ABU DHABI - UNITED ARAB EMIRATES

7th INTERNATIONAL CONFERENCE on APPLIED ENERGY

MARCH 28-31, 2015

Contents

Developing Tomorrow's Innovations Today

The Masdar Institute of Science and Technology is a private, not-for-profit, independent, research-driven institute developed with the support and cooperation of the Massachusetts Institute of Technology (MIT). The Institute offers Masters and PhD programs in science and engineering disciplines, with a focus on advanced energy and sustainable technologies.

Masdar Institute's vision is to be a world-class, graduate-level institution, seamlessly integrating research and education to produce future world leaders and critical thinkers in advanced energy and sustainability and to position Abu Dhabi as a knowledge hub and engine for socioeconomic growth.

The Institute's research work is carried out through its four Institute Research Centers and an innovation and entrepreneurship center

Masdar Institute's iCenters, along with its five sponsored research centers, drive innovation in clean energy and advanced technology and serve as key interfaces to industry, government and academic partners.

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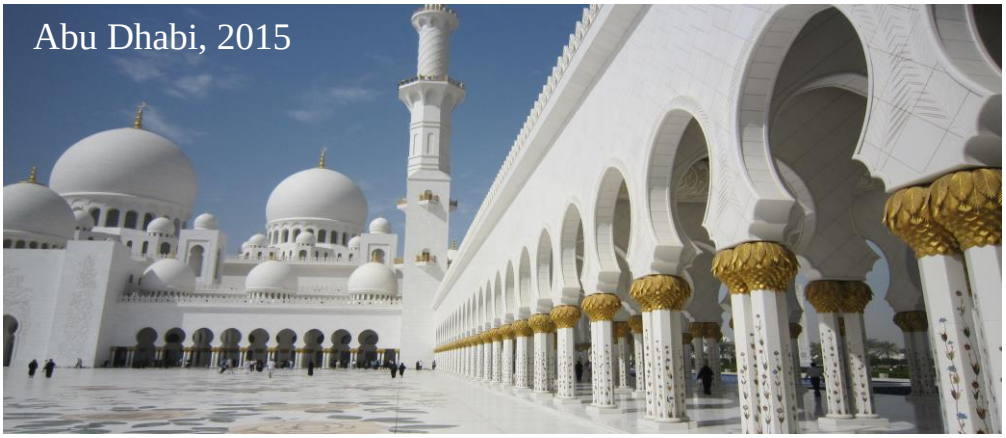
In collaboration with MIT Massachusetts Institute of Technology



Welcome to ICAE 2015

The Organizing Committee and Scientific Committee of ICAE2015 warmly welcome you to attend the 7th International Conference on Applied Energy (ICAE2015) during March 28-31, 2015, in Abu Dhabi, United Arab Emirates. The topic of ICAE2015 is "Clean, Efficient and Affordable Energy for a Sustainable Future". As the conference chairmen, it is a great honor for us to make an invitation for all of you to this exciting event, with the cordial Emirati hospitality and the warm welcome of Abu Dhabi City. As a continuation of this prestigious series conference, we will follow the style of the former six successful Conferences, held in Hong Kong, Singapore, Perugia/Italy, Suzhou/China, Pretoria/South African, and Taipei/Taiwan, to have you enjoy the program and other activities provided by the organizers. ICAE2015 will include plenary sessions, keynote and invited lectures, and parallel-specialized sessions on different topics related to applied energy. The host of ICAE2015 is Masdar Institute of Science and Technology (MIST). Established as an on-going collaboration with the Massachusetts Institute of Technology (MIT), MIST is an independent, research-driven graduate-level university focused on advanced energy and sustainable technologies. We are looking forward to seeing you all in Abu Dhabi.

Conference Chairs

Prof Tariq Shamim

Prof Jinyue Yan

Committee

Conference Chairs

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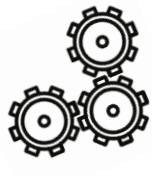


Keynotes & Invited Speakers

Joan MacNaughton

Keynote: Is clean secure energy affordable?

Joan MacNaughton is an influential figure in energy and climate policy on which she has held a variety of roles. Currently she chairs the annual assessment of countries' energy policies for the World Energy Council, the 'Trilemma'. She is Chair of the International Advisory Board of the Energy Academy of Europe; a trustee of The Climate Group and serves on other academic advisory Boards in Europe and the United States. Joan set up and then led a team for Alstom, spearheading the company's clean power campaign from 2007 to 2011. Joan was also the most senior official in the UK Government responsible for energy policy as Director General of Energy in the then Department of Trade and Industry (2002-2007).

Prof. Shan – Tung Tu

Invited speaker: What Enables the Application of Energy?

Professor of Mechanical and Chemical Engineering, East China University of Science and Technology. He received his Ph.D. degree at Nanjing Tech University in 1988. Driven by the need of development of process and energy equipment, he has been searching for knowledge in thermal effect on materials, structures and processes, and development of novel heat transfer equipment and relevant energy materials in particular for high temperature applications. He is an author of more than 200 papers and received a number of distinguished awards, including China National Science and Technology Progress Award, National Invention Award, National Teaching Achievement

Prof. Ashwani Gupta

Invited speaker: Clean Energy Production from Wastes and Biomass

Professor Ashwani Gupta is Distinguished University Professor at the University of Maryland, College Park, Maryland, USA. His research interests include combustion in furnaces and gas turbines, high intensity combustion, waste destruction, micro-combustion, catalytic combustion, sulfur recovery from acid gases, fuel reforming, swirl flows, fuel sprays, laser diagnostics, and modeling, simulation and kinetics. He was awarded higher doctorate (DSc) from the University of Sheffield and also from the University of Southampton, UK for. He was awarded honorary doctorate from King Mungkut University of Technology North Bangkok (KMUTNB) and also from the University of Wisconsin Milwaukee, USA. He is a Fellow of American Society of Mechanical Engineers (ASME), American Institute of Aeronautics and Astronautics (AIAA) and Society of Automotive Engineers (SAE).

Prof. Fengchun Sun

Invited speaker: EVs and E-Mobility, Technical Progress and Aplications in China

Dr. Sun Fengchun is a professor and vice president of Beijing Institute of Technology, director of the National Engineering Laboratory for Electric Vehicles, director of the Collaborative Innovation Center of Electric Vehicles in Beijing. He is the member of the panel of experts on the New Energy Vehicle Project supposed by the China National Government, chief expert of the 2008 Beijing Olympics Electric Vehicle Project, and chief expert of Beijing New Energy Vehicle Plan. He received two National Awards for Innovations in Science and Technology, one National Award for Progress in Science and Technology. He published over 200 academic papers with more than 60 patents approved or under pending

Highlights

Panels and Special Sessions

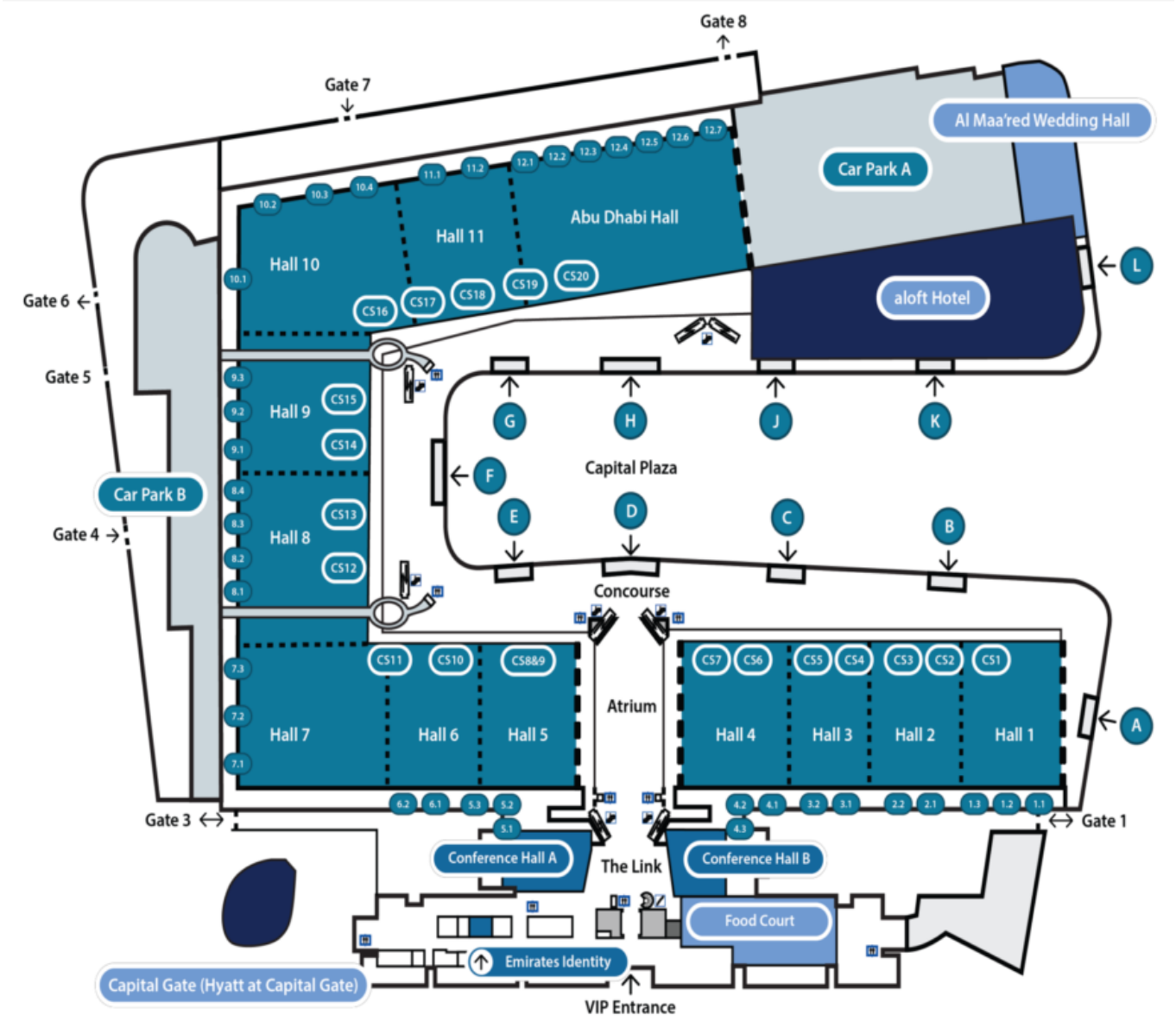
- Teaching Energy Efficiency - How Difficult Can That Be?
- The Future of Fossil Fuels (i.e. The Future of Renewable Sources)
- Low Carbon Cities and Urban Energy Systems
- Scholarly Publishing: Applied Energy communication among publishers, editors, reviewers and authors

Study Tour (April 1)

- Study tour: 9:30 AM – 1:00 PM
- Visit of the Masdar city and Masdar Institute (visit includes: Masdar Institute Solar Platform; clean room; electron microscopy facility; research labs). Transportation will be available from ADNEC (pick up at 9:30AM and drop off at 1:00PM).

Venue Map and Rooms

Presentations = Capital Suites (CS) 1-10
Lunch = Conference Hall A
Coffee Breaks = Atrium of conference Hall A



Speaker Guide

Presentation

Length of presentation material should be in accordance with your time allocated. You are requested to load your presentation files before the session starts. Each oral presentation at the breakaway venues is limited to 20 minutes, which include the questions and answers. Please refer to this Program booklet for actual presentation times. You are kindly requested to be present in the relevant presentation venue at least 15 minutes before the session starts.

Each presentation room is equipped with a laptop computer with a data projector. PowerPoint is the standard presentation format. The computers in the meetings rooms are provided to Window-based PC Users. Conference volunteers will be available to assist you in case you encounter difficulties to use the IT equipment.

Presentation Venues

The opening ceremony and keynote speeches will be held at the Conference room B. The main conference venues are at the First Floor of ADNEC. The following table lists all the presentation venues with abbreviations which are used in the detailed programs in the late part of this booklet. The lunch will be in conference room A and the coffee break will be outside (atrium) of conf. room A.

