Andersson
270	SMART FAULT DETECTION AND DIAGNOSIS AS THE HEART OF A SMART HEAT PUMP SYSTEM	Hatef Madani
271	Thermal conductivity of highly stable graphene aqueous nanofluid prepared by hydrazine-assisted hydrothermal method	Haiyan Zhang
273	Control of Flow Patterns in Bubbling Fluidization	Yunning Li
274	Optimization of biodiesel fuelled engine to meet emission standards through varying nozzle opening pressure and static injection timing	Balaji Mohan
276	Policy Instrument Analysis for Improving Low Carbon Building in Japan and China	Beijia Huang

536	Increasing Wind-Generated Electricity Utilization Using Heat Pumps in Urban Areas	Michael Waite
542	Geothermal arsenic: Occurrence, mobility, and environmental implications	Jochen Bundschuh
545	Performance Investigations and Mechanism Analyses on the Helical-baffled Heat Exchanger with Different Shaped and Different Quantity Baffles	Hongfu Wang
547	Determining the Optimal Incentive and Number of Retrofits for a Demand Response Model in South Africa	Nnamdi Nwulu
550	Sustainability index approach as a selection criteria for energy storage system of an intermittent renewable energy source	Syed Shabbar Raza
551	Dynamic prediction of the heat demand for buildings in district heating systems	Zhanyu Ma
552	Towards smart data compression for future energy management system	Muhammad Nabeel
554	A flexible and extensible web-based visualisation and configuration interface for holistic energy management of buildings	Kris McGlinn
555	Energy simulation model and parametric analysis of a micro cogeneration system based on a htpem fuel cell and battery storage	Nicola Zuliani
556	Data reconciliation: an engineeristic approach based on least squares optimization	Dario Coco
559	Study of Heat Transfer and Thermal Stress for High Power Light Emitting Diode Micro Package Design	Chih-Neng Hsu
560	Sensitivity analysis of the varied reference state on energy and exergy analysis of thermoelectric refrigeration systems	Tianhe Han
563	On-site performance of an electrochromic smart window for active daylight and solar energy control in buildings	Antonio Piccolo
568	Liquefaction of Scrap Tires in Hot Motor Oil	H.A. Lee
569	Preparation of Ni-Fe@C nanoparticles for DSSC counter electrodes	C.C. Chen
570	How much intermittency in the power mix: an energy-based approach	Vincent Mazauric
571	Catalytic partial oxidation of methanol in Cu-ZnO@C core- and yolk-shell nanoreactors	C.I. Hong
573	Future prospects for nuclear power in France	Nadia Maïzi
574	Thermal performance analysis of Passive Flat Plate Solar water heater	Nothando Ndlovu
575	Photocatalytic Reduction of CO2 and H2O in Ni-ZnO@C Nanoreactors	T.C. Yang
577	Exergetic Performance of Single Effect Lithium Bromide Absorption Cooling system	Aung Myat
578	Multi-Physics Model Development for Commercial Buildings at Tropical Climate	Sundar Raj Thangavelu
579	A low-cost easy-to-deploy model-based operation strategy for an underfloor heating system	J.Ignacio Torrens
580	Nanofluids containing carbon-coated iron nanoparticles and its applied research in radiofrequency ablation	Wu Qiguang
582	Nanoparticle Dispersions in Plant Oils: Energy-saving Green Lubricant for Metal Working Fluids	Howard Benade
585	Environmental hydraulics rural tower for the energy production and accumulation from renewable sources	Franco Cotana
590	Wind profile vs. wind energy system performance	Ciprian Nemes
594	Simultaneous production of hythane and carbon nanotubes via catalytic decomposition of methane with catalysts dispersed on porous supports	Xingxing Li
598	Simulation of two phase flow an dheat transfer in heat pipe	Naihua Wang

640	TEMPERATURE SELECTION AND EXERGY LOSS IN DISTRICT HEATING SYSTEM WITH DISTRIBUTED VARIABLE SPEED PUMPS	Aibin Yan
641	Thermal Design Studies for the High-Power Graphics Card	Ching Hsien Lai
642	Study on oscillating flow of moderate kinetic reynolds numbers using complex velocity model and phase doppler anemometer	Ni Mingjiang
643	Global warming potential of bio-ethanol system in mauritius – implications for strategic development policy and a low carbon economy	Riad Sultan
644	A rural agricultural-sustainable energy community model and its application to felton valley, australia	Trevor Berrill
645	Thermoeconomic Optimization of Natural Gas Purification Plant	Limin Ma
646	The effect of blending coals for blast furnace coal injection	Julian Steer
647	Performance and Emission Characteristics of Tylosema Esculentum Biodiesel in a Diesel Engine: An Experimental Investigation	Jerekias Gandure
648	Analysis of proposals on carbon allocation	Wang Lu
649	Determining solar irradiance and daylight illuminance from classified standard skies	Danny H
650	An experimental test on a 3-stage multi effect destillation system	Muhammad Wakil Shahzad
651	Study on the stockpiling size of coal emergency reserve in east china: a system dynamics analysis	Libo Zhang
652	Dynamic optimal sampling plan for clean development mechanism lighting energy efficiency projects	Xianming Ye
653	The elasticity of substitution and the way of nesting ces production function	Zha Donglan
655	Treatment and reclaim of irrigation water using solar membrane distillation and advanced oxidation	M.I. Polo-López
656	First principal modeling of the pyrolysis of a thick biomass slab exposed to thermal radiation: a tansient study for tar, char and hydrocarbon formation	Syed Shabbar Raza
657	Numerical simulation and validation of a turbulent diffusion flame h2/air using a table of chemical kinetics	Clovis Bounou
658	Flue gas-driven thermal conversion of biomass in a rotary kiln reactor	Sylwester Kalisz
659	Bio-jet fuel synthesis by aqueous phase catalytic conversion of biomass hydrolydates	Tiejun Wang
660	Laminar burning velocity and markstein length characterisation of steelworks gas blends	Daniel Pugh
661	Effect of chemical kinetics and molecular diffusion in a methane-air premixed flame on microcombustion	Olivier Tchierry Sosso Mayi
662	Feedstock pricing strategies for straw power plant based on sequential game	Qin Zhang
663	Condition monitoring for sustainable energy generation of wind turbines	Philip Cross
664	Fast pyrolysis of pakistani cotton stalks in fluidized bed reactor: design and preliminary results	Najaf Ali
665	Performance prediction of an entrained flow coal gasifier	Peter Mashingo
668	Technical Analysis of a Stand-Alone PV-Wind System with Hybrid Storage for Households	Xiaonan Han
669	Biogas production from local raw materials and its utilisation as fuel of a Proton Exchange Membrane Fuel Cell-Combined heat and power system (PEMFC-CHP) system on dairy farms	Tingting Guan
670	Photovoltaic model identification by particle swarm optimization for on-line monitoring application	Oussama Hachana