Venue Room	**Location (ADNEC)**
Session A	Capital Suite 1
Session B	Capital Suite 2
Session C	Capital Suite 3
Session D	Conference Hall B
Session E	Capital Suite 4
Session F	Capital Suite 5
Session G	Capital Suite 6
Session H	Capital Suite 7
Session I	Capital Suite 8
Session J	Capital Suite 9
Session K	Capital Suite 10

Practical Guide

Emergency call number in Abu Dhabi

General emergency: 998
Police: 999

During conference (contact local organizers)

Mrs. Pamela Calvet, Project Coordinator
Cell: (+971)563147287
Email: calvetpamela@gmail.com

Mr Oghare Victor Ogidiama, Student and Volunteers Coordinator:
Cell:(+971)553654053
Email: oogidiama@masdar.ac.ae

Public transport

We highly recommend to use Taxi as getting around Abu Dhabi is easy, safe and taxis are reasonably priced and plentiful. Further, Hotels can book taxi for you. The hotline number is (+971)600 535353.

For more information please check the following link:

http://visitabudhabi.ae/en/travel/around.the.emirate/taxis.aspx

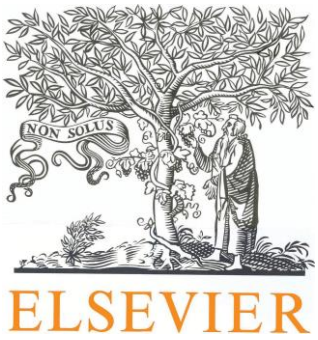
For public buses please check the following link:

http://visitabudhabi.ae/en/travel/around.the.emirate/buses.aspx

Electricity

The electricity supply in Abu Dhabi is 220/240 volts at 50 Hz. British style square, three-pin sockets are standard. Most hotels can supply adapters but visitors should bring one just in case.

Sponsors Acknowledgement



ELSEVIER

International Conference on Applied Energy

Applied Energy
ICAE BEST PAPERS Awards

Applied Energy ICAE2013 Best Paper Awards of Excellence

G. Nardin, A. Meneghetti, Dal Magro F, Benedetti N. PCM-based energy recovery from electric arc furnaces, Appl Energy, 136 (2014), pp. 947–955
http://www.sciencedirect.com/science/article/pii/S0306261914007351

Wu Zhen, Yang Fusheng, Zhang Zaoxiao, Bao Zewei. Magnesium based metal hydride reactor incorporating helical coil heat exchanger: simulation study and optimal design. Appl Energy, 130 (2014), pp. 712–722
http://www.sciencedirect.com/science/article/pii/S0306261914000191

Applied Energy ICAE2013 Best Paper Awards

A. Mwesigye, T. Bello-Ochende, J.P. Meyer, Heat transfer and thermodynamic performance of a parabolic trough receiver with centrally placed perforated plate inserts, Appl Energy, 136 (2014), pp. 989–1003
http://www.sciencedirect.com/science/article/pii/S0306261914002682

Johannes Franz, Pascal Maas, Viktor Scherer, Economic evaluation of pre-combustion CO2-capture in IGCC power plants by porous ceramic membranes, Appl Energy, 130 (2014), pp. 532–542
http://www.sciencedirect.com/science/article/pii/S0306261914001573

Ke Wang, Yi-Ming Wei, China's regional industrial energy efficiency and carbon emissions abatement costs, Appl Energy, 130 (2014), pp. 617–631
http://www.sciencedirect.com/science/article/pii/S0306261914002323

Ferrari Mario L, Pascenti Matteo, Sorce Alessandro, Traverso Alberto, Massardo Aristide F. Real-time tool for management of smart polygeneration grids including thermal energy storage. Appl Energy, 130 (2014), pp. 670–678
http://www.sciencedirect.com/science/article/pii/S0306261914001615

Call for Papers

AppliedEnergy Symposium and Summit 2015:

low-carbon Cities and Urban Energy systems (CUE2015)

power your city
with clean, affordable & reliable energy

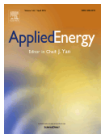
November 15-17, 2015
Fuzhou • Fujian • China

Topics (but not limited to)

- Low carbon cities
- Urban energy systems
- Urban planning integrated with energy systems
- Energy efficiency in buildings
- BiPV & renewable energy applications in urban systems
- Smart cities and microgrid
- Smart home energy management systems
- EV and eco-traffic
- High-efficiency vehicle engines
- Energy storage
- Urban wastes to energy
- Urban emissions mitigation
- Low carbon and ecological city indicators
- Distributed energy systems
- District heating and CCHP
- Nexus of energy-water in urban system
- Climate change and cities
- Policy options targeting low-carbon energy systems"
- Responses to low carbon energy Transition
- Demand side management
- Distributed wireless sensors and power transfer
- Big data and visualization for energy management systems

Further Information:
E-mail: cue2015@applied-energy.org

Website: www.applied-energy.org/cue2015



Applied Energy
Highly cited paper award in 2012-2013

Highly cited research papers in 2012-2013

Zhang, Z., Zhang, N., Peng, J., Fang, X., Gao, X., Fang, Y., Preparation and thermal energy storage properties of paraffin/expanded graphite composite phase change material, Vol. 91, 2012

Ammar, Y., Joyce, S., Norman, R., Wang, Y., Roskilly, A.P., Low grade thermal energy sources and uses from the process industry in the UK, Vol. 89, 2012

Hu, C., Youn, B.D., Chung, J., A multiscale framework with extended Kalman filter for lithium-ion battery SOC and capacity estimation, Vol. 92, 2012

He, H., Xiong, R., Guo, H., Online estimation of model parameters and state-of-charge of LiFePO4 batteries in electric vehicles, Vol. 89, 2012

Dai, H., Wei, X., Sun, Z., Wang, J., Gu, W., Online cell SOC estimation of Li-ion battery packs using a dual time-scale Kalman filtering for EV applications, Vol. 95, 2012

Chou, C.-S., Guo, M.-G., Liu, K.-H., Chen, Y.-S., Preparation of TiO2 particles and their applications in the light scattering layer of a dye-sensitized solar cell, Vol. 92, 2012

Teo, H.G., Lee, P.S., Hawlader, M.N.A., An active cooling system for photovoltaic modules, Vol. 90, 2012

Waag, W., Käbitz, S., Sauer, D.U., Experimental investigation of the lithium-ion battery impedance characteristic at various conditions and aging states and its influence on the application, Vol. 102, 2013

Choi, Y., Zhang, N., Zhou, P., Efficiency and abatement costs of energy-related CO2 emissions in China: A slacks-based efficiency measure, Vol. 98, 2012

An, H., Yang, W.M., Chou, S.K., Chua, K.J., Combustion and emissions characteristics of diesel engine fueled by biodiesel at partial load conditions, Vol. 99, 2012

Barbieri, E.S., Spina, P.R., Venturini, M., Analysis of innovative micro-CHP systems to meet household energy demands, Vol. 97, 2012

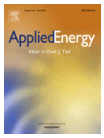
Bekele, G., Tadesse, G., Feasibility study of small Hydro/PV/Wind hybrid system for off-grid rural electrification in Ethiopia, Vol. 97, 2012

Matallanas, E., Castillo-Cagigal, M., Gutiérrez, A., Monasterio-Huelin, F., Caamaño-Martín, E., Masa, D., Jimì©nez-Leube, J., Neural network controller for Active Demand-Side Management with PV energy in the residential sector, Vol. 91, 2012

Niknam, T., Azizipanah-Abarghooee, R., Narimani, M.R., An efficient scenario-based stochastic programming framework for multi-objective optimal micro-grid operation, Vol. 99, 2012

Xu, C., Wang, Z., He, Y., Li, X., Bai, F. , Sensitivity analysis of the numerical study on the thermal performance of a packed-bed molten salt thermocline thermal storage system, Vol. 92, 2012

Ng, J.-H., Ng, H.K., Gan, S., Characterisation of engine-out responses from a light-duty diesel engine fuelled with palm methyl ester (PME), Vol. 90, 2012



Highly cited review papers in 2012-2013

Zhou, D., Zhao, C.Y., Tian, Y., Review on thermal energy storage with phase change materials (PCMs) in building applications, Vol. 92, 2012

Oró, E., de Gracia, A., Castell, A., Farid, M.M., Cabeza, L.F., Review on phase change materials (PCMs) for cold thermal energy storage applications, Vol. 99, 2012

Rawat, I., Ranjith Kumar, R., Mutanda, T., Bux, F., Biodiesel from microalgae: A critical evaluation from laboratory to large scale production, Applied Energy, Vol. 103, 2013

Talebian-Kiakalaieh, A., Amin, N.A.S., Mazaheri, H., A review on novel processes of biodiesel production from waste cooking oil, Vol. 104, 2013

Li, B., Duan, Y., Luebke, D., Morreale, B., Advances in CO2 capture technology: A patent review, Vol. 102, 2013

Tian, Y., Zhao, C.Y., A review of solar collectors and thermal energy storage in solar thermal applications, Vol. 104, 2013

Srirangan, K., Akawi, L., Moo-Young, M., Chou, C.P., Towards sustainable production of clean energy carriers from biomass resources, Vol. 100, 2012

Santori, G., Di Nicola, G., Moglie, M., Polonara, F., A review analyzing the industrial biodiesel production practice starting from vegetable oil refining, Vol. 92, 2012

Arteconi, A., Hewitt, N.J., Polonara, F., State of the art of thermal storage for demand-side management, Vol. 93, 2012

Rezaie, B., Rosen, M.A., District heating and cooling: Review of technology and potential enhancements, Vol. 93, 2012

Hedin, N., Andersson, L., Bergström, L., Yan, J., Adsorbents for the post-combustion capture of CO2 using rapid temperature swing or vacuum swing adsorption, Vol. 104, 2013

Self, S.J., Reddy, B.V., Rosen, M.A., Geothermal heat pump systems: Status review and comparison with other heating options, Vol. 101, 2013

Liu, C.-Z., Wang, F., Stiles, A.R., Guo, C., Ionic liquids for biofuel production: Opportunities and challenges, Vol. 92, 2012

Daroch, M., Geng, S., Wang, G., Recent advances in liquid biofuel production from algal feedstocks, Vol. 102, 2013

Program at a Glance

AE = Advanced Energy Systems	PG=Power Generation & Polygeneration Systems
CC=Climate Change Mitigation	RE=Renewable Energy
EM=Energy Management, Policy and Economics	PS=Panel Session
ES=Energy Sciences	SW=Scientific Writing
ESE=Energy System & Efficiency Improvement	IS=Invited Speakers

Registration March 28: 13:00-17:00; March 29 9:00-17:20; March 30 8:20-17:20; March 31 8:20-15:00											
Day 1: Mar 29											
09:00-09:20	Opening										
09:20-10:05	Keynote 1										
10:05-10:30	Tea/Coffee Break										
10:30-11:15	Keynote 2										
11:15-12:00	Keynote3										
12:00-13:00	Lunch										
13:00-15:00	1-A3	1-B3	1-C3	1-D3	1-E3	1-F3	1-G3	1-H3	1-I3	1-J3	
	RE	RE	PG	SW	EM	ES	AE	ESE	ESE	CC	
15:00-15:20	Tea/Coffee Break										
15:20-17:20	1-A4	1-B4	1-C4	1-D4	1-E4	1-F4	1-G4	1-H4	1-I4	1-J4	
	RE	RE	PG	ES	EM	ES	AE	ESE	ESE	CC	
Day 2: Mar 30											
08:20-10:00	2-A1	2-B1	2-C1	2-D1	2-E1	2-F1	2-G1	2-H1	2-I1	2-J1	2-K1
	RE	RE	PG	ES	EM	EM	AE	ESE	ESE	CC	EM
10:00-10:20	Tea/Coffee Break										
10:20-12:00	2-A2	2-B2	2-C2	2-D2	2-E2	2-F2	2-G2	2-H2	2-I2	2-J2	2-K2
	RE	RE	RE	PS	EM	EM	AE	ESE	ESE	CC	EM
12:00-13:00	Lunch										
13:00-15:00	2-A3	2-B3	2-C3	2-D3	2-E3	2-F3	2-G3	2-H3	2-I3	2-J3	2-K3
	RE	RE	RE	IS	EM	AE	AE	ESE	ESE	CC	EM
15:00-15:20	Tea/Coffee Break										
15:20-17:20	2-A4	2-B4	2-C4	2-D4	2-E4	2-F4	2-G4	2-H4	2-I4	2-J4	2-K4
	RE	RE	RE	ES	EM	AE	AE	ESE	ESE	CC	PS
19:00-22:00	**Conference Banquet**										
Day 3: Mar 31											
08:20-10:00	3-A1	3-B1	3-C1	3-D1	3-E1	3-F1	3-G1	3-H1	3-I1	3-J1	
	RE	RE	EM	ES	EM	RE	AE	ESE	ESE	ES	
10:00-10:20	Tea/Coffee Break										
10:20-12:00	3-A2	3-B2	3-C2	3-D2	3-E2	3-F2	3-G2	3-H2	3-I2	3-J2	
	RE	RE	RE	PS	ESE	EM	CC	ESE	ESE	ESE	
12:00-13:00	Lunch										
13:00-15:00	3-A3	3-B3	3-C3	3-D3	3-E3	3-F3	3-G3	3-H3	3-I3	3-J3	
	RE	RE	RE	AE	EM	RE	AE	ESE	RE	RE	

Oral Presentations

Day 1

TIME	DAY 1: March 29
09:00-09:20	**OPENING** Welcome from the President of Masdar Institute Dr. Fred Moavenzadeh Welcome from the ICAE2015 Conference Chairs Prof. Tariq Shamim and Prof. Jinyue Yan Applied Energy, the 40th Anniversary and recent progress Ms. Fernanda Ogochi, publisher/Elsevier and Prof. Jinyue Yan, Editor-in-Chief
09:20-10:05	**Keynote:** Is Clean Secure Energy Affordable Joan MacNaughton
10:05-10:30	TEA/COFFEE BREAK
10:30-11:15	**Keynote:** TBD
11:15-12:00	**Invited speech:** EVs and E-Mobility, Technical Progress and Aplications in China Prof. Fengchun Sun
12:00-13:00	LUNCH

Room: Capital Suite 1
Session Name: Biomass pyrolysis and gasification
Session Chair: Raza Naqvi, Kunio Yoshikawa

Time	Paper ID	Author	Paper Title
13:00-13:20	388	Wei-Hsin Chen, Ming-Yueh Huang	Analysis of torrefaction operation for upgrading microalgae residue
13:20-13:40	528	Haiqing Sui, Haiping Yang, Xianhua Wang	Rheological Behavior and Steam Gasification of Bio-slurry
13:40-14:00	538	Liang Wang, Tian Li, Berta Matas Güell, Terese Løvås, Judit Sandquist	An SEM-EDX Study of High Heating Rate Chars of Forest Residues
14:00-14:20	368	Yosuke Tsuboi, Shintaro Ito, Makoto Takafuji, Hiroaki Ohara, Toshiro Fujimori	Development of a novel reformer for tar-free syngas production
14:20-14:40	391	Ming-Hsun Tsai, Zheng-Xiong Lin and Wen-Chien Lee	Napier grass (Pennisetum purpureum) biomass for production of bioethanol and chemicals
14:40-15:00	669	Domenico Borello, benedetta de Caprariis, Paolo De Filippis, Andrea Marchegiani, antonio pantaleo, Nilay Shah, Paolo Venturini	Thermo-Economic Assessment of a olive pomace Gasifier for Cogeneration Applications

Room: Capital Suite 2
Session Name: Solar energy applications (I)
Session Chair: Pietro Campana, Hongxing Yang

Time	Paper ID	Author	Paper Title
13:00-13:20	328	Massimiliano Renzi, Lorenzo Egidi, Gabriele Comodi	Effect of the secondary optics and the receiver design on the performance of a triple junction solar cell
13:20-13:40	330	Maissa Farhat, Oscar Barambones, Lassaad Sbita Sbita	Real-Time Efficiency Boosting for PV Systems using MPPT based on sliding mode
13:40-14:00	342	Francesco Melino, Michele Bianchi, Antonio Peretto, Alessandra Giannuzzi, Emiliano Diolaiti, Bruno Marano	Energetic and Economic Analysis of a New Concept of Solar Concentrator for Residential Application
14:00-14:20	581	F.Zaoui, A.Titaouine, M. Becherif, M. Emziane, A.Aboubou	A combined experimental and simulation study on the effects of irradiance and temperature on photovoltaic modules.
14:20-14:40	455	Saban Yilmaz a, Hasan Riza Ozcalik, Mustafa Aksu, Celebi Karapınar	Dynamic Simulation of a PV-Diesel-Battery Hybrid Plant for Off Grid Electricity Supply
14:40-15:00	372	Danny H W Li, Siwei Lou, Joseph C Lam	An analysis of global, direct and diffuse solar radiation

Room: Capital Suite 3 Session Name: Advanced Cycles Session Chair: Anders Avelin, Andrea De Pascale			
Time	Paper ID	Author	Paper Title
13:00-13:20	350	Stefano Barberis, Alberto Traverso	Thermoeconomic Analysis Of Csp Air-Steam Mixed Cycles with Low Water Consumption
13:20-13:40	378	Ramesh Bansal, Vinay K. Jadoun, Nikhil Gupta, K Niazi, Anil Swarnkar	Multi-area Economic Dispatch using Improved Particle Swarm Optimization
13:40-14:00	203	Gholamhassan Najafi, Ilva Arashnia, Barat Ghobadian, Talal Yusaf, Rizalman Mamat, Maurice Kettner	Development of micro-scale biomass-fuelled CHP system using Stirling Engine
14:00-14:20	530	Subba Reddy B, Alok Ranjan Verma, Satish Naik B	Performance analysis of 1200 kV ceramic disc insulator string under normal and faulted conditions
14:20-14:40	289	Po-Chih Kuo, Wei Wu	Design of co-gasification from coal and biomass combined heat and power generation system
14:40-15:00	220	Jiping Liu	Theoretical Investigation on the Partial Load Feedwater Heating System with Thermal Vapor Compressor in a Coal-fired Power Unit

13:00-15:00 **Room: Conference Hall B**

PANEL SESSION 1

Title: Scholarly Publishing: Applied Energy communication among publishers, editors, reviewers and authors.

Panelists: Fernanda Ogochi, Jinyue Yan, SK Chou, Umberto Desideri

Room: Capital Suite 4 Session Name: Energy system analysis Session Chair: Reinhard Madlener, Haizhong An			
Time	Paper ID	Author	Paper Title
13:00-13:20	73	Chen Zonghai, Wang Yujie, Zhang Chenbin	State-of-charge estimation of lithium-ion batteries based on multiple filters method
13:20-13:40	154	Holger Schlör, Jürgen-Friedrich Hake	Sustainability assessment circle
13:40-14:00	128	Mahdi ShahNazari Avval, Bryan Maybee, Jonathan Whale, Adam McHugh	Climate policy uncertainty and power generation investments: A real options-CVaR portfolio optimization approach
14:00-14:20	43	Vaibhav Khandelwal	Impact of Energy Consumption, GDP & Fiscal Deficit on Public Health Expenditure in India: An ARDL Bounds Testing Approach
14:20-14:40	208	Ding Ma, Nan Li, Wen-ying Chen	Analysis of the impacts of water constraints on China's power sector
14:40-15:00	688	Guanglin Pi, Xiucheng Dong, Jie Guo	The development situation analysis and outlook of the Chinese shale gas industry
Room: Capital Suite 5 Session Name: Modeling of energy processes Session Chair: Yaodong Wang, Ying Chen			
Time	Paper ID	Author	Paper Title
13:00-13:20	190	Yang He, Jiangqiang Deng, Lixing Zheng, Zaoxiao Zhang	A 2D homogenous CFD investigation on a CO2 two-phase ejector
13:20-13:40	444	Ahmed Waheed, Amr Fathy, Abd Allah Hanafi, Galal Mahmoud Mostafa	1-D Mathematical Modeling and CFD Investigation on Supersonic Steam Ejector in MED-TVC
13:40-14:00	512	Mahmoud Alzoubi, TieJun Zhang	Characterization of Energy Efficient Vapor Compression Cycle Prototype with a Linear Compressor
14:00-14:20	716	Mohammad Hussein Naseed Al Assadi	Sodium cobaltate engineered with alkaline earth metal doping for waste energy harvesting; a theoretical study
14:20-14:40	299	Ali Bahr Ennil, Raya Al-Dadaha, Saad Mahmoud, Ayad Al-Jubori, Kiyarash Rahbar	Prediction of Losses in Small Scale Axial Air Turbine Based on CFD Modelling
14:40-15:00	160	Sebti Aicha, Aoudjit Lamine, Lebik Hafidha, Boutra Belgacem, Medjene Farid, Igoud Sadek	Numerical simulation of tubular solar reactor for water disinfection
Room: Capital Suite 6 Session Name: Fuel cells Session Chair: Tariq Shamim, Xinhai Yu			
Time	Paper ID	Author	Paper Title
13:00-13:20	166	Che-Chia Fan, Min-Hsing Chang	Fabrication of Cathode Microporous Layer with Carbon Nanotubes and its Effect on Proton Exchange Membrane Fuel Cell Performance
13:20-13:40	209	Yutaro Akimoto, Keiichi Okajima, Yohji Uchiyama	Evaluation of current distribution in a PEMFC using a magnetic sensor probe
13:40-14:00	280	YuLin Wanga, He Qia, ShiXue Wanga	Evaluation And Modeling Of PEM Fuel Cells With The Bruggeman Correlation Under Various Tortuosities
14:00-14:20	310	Jakub Kupecki, Marek Skrzypkiewicz, Michal Wierzbicki, Michal Stepien	Analysis of a micro-CHP unit with in-series SOFC stacks fed by biogas
14:20-14:40	651	Agus Sasmito, Jundika Kurnia, Tariq Shamim, Arun Mujumdar	Optimization of design parameters for an open-cathode polymer electrolyte fuel cells stack utilizing Taguchi method
14:40-15:00	437	Shou Yin Yang, Shy-Chiang Lin	Low temperature combustion of Hydrogen in ceramic granular bed

Room: Capital Suite 7 Session Name: Performance of boiler and furnace Session Chair: A.K. Gupta, Qiuwang wang			
Time	Paper ID	Author	Paper Title
13:00-13:20	153	Mei Lin, Xuefang Xu, Bo Wu, Liangbi Wang, Qiuwang Wang	Numerical Simulation of Turbulent Flow on a High-Speed Crossflow Blowing over Array Slots with Weak Injection
13:20-13:40	24	Ashwani Gupta	Role of Toluene and Carbon Dioxide on Thermal Stage Performance in a Claus Process
13:40-14:00	189	Mukund H. Bade, Santanu Bandyopadhyay	Energy Modelling of Thermal Oil Based Cooking System
14:00-14:20	488	Li Sun, Chang Liu	Boiler System Retrofit and Operation Optimization
14:20-14:40	273	Ahmmad Shukrie, Shahrani Anuar, Azri Alias	Heat Transfer of Alumina Sands in Fluidized Bed Combustor with Novel Circular-Edge Segments Air Distributor
14:40-15:00	461	Jonas Zetterholm, Xiaoyan Ji, Peter Martin, Bo Sundelin, Chuan Wang	Model development of a blast furnace stove
Room: Capital Suite 8 Session Name: Industrial energy processes Session Chair: Jianzhong Wu, Neven Duic			
Time	Paper ID	Author	Paper Title
13:00-13:20	272	Nan Li, Ding Ma, Wen-ying Chen	Projection of cement demand and analysis of the impacts of carbon tax on cement industry in China
13:20-13:40	314	Sara Feudo, Luciano De Propris, Manuel Stefanato, Alessandro Corsini	Assessment of a diagnostic procedure for the monitoring and control of industrial processes
13:40-14:00	138	Lijun Zhang, Xiaohua Xia	An Integer Programming Approach for Truck-Shovel Dispatching Problem in Open-Pit Mines
14:00-14:20	469	Carl-Fredrik Lindberg, Jinyue Yan, SieTing Tan, Fredrik Starfelt	Key performance indicators improve industrial performance
14:20-14:40	521	Zhang-Jing Zheng, Yan He, Ya-Ling He	Optimization for a thermochemical energy storage-reactor based on entransy dissipation minimization
14:40-15:00	540	Muhammad Zakwan Zaine, Mohd Faris Mustafa, Norazana Ibrahim, Kamarul Asri Ibrahim, Mohd Kamaruddin Abd Hamid	Minimum Energy Distillation Columns Sequence for Aromatics Separation Process
Room: Capital Suite 9 Session Name: CO_2 capture Session Chair: Stefano Campanari, Niklas Hedin			
Time	Paper ID	Author	Paper Title
13:00-13:20	522	Nabil El Hadri, Mohammad Abu Zahra, Dang Viet Quang	Study of novel solvent for CO2 post-combustion capture
13:20-13:40	673	Lin An, Xinhai Yu, Jie Yang, Shan-Tung Tu, Jinyue Yan	CO2 capture using a superhydrophobic ceramic membrane contactor
13:40-14:00	467	Fang Mengxiang, xuping zhou, Qunyang Xiang, Danyun Cai, Zhongyang Luo	Kinetics of CO2 Absorption in Aqueous Potassium L-prolinate Solutions at Elevated Total Pressure
14:00-14:20	369	Jinjin Zhong, Jianxin Yi, Qiyuan Xie , Xi Jiang	A feasibility study of using cosmic ray muons to monitor supercritical CO2 migration in geological formations
14:20-14:40	468	Worrada Nookuea, Yuting Tan, Hailong Li, Eva Thorin, Jinyue Yan	Sensitivity study of thermo-physical properties of gas phase on absorber design for CO2 capture using monoethanolamine
14:40-15:00	218	Liang Sun, Wenying Chen	Study on DSS for CCUS Source-Sink Matching

15:00 – 15: 20 **TEA/COFFEE BREAK**

Room: Capital Suite 1 Session Name: Biomass combustion and applications (I) Session Chair: Khanh-Quang Tran, Kunio Yoshikawa			
Time	Paper ID	Author	Paper Title
15:20-15:40	576	Jan Skvaril, Konstantinos Kyprianidis, Anders Avelin, Monica Odlare, Erik Dahlquist	The Utilization of Near Infrared (NIR) Spectrometry for Detection of Glass in the Biomass-based Fuel
15:40-16:00	718	Eman Tora, Erik Dahlquist	Simulation of mass and heat transfer within circulated fluidized bed combustor using CFD Ansys - Fluent
16:00-16:20	51	Gholamhassan Najafi, Hojjat Damirchi, Siamak Alizadehnia, Barat Ghobadian, Talal Yusaf, Rizalman Mamat	Design, Fabrication and Evaluation of Gamma-Type Stirling Engine to Produce Electricity from Biomass for the micro-CHP system
16:20-16:40	504	Idowu Adeyemi, Thomas Arink, Isam Janajreh	Numerical Modeling of the Entrained Flow Gasification (EFG) of Kentucky Coal and Biomass
16:40-17:00	319	Quang-Vu Bach, Khanh-Quang Tran	Dry and wet torrefaction of woody biomass – A comparative study on combustion kinetics
17:00-17:20	577	Paolo De Filippis	Numerical simulations of staged biomass grate fired combustion with an emphasis on NOx emissions

Room: Capital Suite 2 Session Name: Biofuels-Biodiesel Session Chair: Hongming Xu, Markus Kraft			
Time	ID	Author	Paper Title
15:20-15:40	76	Ricky Priambodo, Teng-Chien Chen, Aharon Gedanken, Jiunn-Der Liao, Yao-Hui Huang	Novel Technology for Bio-diesel Production from Cooking and Waste Cooking Oil by Microwave Irradiation
15:40-16:00	55	Rizalman Mamat, Mohd Hafizil Mat Yasin, Perowansa Paruka, Ahmad Fitri Yusop, Gholamhassan Najafi, Azri Alias	Effect of Low Proportion Palm Biodiesel Blend on Performance, Combustion and Emission Characteristics of a Diesel Engine
16:00-16:20	594	Jo-Han Ng, Cheng Tung Chong, Srithar Rajoo, Jing Huey Khor, Kang Yao Wong	Statistical Analysis of Engine System-Level Factors for Palm Biodiesel Fuelled Diesel Engine Responses
16:20-16:40	263	Purnanand Bhale, Kamlaesh Sorate, Bharatkumar Dholakiya	A Material Compatibility Study of Automotive Elastomers with high FFA based Biodiesel
16:40-17:00	563	Hazrat M. A., Mohammad Rasul, Khan M. M. K.	Lubricity Improvement of the Ultra-low Sulfur Diesel Fuel with the Biodiesel
17:00-17:20	397	Valera-Medina A, Morris S, Runyon J, Pugh DG, Marsh R, Beasley P, Hughes T	Ammonia, Methane and Hydrogen for Gas Turbines
Room: Capital Suite 3 Session Name: Cogeneration and polygeneration Session Chair: Dan Wang, Xiaohua Xia			
Time	Paper ID	Author	Paper Title
15:20-15:40	317	Giulio Guandalini, Paolo Colbertaldo, Stefano Campanari	Dynamic quality tracking of natural gas and hydrogen mixture in a portion of natural gas grid
15:40-16:00	364	Luo Chao, Yang Jun, Du Zhi, He Jifeng, Liu Mingsong	Day-ahead Economic Dispatch of Wind Integrated Power System Considering Optimal Scheduling of Reserve Capacity
16:00-16:20	21	Firdaus Basrawi, Hassan Ibrahim, Takanobu Yamada	Optimal Unit Sizing of Biogas-Fuelled Micro Gas Turbine Cogeneration Systems in a Sewage Treatment Plant
16:20-16:40	583	Mingshen Wang, Yunfei Mu, Hongjie Jia, Pingliang Zeng, Jianzhong Wu, Wanxing Sheng	An Efficient Power Plant Model of Electric Vehicles for Unit Commitment of Large Scale Wind Farms
16:40-17:00	247	Mojibul Sajjad, Mohammad Rasul	Bio-gas Mixed Fuel Micro Gas Turbine Co-Generation for Meeting Power Demand in Australian Remote Areas
17:00-17:20	493	Francesco Castellani, Stefania Proietti, Paolo Sdringola, Alberto Garinei, Davide Astolfi, Emanuele Piccioni, Umberto Desideri, Elisa Vuillermoz	On the possible wind energy contribution for feeding a high altitude Smart Mini Grid
Room: Conference Hall B Session Name: Advanced energy processes (I) Session Chair: Zaoxiao Zhang, Huaixin Wang			
Time	Paper ID	Author	Paper Title
15:20-15:40	326	Alessia Arteconi, Gabriele Comodi	Demand Side Management of a Building Summer Cooling Load by means of a Thermal Energy Storage
15:40-16:00	225	Jianfeng Lu, Yibo Yuan, Jing Ding	Thermal Performances of Heat Conducting Oil Steam Generator
16:00-16:20	302	Shijun Lei, Ying Chen, Lisi Jia	Directional Solidification of Graphene/Paraffin nanofluids assisted
16:20-16:40	419	Mahmoud Khaled, Hicham El Hage, Mohamad Ramadan	Parametric Analysis of Heat Recovery from Exhaust Gases of Generators
16:40-17:00	700	Yanlong Han, Weiling Luan, Yifeng Jiang, Xiaoni Zhang	Thermal control of electronics for nuclear robots via phase change materials
17:00-17:20	169	Long Li, Xiaohong Yan, Jian Yang, Qiuwang Wang	Computational study of chromatography performance in ordered packed beds with spherical or ellipsoidal particles
Room: Capital Suite 4 Session Name: Regional and household energy systems Session Chair: Bo Shen, Heidi Ursula Heinrichs			
Time	Paper ID	Author	Paper Title
15:20-15:40	121	Boris Cosic, Neven Duic	Potential of Regionally Integrated Energy system on Wind Integration: the Case of South East Europe
15:40-16:00	207	Dekhani Nsaliwa, Robert Vale, Nigel Isaacs	Housing and transportation: Towards a multi-scale net zero emission housing approach for residential buildings in New Zealand
16:00-16:20	343	Eduardo Silveira, Taygoara Oliveira, Antonio Brasil Junior	Hybrid energy scenarios for Fernando de Noronha archipelago
16:20-16:40	547	Jonas Anund Vogel, Per Lundqvist, Jaime Arias	Categorizing barriers to energy efficiency in buildings
16:40-17:00	597	Vincent Mazauric, Nadia Maizi	A heuristic approach to the water networks pumping scheduling issue
17:00-17:20	253	Moritaka Maeda, Koji Tokimatsu, and Shunsuke Mori	A global supply-demand balance model to assess potential CO2 emissions and woody biofuel supply from increased crop production

Room: Capital Suite 5 Session Name: Combustion and emissions Session Chair: A.K. Gupta, Dongke Zhang			
Time	Paper ID	Author	Paper Title
15:20-15:40	48	Dao-Yi Huang, Bai-Fu Lin, Jer-Huan Jang,	Emission of internal combustion with low temperature plasma reformer
15:40-16:00	77	Bo Liu, Yuan-Hua Wang, Hong Xu	Numerical study of the effects of reflector on performances of a MILD furnace with forward flow configuration
16:00-16:20	410	Yii Leng Chan, Mingming Zhu, Zhezi Zhang, Pengfei Liu, Dongke Zhang	The Effect of CO2 Dilution on the Laminar Burning Velocity of Premixed Methane/Air Flames
16:20-16:40	617	Yueh-Heng Li, Guan-Bang Chen, Yei-Chin Chao	Effects of flue gas addition on the premixed oxy-methane flames in atmospheric condition
16:40-17:00	631	Saad Akhtar, Mohammed Khan, Jundika Kurnia, Tariq Shamim	Numerical Investigation of H2-air Premixed Combustion in a Curved Micro-Combustor for Thermo-photovoltaic (TPV) Applications
17:00-17:20	390	Wei-Hsin Chen, Chih-Liang Hsu, Shan-Wen Du	Interaction of partial oxidation of coke oven gas and indirect reduction of iron oxides in blast furnace
Room: Capital Suite 6 Session Name: Energy storage technologies Session Chair: Thomas Nagel, Sen Mei			
Time	Paper ID	Author	Paper Title
15:20-15:40	258	Luisa F. Ccabeza, Lidia Navarro, Alvaro De Gracia, Albert Castell	Concrete core slab activation with PCM: concept and design
15:40-16:00	300	Thomas Nagel, Steffen Beckert, Norbert Böttcher, Roger Gläser, Olaf Kolditz	The impact of adsorbate density models on the simulation of water sorption on nanoporous materials for heat storage
16:00-16:20	554	Miguel Diago, Alberto Crespo Iniesta, Thomas Delclos, Tariq Shamim, Nicolas Calvet	Characterization of desert sand for its feasible use as thermal energy storage medium
16:20-16:40	637	Yantong Li, Zhang Quan, Sun Xiaoqin, Yaxing Du	Optimization on performance of the latent heat storage unit (LHSU) in telecommunications base stations (TBSs) in China
16:40-17:00	626	Rathod Manish K, Banerjee Jyotirmay	Development of correlation for melting time of phase change material in latent heat storage unit
17:00-17:20	489	Alissar Yehya, Hassane Naji	A Novel Technique to Analyze the Effect of Enclosure Shape on the Performance of Phase-change materials
Room: Capital Suite 7 Session Name: Smart grid and distributed generation Session Chair: Fredrik Wallin, Jianzhong Wu			
Time	Paper ID	Author	Paper Title
15:20-15:40	598	Monjur Mourshed, Sylvain Robert, Andrea Ranalli, Thomas Messervey, Diego Reforgiato, Régis Contreau, Adrien Becue, Kevin Quinn, Yacine Rezgui, Zia Lennard	Smart grid futures: Perspectives on the integration of energy and ICT services
15:40-16:00	152	Zaoxiao Zhang, Ruifeng Dong, Yunsong Yu	Optimization of hydrogen distribution network considering pressure and heat recovery
16:00-16:20	353	Ramesh Bansal, Neeraj Kanwar, Anil Swarnkar, K Niazi, Nikhil Gupta	New Sensitivity based Approach for Optimal Allocation of Shunt Capacitors in Distribution Networks using PSO
16:20-16:40	373	Sathsara Abeysinghe, Silviu Nistor, Jianzhong Wu, Mahesh Sooriyabandara	Impact of Electrolysis on the Connection of Distributed Generation
16:40-17:00	604	Muditha Abeysekera, Jianzhong Wu	Method for simultaneous power flow analysis in coupled multi-vector energy networks
17:00-17:20	329	Gabriele Comodi, Flavio Caresana, Massimiliano Renzi, Leonardo Pelagalli	Limiting the effect of ambient temperature on micro gas turbines (MGTs) performance through inlet air cooling (IAC) techniques: an experimental comparison between fogging and direct expansion
Room: Capital Suite 8 Session Name: Energy performance in buildings Session Chair: Anna Magrini, SK. Chou			
Time	Paper ID	Author	Paper Title
15:20-15:40	549	Xiaodan Nan, Muditha Abeysekera, Jianzhong Wu	Modelling of energy demand in a modern domestic dwelling
15:40-16:00	320	Xiangzhao Meng, Cong Cao, Xing Liu, Xiaohu Yang, Wangyang Hu, Liwen Jin	Energy Analysis of Relics Museum Buildings
16:00-16:20	459	I-Nuo Wang, Chi-Chuan Wang, Yeng-Yung Tsui	Improvements of Airflow Distribution in a Container Data Center
16:20-16:40	701	Tao Lu, Xiaoshu Lu, Martti Viljanen	Using artificial neural networks to predict energy required to condition outdoor air in demand-controlled ventilation system
16:40-17:00	452	Linshuang Long, Hong Ye	Effects of thermophysical properties of wall materials on energy performance in an active building
17:00-17:20	212	Huaxia Yan, Shiming Deng	Transient simulation of a Dual-evaporator air conditioning system for developing an improved humidity control strategy

Room: Capital Suite 9 **Session Name: Emission reduction** **Session Chair: Patrik Klintenberg, Monica Odlare**			
Time	Paper ID	Author	Paper Title
15:20-15:40	57	Baihe Gu, Xianchun Tan, Yuan Zeng	CO2 Emission Reduction Potential in China's Electricity Sector: Scenario Analysis Based on LMDI Decomposition
15:40-16:00	573	SieTing Tan, Waishin Ho, Haslenda Hashim, Chew Tin Lee, Jeng Shiun Lim	Waste Management Pinch Analysis (WAMPA) for carbon emission reduction
16:00-16:20	439	Lu Min, Cang Yuquan	Study on enterprises' emission strategies from credit regulation
16:20-16:40	457	Xiaomeng Gu, Wenchao Li, Shumin Jiang, Lixin Tian	Evolution-Peak based Evolutionary Control and Analysis on Carbon Emission System of the United States
16:40-17:00	589	David Stoltz, Per Lundqvist, Jaime Arias	Categorization framework for systems innovation in EcoCities
17:00-17:20	431	Monica Odlare, Mikael Pell, Anders Ericsson, Johan Lindmark	Use of organic wastes in agriculture

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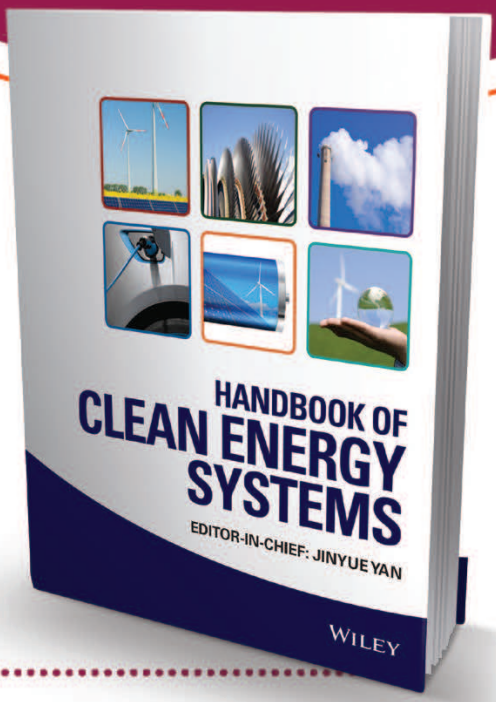

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Oral Presentations

Day 2

Room: Capital Suite 1 Session Name: Biomass pyrolysis and gasification Session Chair: Wei-Hsin Chen, Raza Naqvi			
Time	Paper ID	Author	Paper Title
08:20-08:40	96	Nuttapol Lerkkasemsan	Predicting Conversion from Pyrolysis of Pongmia
08:40-09:00	413	Mingming Zhu, Zhezi Zhang, Pengfei Liu, Wenchao Wan, Wenxu Zhou, Yii Leng Chan, Dongke Zhang	Effect of Biochar on the Cracking of Tar from the Pyrolysis of a Pine Sawdust in a Fixed Bed Reactor
09:00-09:20	214	Yuping Li , Lungang Chen, Tiejun Wang, Longlong Ma, Mingyue Ding, Xinghua Zhang, Xiuli Yin	Demonstration of pilot-scale bio-dimethyl ether synthesis via oxygen- and steam-enriched gasification of wood chips
09:20-09:40	295	Shunsuke Nakamura, Unyaphan Siriwat, Kunio Yoshikawa, Shigeru Kitano	Development of tar removal technologies for biomass gasification uzing the by-products
09:40-10:00	358	KT Wu, RY Chein	Modeling of Biomass Gasification with Preheated Air at High Temperatures
Room: Capital Suite 2 Session Name: Biomass combustion and applications (II) Session Chair: Liang Wang, Hailong Li			
Time	Paper ID	Author	Paper Title
08:20-08:40	408	Joseph Kihedu	Torrefaction and Combustion of Ligno-Cellulosic Biomass
08:40-09:00	318	Quang-Vu Bach, Khanh-Quang Tran	Wet torrefaction of forest residues – Combustion kinetics
09:00-09:20	366	Haifeng Pan, Lei Song, Yuan Hu, Kim Meow Liew	An Eco-friendly Way to improve flame retardancy of cotton fabric: Layer-by-Layer Assembly of semi-biobased Substance
09:20-09:40	402	Mingming Zhu, Zhezi Zhang, Setyawati Yani, Yii Leng Chan, Dongke Zhang	An Experimental Investigation into the Ignition and Combustion Characteristics of Single Droplets of Biochar Slurry Fuels
09:40-10:00	619	Janka Dibdiakova, Liang Wang, Hailong Li	Characterization of ashes from Pinus Sylvestris forest biomass
Room: Capital Suite 3 Session Name: Cogeneration systems Session Chair: Wei Han, Stefano Campanari			
Time	Paper ID	Author	Paper Title
08:20-08:40	636	John Gelegenis, George Mavrotas	Optimum sizing of residential cogeneration for prefeasibility estimations. An analytical approach.
08:40-09:00	379	Andrea De Pascale, Francesco Melino, Lisa Branchini, Valentina Orlandini, Vincenzo Antonucci, Marco Ferraro, Giovanni Brunaccini, Francesco Sergi	Integration of micro-SOFC generator and ZEBRA batteries for domestic application and comparison with other micro-CHP technologies
09:00-09:20	443	Amr Fathy, Ahmed Waheed, Abd Allah Hanafi, Galal Mahmoud Mostafa	Thermo-Economic Analysis of Combined Cycle MED-TVC Desalination System
09:20-09:40	526	Abdel Anwar Hossen Khoodaruth	Use of Falling Thin Film Evaporator for increasing cogenerated electricity in cane flexi-factory in Mauritius
09:40-10:00	582	Yiji Lu, Yaodong Wang, Liwei Wang, Ye Yuan, Zhen Liu, Anthony Paul Roskilly	Experimental investigation of a scroll expander for power generation part of a resorption cogeneration
Room: Conference Hall B Session Name: Heat pipes Session Chair: Rebei Bel Fdhila, Weiling Luan			
Time	Paper ID	Author	Paper Title
08:20-08:40	429	Harshal Gamit, vinayak More, Mukund Bade, Hemantkumar Mehta	Experimental investigations on pulsating heat pipe
08:40-09:00	442	Sihui Hong, Xinqiang Zhang, Shuangfeng Wang, Zhengguo Zhang	Experimental Investigation on the Characters of Ultra-Thin Loop Heat Pipe Applied in BTMS
09:00-09:20	523	Mohamed Hassan Ali, Youssef Shatilla, Ismail Alzarooni	The effect of water-based nanofluid incorporating Al2O3 nanoparticles on heat pipe performance
09:20-09:40	524	Zi-Xiang Tong, Mingjia Li, Ya-Ling He, Yin-Shi Li	Numerical simulation of the particle deposition on a tube with coupled lattice Boltzmann method and finite volume method
09:40-10:00	33	Hsuan Chang, Jian-An Hsu, Cheng-Liang Chang, Chii-Dong Ho	CFD study of heat transfer enhanced membrane distillation using spacer-filled channels

Room: Capital Suite 4 Session Name: Modeling and analysis of energy systems Session Chair: Qie Sun, Hassan Qudrat-Ullah			
Time	Paper ID	Author	Paper Title
08:20-08:40	503	Ruijie Tian, Qi Zhang, Ge Wang	Market Analysis of Natural Gas for Power Generation in China
08:40-09:00	517	Ming-Jia Li, Wen-Quan Tao, Chen-Xi Song, Ya-Ling He	Forecasting and evaluation on energy efficiency of China by a hybrid forecast method
09:00-09:20	535	Lelde Timma	Outlining innovation diffusion processes in households using system dynamics. Case study: energy efficiency lighting.
09:20-09:40	374	Tetyana Mamchych, Fredrik Wallin	Stability of patterns in residential electricity consumption
09:40-10:00	382	Jia-Jun Ma, Gang Du, Bai-Chen Xie, Zhen-Yu She, Wei Jiao	Energy Consumption Analysis on a Typical Office Building: Case study of the Tiejian Tower, Tianjin
Room: Capital Suite 5 Session Name: Emission trading Session Chair: Yuejun Zhang, Yohji Uchiyama			
Time	Paper ID	Author	Paper Title
08:20-08:40	177	Wenbin Lin, Bin Liu, Alun Gu, Xin Wang	Industry Competitiveness Impacts of National ETS in China and Policy Options
08:40-09:00	199	Jiahong Liu, Silan Chen, Hao Wang, Xiangdong Chen	Calculation of carbon footprints for water diversion and desalination projects
09:00-09:20	244	Zhang Xu, QI Tian-yu, OU Xun-min, Zhang Xi-liang	Research on the Energy and Economic Impacts of Multi-Region Linked Emissions Trading System
09:20-09:40	518	Lijun Wang, Haizhong An, Xiaojia Liu	A PSO Approach to Search for Adaptive Trading Rules in the EUA Futures Market
09:40-10:00	723	Ling Xiong, Bo Shen, Shaozhou Qi, Lynn Price	Comparative Analysis on Allowance Mechanism of China Carbon Trading Pilots
Room: Capital Suite 6 Session Name: Electric vehicles Session Chair: Fengchun Sun, Ottorino Veneri			
Time	Paper ID	Author	Paper Title
08:20-08:40	87	Rui Xiong, Hongwen He, Fengchun Sun	Methodology for optimal sizing of hybrid power system using particle swarm optimization and dynamic programming
08:40-09:00	88	Shuo Zhang, chengning Zhang, Zhenpo Wang, Xiaohua Zhang	Design and evaluate of optimal control strategy for hybrid power system used in plug-in hybrid electric vehicle
09:00-09:20	181	Tim Gorter	Design considerations of a solar racing boat: propeller design parameters as a result of PV system power
09:20-09:40	255	Hongwen He	The Role of Velocity Forecasting in Adaptive-ECMS for Hybrid Electric Vehicles
09:40-10:00	471	Nima Ghaviha, Markus Bohlin, Fredrik Wallin, Erik Dahlquist	Optimal Control of an EMU Using Dynamic Programming
Room: Capital Suite 7 Session Name: Distributed energy systems and microgrid Session Chair: Shengwei Wang, Neven Duic			
Time	Paper ID	Author	Paper Title
08:20-08:40	401	Anna Magrini, Lucia Cattani, Marco Cartesegna, Lorenza Magnani	Integrated systems for air conditioning and production of drinking water – Preliminary considerations
08:40-09:00	474	Ge Wang, Qi Zhang	Optimal Management for a Residential Micro-Grid
09:00-09:20	545	Wenting Wei, Dan Wang, Hongjie Jia, Ran Wang, Yebai Qi, Menghua Fan	A Communication Performance Evaluation on Smoothing Power Fluctuations Based on Demand Response Control of Thermostatically-controlled Appliances
09:20-09:40	575	Iana Vassileva, Esteban Vieites, Juan Arias	European initiatives towards improving the energy efficiency in existing and historic buildings
09:40-10:00	625	Fahad Javed, Maria Zaffar, Naveed Arshad	CBSF: A Framework for Accurate Simulation of Appliance Data for Future Smart Grid Applications
Room: Capital Suite 8 Session Name: ORC and waste heat recovery Session Chair: Maria Mondejar, Konstantinos Kyprianidis			
Time	Paper ID	Author	Paper Title
08:20-08:40	454	Diedie Lin, Qiang Zhu, Xinguo Li	Thermodynamic comparative analyses between (organic) Rankine cycle and Kalina cycle
08:40-09:00	495	Theofilos Efstathiadis, Konstantinos Kyprianidis	Geometry Optimization of Power Production Turbine For A Low Enthalpy (100˚C) ORC System
09:00-09:20	525	Kaiyong Hu, Jialing Zhu, Tailu Li, Xinli Lu, Wei Zhang	Experimental Investigation on Characteristics of Evaporator Vaporization and Pressure Drops in an Organic Rankine Cycle (ORC)
09:20-09:40	569	Junjun Xu, Xianglong Luo, Ying Chen, Songping Mo	Multi-criteria design optimization and screening of heat exchangers for a subcritical ORC
09:40-10:00	591	Maria E. Mondejar, Fredrik Ahlgren, Marcus Thern, Magnus Genrup	Study of the on-route operation of a waste heat recovery system in a passenger vessel

Room: Capital Suite 9 Session Name: CO_2 capture and mitigation Session Chair: Mengxiang Fang, Koji Tokimatsu			
Time	Paper ID	Author	Paper Title
08:20-08:40	6	Koji Tokimatsu, Eriko Yasuoka, Masahiro Nishio	Global zero emissions scenarios: assessment of climate change mitigations and their costs
08:40-09:00	485	Abdelghafour Zaabout, Schalk Cloete, Shahriar Amini, Matteo Carmelo Romano, Paolo Chiesa, Giovanni Lozza, Fausto Gallucci, Martin van Sint Annaland	Heat management in Gas Switching Combustion for power production with integrated CO2 capture
09:00-09:20	357	Xi Jiang, Kang Li	Experimental investigation of CO2 accidental release from a pressurised pipeline
09:20-09:40	529	Jun Liu, Jie Huang, Fang Mengxiang, Tao Wang, Luo Zhongyang	Sustainable food and fuel on Yongxing island by conversing the carbon captured from ambient air
09:40-10:00	548	Weiwei Shao, Haixing Zhang, Guiyu Yang, Jiahong Liu, Hao Huang	Analysis on Carbon Reduction Effect of Vegetation System in Northern China
Room: Capital Suite 10 Session Name: Energy Management, Policy and Economics - Urban energy: system & design (I) Session Chair: Perry Yang, Yoshiki Yamagata			
08:20-08:40	113	Yoshiki Yamagata, Daisuke Murakami, Kazuhiro Minami, Nana Arizumi, Sho Kuroda, Tomoya Tanjo, Horishi Maruyama	A comparative study of clustering algorithms for electricity self-sufficient community extraction
08:40-09:00	168	Kanae Matsui, Yoshiki Yamagata	Disaggregation of Electric Appliance's Consumption Using Collected Data by Smart Metering System
09:00-09:20	663	Yen-Jong Chen, Rodney H. Matsuoka, Tzu-Min Liang	Relationship between urban form and residential electricity consumption: Case study in the former provincial Tainan City
09:20-09:40	668	Steven Jige Quan, Qi Li, Perry Yang, Godfried Augenbroe, Jason Brown	A GIS-based Energy Balance Modeling System for Urban Solar Buildings
09:40-10:00	685	Bin Chen, Delin Fang	Emergy analysis and assessment for a high-end industrial park
10:00 – 10: 20		**TEA/COFFEE BREAK**	
Room: Capital Suite 1 Session Name: Hydrokinetic turbines Session Chair: Esmail M. A. Mokheimer, Wenguang Li			
Time	Paper ID	Author	Paper Title
10:20-10:40	606	Rudi van Els, Antonio Brasil Junior	The Brazilian experience with hydrokinetic turbines
10:40-11:00	337	Oscar Barambones, Jose M. Gonzalez de Durana	Sliding Mode Control for Power Output maximization in a Wave Energy Systems
11:00-11:20	161	André Mesquita, João Lopes, Jerson Vaz, Alexandre Mesquita, Claudio Blanco	An Approach for the Dynamic Behavior of Hydrokinetic Turbines
11:20-11:40	163	André Mesquita, Paulo Silva, Léo Shinomiya, Taygoara Oliveira, Jerson Vaz	Design of Hydrokinetic Turbine Blades Considering Cavitation
11:40-12:00	179	Giacomo Lo Zupone, Mario Amelio, Silvio Barbarelli, Gaetano Florio, Nino Michele Scornaienchi, Antonino Cutrupi	Levelised Cost of Energy: a first evaluation for a self balancing kinetic turbine
Room: Capital Suite 2 Session Name: Solar photovoltaic (PV) Session Chair: Hongxing Yang, Chii-Dong Ho			
Time	Paper ID	Author	Paper Title
10:20-10:40	69	Ding Hanwan, Chen Hongbing	Experimental Study on the Energy Performance of PV-HP Water Heating System
10:40-11:00	640	Pietro Elia Campana, Sylvain Leduc, Moonil Kim, Junguo Liu, Florian Kraxner, Ian McCallum, Hailong Li, Jinyue Yan	Optimal grassland locations for sustainable photovoltaic water pumping systems in China
11:00-11:20	660	Leonard Azimoh, Patrik Klintenberg, Fredrik Wallin, Bjorn Karlsson	The burden of shading and location on the sustainability of South African solar home system program.
11:20-11:40	216	Abdulla Al Bdwawi, Hamed Al Ahbabi, Shehab Ahmad Al Shamsi, Ala A. Hussein	Modular Photovoltaic Charging Station for UAE University Golf Carts
11:40-12:00	588	Ammar Alsheghri, Saad Asadullah Sharief, Shahid Rabbani, Nurzhan Aitzhan	Design and Cost Analysis of a Solar Photovoltaic Powered Reverse Osmosis Plant for Masdar Institute

Room: Capital Suite 3 Session Name: Solar Cells Session Chair: Danny Li, Francesco Melino			
Time	Paper ID	Author	Paper Title
10:20-10:40	399	Wenguang Li, Manosh C Paula, Nazmi Sellami, Xian-long Meng, Tapas K Mallick, Eduardo Fernandez Fernandez, Andrew R. Knox, Andrea Montecucco, Jonathan Siviter, Paul Mullen, Ali Ashraf , Antonio Samarelli, Lourdes Ferre Llin, Douglas J. Paul, Duncan H Gregory, Min Gao, Tracy Sweet, Feridoon Azough, Robert Lowndes, Robert Freer	Multiphysics Analysis of a Crossed Compound Parabolic Concentrator with Solar Cell
10:40-11:00	405	Basil Jacob, Karthik Balasubramanian, Sudhakar Babu Thanikanti, Mohammed Azharuddin S, Rajasekar N	Solar PV modelling and Parameter Extraction using Artificial Immune system
11:00-11:20	407	Yu Jiang, Lin Lu	A study of dust accumulating process on solar photovoltaic modules with different surface temperatures
11:20-11:40	708	Jinzhi Dong, Hongmei Zhang, Hongxing Yang, Xilin Lu, Jinqing Peng	Comparative Study on Static and Dynamic Analyses of an Ultra-thin Double-Glazing PV Module Based on FEM
11:40-12:00	458	Yan Hu, Yuanhao Wang, Hongxing Yang	TEOS/Silane-Coupling Agent Composed Double Layers Structure: A Novel Super-hydrophilic Surface

10:20-12:00 **Room: Conference Hall B**

PANEL SESSION 2

Title: Teaching Energy Efficiency - How Difficult Can That Be?

Directed by SK Chou

Speakers: R. Madlener, G. Hammond, S.-T. Tu, D.-J. Lee, X. Xia, A. Gupta

Room: Capital Suite 4 Session Name: Industrial energy systems Session Chair: Qie Sun, Reinhard Madlener			
Time	Paper ID	Author	Paper Title
10:20-10:40	182	Daisuke Murakami, Yoshiki Yamagata, Hajime Seya	Estimation of spatially detailed electricity demands using spatial statistical downscaling techniques
10:40-11:00	414	Nattanin Ueasin, Anupong Wongchai	The Technical Efficiency of Rice Husk Power Generation in Thailand: Comparing Data Envelopment Analysis and Stochastic Frontier Analysis
11:00-11:20	406	Ziyi Wang, Qinxing Wang, Ronald Wennersten, Qie Sun	Transitions to sustainable energy and material systems –outline of principles for scenarios
11:20-11:40	611	Chenxi Song, Wenquan Tao, Mingjia Li	Study on Energy and Environmental Efficiency for Coal-fired Power units: A non-parameter Approach
11:40-12:00	697	Hana Nielsen	The Czechoslovak Iron and Steel Industry: Productive efficiency under state socialism in a comparative perspective
Room: Capital Suite 5 **Session Name: Renewable energy development** **Session Chair: Ronald Wennersten, Yohji Uchiyama**			
Time	Paper ID	Author	Paper Title
10:20-10:40	67	Stephen Jia Wang, Patrick Moriarty	Assessing global renewable energy forecasts
10:40-11:00	97	Avik Sinha	Inequality of carbon intensities across OECD countries
11:00-11:20	219	Dace Lauka, Dagnija Blumberga, Andra Blumberga, Lelde Timma	Analysis of GHG reduction in non-ETS Energy Sector
11:20-11:40	296	Heidi Ursula Heinrichs, Peter Markewitz	A coal phase-out in Germany – clean, efficient and affordable?
11:40-12:00	550	Guiyu Yang, Jianhua Wang, Weiwei Shao, Hao Wang	The Relationship between China's Coal Resource Development and Water Resource
Room: Capital Suite 6 **Session Name: Energy modeling and management of electric vehicles** **Session Chair: Zhenpo Wang, Hongwen He**			
Time	Paper ID	Author	Paper Title
10:20-10:40	608	Muhammad Aziz, Takuya Oda, Takao Kashiwagi	Extended utilization of electric vehicles and their re-used batteries to support the building energy management system
10:40-11:00	233	Jiankun Peng, Hongwen He, Rui Xiong	Study on Energy Management Strategies for Series-parallel Plug-in Hybrid Electric Buses
11:00-11:20	472	Martina Wikström, Lisa Hansson, Per Alvfors	An end has a start – investigating the usage of electric vehicles in commercial fleets
11:20-11:40	593	Zeyu Chen, Rui Xiong, Kunyu Wang, Bin Jiao	Energy Management of Plug-in Hybrid Electric Vehicles using Particle Swarm Optimization
11:40-12:00	5	Peng Xu, Jingchun Shen, Xingxing Zhang, Xudong Zhao, Yingchu Qian	Case Study of Smart Meter and In-home Display for Residential Behavior Change in Shanghai, China

Room: Capital Suite 7 Session Name: Heat pumps and refrigeration systems Session Chair: Amin Al-Habaibeh, Normah Mohd-Ghazali			
Time	Paper ID	Author	Paper Title
10:20-10:40	362	Si-Yu Zhao, Qun Chen	A global optimization method for a practical regenerative refrigerator with phase change
10:40-11:00	381	Hassan Dakkama, Ahmed Elsayed, Raya Al-Dadaha, Saad Mahmoud, Peter Youssef	Investigation of Cascading Adsorption Refrigeration System with Integrated Evaporator-Condenser Heat Exchanger Using Different Working Pairs
11:00-11:20	601	Jinshi Wang, Kai Xia, Weixiong Chen, Ming Liu, Datong Chong, Jiping Liu, Junjie Yan	Research on heat recovery system of turbine exhaust steam using absorption heat pump for heating supply based on heating load characteristics
11:20-11:40	66	Sam. M Sichilalu, Xiaohua Xia	Optimal power control of grid tied PV-battery-diesel system powering heat pump water heaters
11:40-12:00	221	Syed Ihtsham-ul-Haq Gilani, Mojahid Sidahmed Mohammed Salih Ahmed	Solution Crystallization Detection for double-effect LiBr-H2O steam absorption chiller
Room: Capital Suite 8 Session Name: Energy efficiency in buildings (I) Session Chair: Liwen Jin, Carl-Fredrik Lindberg			
Time	Paper ID	Author	Paper Title
10:20-10:40	396	Anna Magrini, Giovanna Franco, Marco Guerrini	The impact of the energy performance improvement of historic buildings on the environmental sustainability
10:40-11:00	22	Syed Fahad Hassan, Musahib Ali, Attique Sajid, Usama Perwez	Free Cooling Investigation of SEECS Data Center
11:00-11:20	533	Liu Yang, Wuxing Zheng, Yan Mao, Joseph C Lam, Yongchao Zhai	Thermal adaptive models in built environment and its energy implications in Eastern China
11:20-11:40	151	Hassam ur Rehman	Steady state experimental analysis of various solar insulation materials and techniques for buildings in climatic condition of Ras Al Khaimah, UAE
11:40-12:00	553	Farajallah Alrashed, Muhammad Asif	Climatic classifications of Saudi Arabia for building energy modelling
Room: Capital Suite 9 Session Name: Carbon capture and storage Session Chair: Mengxiang Fang, Koji Tokimatsu			
Time	Paper ID	Author	Paper Title
10:20-10:40	111	Xiong Liu, Ajit Godbole, Cheng Lu, Guillaume Michal, Philip Venton	Optimization of dispersion parameters of Gaussian plume model for CO2 dispersion
10:40-11:00	356	Xi Jiang, Didi Li	An investigation of chromatographic partitioning of CO2 and multiple impurities in geological CO2 sequestration
11:00-11:20	497	Fu Wang, Jun Zhao, Hao Li, Hailong Li, Jinyue Yan, Li Zhao	Experimental study of solar assisted post-combustion carbon capture
11:20-11:40	102	Fontina Petrakopoulou, George Tsatsaronis, Tatiana Morosuk	Advanced Exergoeconomic Analysis of a Power Plant with CO2 Capture
11:40-12:00	510	Yuting Tan, Worrada Nookuea, Hailong Li, Eva Thorin, Li Zhao, Jinyue Yan	Property impacts on performance of CO2 pipeline transport
Room: Capital Suite 10 Session Name: Energy Management, Policy and Economics - Urban energy: system & design (II) Session Chair: Perry Yang, Yoshiki Yamagata			
Time	Paper ID	Author	Paper Title
10:20-10:40	92	Ayyoob Sharifi, Yoshiki Yamagata	A conceptual framework for assessment of urban energy resilience
10:40-11:00	93	Stephen Jia Wang, Patrick Moriarty, Yiming Ji, Chen Zhen	A new approach for reducing urban transport energy
11:00-11:20	654	Zishuo Huang, Hang Yu	Two-stage optimization model used for community energy planning
11:20-11:40	667	Perry Yang	Energy resilient urban form: a design perspective
11:40-12:00	678	Subhrajit Guhathakurta, Eric Williams	Impact of urban form on energy use in central city and suburban neighborhoods: Lessons from the Phoenix metropolitan region
12:00-13:00		**LUNCH**	

Room: Capital Suite 1 **Session Name: Solar integrated energy systems** **Session Chair: Jun Zhao, Giuseppe Franchini**			
Time	Paper ID	Author	Paper Title
13:00-13:20	584	Saad Akhtar, Tariq Saeed Khan, Mohamed Alshehhi, Saad Ilyas	Feasibility and Basic Design of Solar Integrated Absorption Refrigeration for an Industry
13:20-13:40	623	Rubén Abbas, José M. Martínez-Val, Javier Muñoz-Antón, Manuel Valdés, Alberto Ramos, Antonio Rovira, Maria J. Montes, Hani Sait, Ricardo Muñoz, Álvaro Gamarra, Manuel Villén	A quest to the cheapest method for electricity generation in Concentrating Solar Power plants
13:40-14:00	645	Liu Bin, Li Peng, Ma Xiaoyan, Song Jianfei, Yang Zhaodan	Chimney Effect of Solar Hybrid-double Wall with Different Thickness PCM of Na2CO3•10H2O
14:00-14:20	658	Esmail M. A. Mokheimer, Yousef N. Dabwan, Mohamed A. Habib	Performance Comparative Analysis of Three Different CSP Technologies Integrated with Gas Turbine Cogeneration Systems in Saudi Arabia
14:20-14:40	691	Jiabin Fang, Nan Tu, Jinjia Wei	Numerical study on thermal performance of solar cavity receiver under different kinds of tube layout
14:40-15:00	664	X.Tian, M.J. Yang, J.W. Zhao, S.M. He, Jun Zhao	A study on operational strategy of ground –source heat pump system based on variation of building load
Room: Capital Suite 2 **Session Name: Advanced engines with biofuels** **Session Chair: Xinhai Yu, Shijin Shuai**			
Time	Paper ID	Author	Paper Title
13:00-13:20	47	Gholamhassan Najafi, Masoud Dehghani Soufi, Barat Ghobadian, Mohammadreza Sabzimaleki, Farzad Jaliliantabar	Performance and Exhaust Emissions of a SI Two-stroke Engine with Biolubricants Using Artificial Neural Network
13:20-13:40	53	Rizalman Mamat, MohdHafizil Mat Yasin, Ahmad Fitri Yusop, Gholamhassan Najafi, Amir Aziz	Comparative study on biodiesel-methanol-diesel low proportion blends operating with a diesel engine
13:40-14:00	103	Tuhin Poddar, Anoop Jagannath, Ali Almansoori	Biodiesel Production using Reactive Distillation: A Comparative Simulation Study
14:00-14:20	624	Menaka Narayanasamy, Haslenda Hashim	Computational and Experimental Investigations on Tailor-made Biofuel Blend Properties
14:20-14:40	64	Rizalman Mamat, Mohd Hafizil Mat Yasin, Ahmad Fitri Yusop, Perowansa Paruka, Talal Yusaf, Gholamhassan Najafi	Effects of Exhaust Gas Recirculation (EGR) on a Diesel Engine fuelled with Palm-Biodiesel
14:40-15:00	721	Hazrat M. A., Md Mahmudul Hassan, Md Mofijur Rahman, Mohammad Rasul	Comparative Evaluation of Edible and Non-Edible Oil Methyl Ester Performance in a Vehicular Engine
Room: Capital Suite 3 **Session Name: Solar energy applications (II)** **Session Chair: Chii Dong Ho, Pietro Campana**			
Time	Paper ID	Author	Paper Title
13:00-13:20	133	Weilong Wang, Jianfeng Lu, Tao Yu, Jing Ding	Thermochemical storage performance of methane reforming with carbon dioxide tubular reactor in a solar dish system
13:20-13:40	150	Giuseppe Franchini, Antonio Perdichizzi, Giovanna Barigozzi, Silvia Ravelli	Performance Prediction of a CSP Plant Integrated with Cooling Production
13:40-14:00	205	Saleh Nemati, Amir Vadiee, Mahmoud Yaghoubi	Exergy and economic evaluation of a commercially available PVT collector for different climates in Iran
14:00-14:20	262	Yawen Zhao, Hui Hong, Hongguang Jin	Thermo-economic optimization of Solar–Coal Hybrid Systems
14:20-14:40	292	Z.Y. Li, Z. Huang, W.Q. Tao	Three-dimensional numerical study on turbulent mixed convection in parabolic trough solar receiver tube
14:40-15:00	670	Huling Xie, Jinjia Wei, Yang Gao, Zexin Wang, Qiuming Ma	Research on eliminating multiple reflections of solar radiation within CPC in hybrid CPV/T system

13:00-15:00 **Room: Conference Hall B**

INVITED SPEAKERS

Prof. Shan-Tung Tu: What Enables the Application of Energy?

Prof. Ashwani Gupta: Clean Energy Production from Wastes and Biomass

Room: Capital Suite 4 Session Name: Strategic studies of national energy systems Session Chair: Qi Zhang			
Time	Paper ID	Author	Paper Title
13:00-13:20	498	Haizhong An, Shupei Huang, Xiangyun Gao, Xuan Huang	The impact of the oil price shocks on the stock market in China: multiscale evidence from sector level
13:20-13:40	348	Aida Salimnezhadgharehziaeddini, Svetlana Paramonova, Patrik Thollander, Enrico Cagno	Classification of Industrial Energy Management Practices A case study of a Swedish foundry
13:40-14:00	335	Djula Borozan, Dubravka Pekanov Starcevic, Sofija Adzic	The internalization of external costs of CHP plants in Croatia
14:00-14:20	690	Qiming Li, Ke Cheng, Xiaoguang Yang	Impacts of oil price shocks on the returns of China's listed oil companies
14:20-14:40	692	Lu Wang, Jun Xie, Taiyou Yong, Yaping Li, Dong Yue, Chongxin Huang	An Intelligent Power Utilization Strategy in Smart Building Based on AIWPSO
14:40-15:00	387	Dominik Schall, Alwine Mohnen	Incentives for energy-efficient behavior at the workplace: a natural field experiment on eco-driving in a company fleet
Room: Capital Suite 5 Session Name: Thermal Storages Session Chair: Peng Zhang, Mohamed Hassan Ali			
Time	Paper ID	Author	Paper Title
13:00-13:20	80	Stefania Tescari, Gunnar Lantin, Matthias Lange, Stefan Breuer, Christos Agrafiotis, Martin Roeb, Christian Sattler	Numerical model to design a thermochemical storage system for solar power plant
13:20-13:40	546	Matthieu Martins, Uver Villalobos, Thomas Delclos, Peter Armstrong, Pal G. Bergan, and Nicolas Calvet	New concentrating solar power facility for testing high temperature concrete thermal energy storage
13:40-14:00	321	Navid Ekrami, Anais Garat, Alan S. Fung	Thermal Analysis of Insulated Concrete Form (ICF) Walls
14:00-14:20	590	Purnanand Bhale, Manish K Rathod, Laxmikanta Sahoo	Thermal analysis of a solar concentrating system integrated with sensible and latent heat storage
14:20-14:40	630	Benjamin Grange, Nicolas Calvet, Vikas Kumar, Antoni Gil, Peter Armstrong, Alexander Slocum, Daniel Codd	Preliminary optical, thermal and structural design of a 100 kWth CSPonD beam-down on-sun demonstration plant
14:40-15:00	301	Francesco Baldi, Cecilia Gabrielii, Francesco Melino, Michele Bianchi	A preliminary study on the application of thermal storage to merchant ships
Room: Capital Suite 6 Session Name: Battery energy storage systems Session Chair: Erik Dahlquist, Xiaohua Xia			
Time	Paper ID	Author	Paper Title
13:00-13:20	8	Ala Hussein	Derivation and Comparison of Open-loop and Closed-loop Neural Network Battery State-of-Charge Estimators
13:20-13:40	27	Peter Stenzel, Jochen Linssen, Johannes Fleer	Impact of Different Load Profiles on Cost Optimal System Designs for Battery Supported PV Systems
13:40-14:00	417	Boor Singh Lalia, Maitha Alkaabi, Raed Hashaikeh	Sulfated cellulose/polyvinyl alcohol composites as proton conducting electrolyte for capacitors
14:00-14:20	435	Marten Larsson, Per Alvfors, Stefan Grönkvist	Synthetic fuels from electricity for the Swedish transport sector: comparison of well to wheel energy efficiencies and costs
14:20-14:40	605	Danilo Antonio Sbordone, Biagio Di Pietra, Enrico Bocci	Energy analysis of a real grid connected lithium battery energy storage system
14:40-15:00	499	Lei Zhang, Zhenpo Wang, Xiaosong Hu, David G. Dorrell	Experimental investigation of ultracapacitor impedance characteristics
Room: Capital Suite 7 Session Name: Organic Rankin Cycles (ORC) Session Chair: Tony Roskilly, Vincent Mazauric			
Time	Paper ID	Author	Paper Title
13:00-13:20	159	Silvia Lasala, Costante Invernizzi, Paolo Iora, Paolo Chiesa, Ennio Macchi	Thermal stability analysis of perfluorohexane
13:20-13:40	172	Chen Yue, Ying Huang, Ya Wu	Experimental study of low-temperature organic Rankine cycle with axial flow turbine
13:40-14:00	206	Li Chengyu, Zhu Qiang, Wang Huaixin	Parametric optimization of Brayton /organic trans-critical combined cycle for flue gas waste heat recovery
14:00-14:20	213	Zhu Kai, Zhang Mi, Wang Yabo, Sun Zhili, Liu Shengchun, Ning Jinghong	Parametric Optimization of Low Temperature ORC System
14:20-14:40	360	Zhen Liu, Guohong Tian, Minshan Wei, Panpan Song, Tony Roskilly	Modelling and Optimisation of scroll expander for Waste Heat Recovery Organic Rankine Cycle
14:40-15:00	578	Antonio Pantaleo, Nilay Shah, Sergio Camporeale, Patrizia Ciliberti	Thermo-economic assessment of small scale biomass CHP: steam turbines vs ORC in different energy demand segments

Room: Capital Suite 8 Session Name: Industrial energy systems Session Chair: Carl-Fredrik Lindberg, Iana Vassileva			
Time	Paper ID	Author	Paper Title
13:00-13:20	646	Markus Kraft, Ming Pan, Janusz Sikorski, Catharine A. Kastner, Jethro Akroyd, Sebastian Mosbach, Raymond Lau	Applying Industry 4.0 to the Jurong Island Eco-industrial Park
13:20-13:40	505	Naveen Bhutani	Case study for performance assessment and benefit estimation in paper machines by data mining
13:40-14:00	722	Manzhi Liu, Bo Shen, Yafeng Han, Lynn Price, Mingchao Xu	Energy Efficiency Improvement or Fuel Substitution: Cost-effectiveness Analysis on Efficiency Improvement Measures of China Industrial Coal-fired Boiler
14:00-14:20	393	Raed A. Al-Juboori, Talal Yusaf, Leslie Bowtel	Energy conversion efficiency of Pulsed Ultrasound
14:20-14:40	108	Mohd Faris Mustafa, Muhammad Zakwan Zaine, Norazana Ibrahim, Kamarul Asri Ibrahim, Mohd Kamaruddin Abd Hamid	Optimal Synthesis of Energy Efficient Distillation Columns Sequence for Hydrocarbon Mixture Separation Process
14:40-15:00	425	Muawia A. Magzoub, Nordin B. Saad, Rosdiazli B. Ibrahim	Efficiency improvement of induction motor variable speed drive using a hybrid fuzzy-fuzzy controller
Room: Capital Suite 9 Session Name: NOx emissions mitigation Session Chair: Tariq Shamim, Mingming Zhu			
Time	Paper ID	Author	Paper Title
13:00-13:20	115	Linda Ström, Henrik Strom, Andreas Darnell, Per-Anders Carlsson, Magnus Skoglundh, Hanna Härelind	Quantification of urea-spray non-uniformity effects on the H2-assisted NO reduction and NH3 slip over an Ag/Al2O3 catalyst
13:20-13:40	238	Konstantinos Kyprianidis, Devaiaha Nalianda, Erik Dahlquist	A NOx Emissions Correlation for Modern RQL Combustors
13:40-14:00	434	Mohamed Hassan Ali, Ayoola Brimmo	Modeling In-Cylinder Water Injection in a 2-Stroke Internal Combustion Engine
14:00-14:20	445	Zhi Wang, Haoye Liu, Jun Zhang, Jianxin Wang, Shijin Shuai	Performance, combustion and emission characteristics of a diesel engine fueled with polyoxymethylene dimethyl ethers (PODE3-4)/ diesel blends
14:20-14:40	494	Oghare Ogidiama, Tariq Shamim	Investigation of Dual Layered SCR Systems for NOx Control
14:40-15:00	487	Li Sun, Bin Xu, Robin Smith	Study of Tail Gas Treatment in Barley Straw Gasification Processes Integration with Utility Systems
Room: Capital Suite 10 Session Name: Energy Management, Policy and Economics - Urban energy: system & design (III) Session Chair: Perry Yang, Yoshiki Yamagata			
Time	Paper ID	Author	Paper Title
13:00-13:20	671	Marilyn Brown, Matt Cox	PROGRESS IN ENERGY AND CARBON MANAGEMENT IN LARGE U.S. METROPOLITAN AREAS
13:20-13:40	680	Yue-Jun Zhang, Wei-Chen Yi, Bo-Wen Li	The impact of urbanization on carbon emission: empirical evidence in Beijing
13:40-14:00	684	Bin Chen, Yi Lu	Carbon metabolism in urban communities
14:00-14:20	724	Hassan Qudrat-Ullah	Modelling and Simulation in Service of Energy Policy
14:20-14:40	426	Xiang Zhang, Chunye Zhang	Optimal New Energy Vehicle Production Strategy Considering Subsidy and Shortage Cost
14:40-15:00	271	Yue Zhu, Muhammad Kunta Biddinika	A Diffusion model for Natural Gas Vehicle: A case study in Japan
15:00 – 15:20		**TEA/COFFEE BREAK**	
Room: Capital Suite 1 Session Name: Solar energy receivers Session Chair: Min-Hsing Chang, Jianfeng Lu			
Time	Paper ID	Author	Paper Title
15:20-15:40	415	Celso Recalde, Carlos Avila, Cesar Cisneros, Washington Logroño, Mayra Recalde	Single phase natural circulation flow through solar evacuated tubes collectors on the equatorial zone.
15:40-16:00	433	Mohamed Hassan Ali, Luqmaan Habib, Youssef Shatilla	A realistic numerical model of lengthy solar thermal receivers used in parabolic trough CSP plants
16:00-16:20	462	Rongrong Zhai, Miaomiao Zhao, Chao Li, Ying Chen, Yongping Yang	An operation scheme comparison of solar-aided coal-fired power plant with and without heat storage
16:20-16:40	477	Siw Meiser, Simon Schneider, Eckhard Lüpfert, Björn Schiricke	Evaluation and assessment of gravity load on mirror shape of parabolic trough solar collectors
16:40-17:00	676	Clinton Aigbavboa	Low-income housing residents' challenges with their government install solar water heaters: A case of South Africa
17:00-17:20	514	Zhang-Jing Zheng, Mingjia LI, Ya-Ling He	Optimization of Porous Insert Configuration in a central Receiver Tube for Heat Transfer Enhancement

Room: Capital Suite 2 Session Name: Wind power generation Session Chair: Ramesh Bansal, Reinhard Madlener			
15:20-15:40	570	Chalothorn Thumthae	Optimum Blade Profiles for a Variable-Speed Wind Turbine in Low Wind Area
15:40-16:00	52	Muhammad Bilal, Guillermo Araya, Yngve Birkelund	Preliminary wind resource assessment at remote sites
16:00-16:20	418	Suzan Abdelhady, Simone Giovanni Santori	Economic feasibility of small wind turbines for domestic consumers in Egypt based on the new Feed-in Tariff
16:20-16:40	440	M. Ritter, Z. Shen, B. López Cabrera, M. Odening, L. Deckert	A new approach to assess wind energy potential
16:40-17:00	674	Ernesto Benini, Gabriele Bedon, Uwe Schmidt Paulsen, Helge Aagård Madsen, Federico Belloni, Marco Raciti Castelli	Aerodynamic Benchmarking of the Deepwind Design
17:00-17:20	566	Shin Nagashima, Yohji Uchiyama, Keiichi Okajima	Environment, energy and economic analysis of wind power generation system installation with input-output table
Room: Capital Suite 3 Session Name: Solar energy applications (III) Session Chair: Giuseppe Franchini, Pietro Campana			
Time	Paper ID	Author	Paper Title
15:20-15:40	34	Aggrey Mwesigye, Zhongjie Huan	Thermal and thermodynamic performance of a parabolic trough receiver with Syltherm800-Al2O3 nanofluid as the heat transfer fluid
15:40-16:00	38	Chii-Dong Ho, Hsuan Chang, Chun-Sheng Lin, Chun-Chieh Chao, Yi-En Tien	Analytical and experimental studies of wire mesh packed double-pass solar air heaters under recycling operation
16:00-16:20	81	Abdul Hai Alami, Afra Alketbi and Meera Almheiri	Synthesis and microstructural and optical characterization of Fe-Cu metastable alloys for enhanced solar thermal absorption
16:20-16:40	95	Xiaolan Wei, Ming Song, Qiang peng, Jing Ding, Jianping Yang	Quaternary chloride eutectic mixture for thermal energy storage at high temperature
16:40-17:00	122	Jianfeng Lu, Jing Ding, Hongyin Chen, Junming Liang, Xiaoxi Yang	Nonuniform Heat Transfer and Deformation Measurements and Analyses for Trough Solar Receiver
17:00-17:20	679	Ricardo Muñoz, José M. Martínez-Val, Rubén Abbas, Javier Muñoz-Antón, Antonio Rovira, Maria J. Montes	A Concentrating Solar Power prototype for validating a new Fresnel-based plant design
Room: Conference Hall B Session Name: Heat transfer and heat exchangers Session Chair: QiuWang Wang, Rebei Bel Fdhila			
Time	Paper ID	Author	Paper Title
15:20-15:40	70	Chen Hongbing, Ding Hanwan, Liu Songyu, Wu Wei, Zhang Lei	Comparative study on heat and moisture transfer in soil heat charging at high temperature for various soils
15:40-16:00	4	Peng Xu, Jingchun Shen, Xingxing Zhang, Wei He, Xudong Zhao	Design, Fabrication and Experimental Study of a Novel Loopheat-pipe based Solar Thermal Facade Water Heating System
16:00-16:20	527	Yi Chen, Hongxing Yang	Thermal performances comparison between dry-coil and wet-coil indirect evaporative cooler under the same configuration
16:20-16:40	652	Jundika Kurnia, Agus Sasmito, Tariq Shamim, Arun Mujumdar	Numerical investigation of heat transfer performance of various coiled square tubes for heat exchanger application
16:40-17:00	696	Guo-Yan Zhou, Jingmei Xiao, Lingyun Zhu, Juntao Wang, Shan-Tung Tu	A numerical study on the shell-side turbulent heat transfer enhancement of shell-and-tube heat exchanger with trefoil-hole baffles
17:00-17:20	315	Chien Nguyen, Pham Quang Vu, Jong-Taek Oh, Normah Mohd-Ghazali	Convective heat transfer characteristics of single phase liquid in multiport minichannel tube: Experiment and CFD simulation
Room: Capital Suite 4 Session Name: Energy economics and management Session Chair: Holger Schlör, Stephen Jia Wang			
Time	Paper ID	Author	Paper Title
15:20-15:40	10	Avik Sinha	Nature of Energy index volatility in post financial crisis period: Evidences from India
15:40-16:00	491	Haizhong An, Xiaoliang Jia	Finding the interdependence among various crude oil prices : A grey relation network analysis
16:00-16:20	595	Andrea Trianni, Enrico Cagno	Diffusion of motor systems energy efficiency measures: an empirical study within Italian manufacturing SMEs
16:20-16:40	520	Xiaojia Liu, Haizhong An, Lijun Wang	Quantified Trading Strategy of Crude Oil Futures Market based on Fuzzy Logic Rules
16:40-17:00	599	Vincent Mazauric, Nadia Maizi, Martin Coatalem, Claude Le Pape Gardeux	Optimal management of power generation assets: Interaction with the electricity markets
17:00-17:20	270	Afshin Afshari, Luiz Friedrich	Framework for energy efficiency white certificates in the Emirate of Abu Dhabi

Room: Capital Suite 5 Session Name: Thermal energy storages Session Chair: Weilong Wang, Jing Ding			
Time	Paper ID	Author	Paper Title
15:20-15:40	269	Tian Zhao, Qun Chen	A new perspective of analysis and optimization for absorption thermal energy storage system based on entransy theory
15:40-16:00	336	Wenqing Wang, Olaf Kolditz, Thomas Nagel	A parallel FEM scheme for the simulation of large scale thermochemical energy storage with complex geometries using PETSc routines
16:00-16:20	260	Luisa F. Cabeza, Jaume Gasia, Laia Miro, Gerard Peiro, Camila Barreneche	Thermal behavior analysis of paraffin RT-58 at both laboratory and pilot plant scale
16:20-16:40	555	Kholoud Al Naimi, Nicolas Calvet, Thomas Delclos	Industrial waste produced in the UAE, valuable high-temperature materials for thermal energy storage applications
16:40-17:00	714	Agus Sasmito, Seyed Ali Horeishi-Madiseh, Ferri Hassani, Leyla Amiri	Heat transfer analysis of large scale seasonal thermal energy storage for underground mine ventilation
17:00-17:20	560	Mohamed Hassan Ali, Abdurahim Abdulkadir, Adesola Ajayi	Evaluating the Chemical Composition and the Molar Heat Capacities of a white Aluminum Dross
Room: Capital Suite 6 Session Name: Batteries and energy storage systems Session Chair: Tariq Shamim, Ottorino Veneri			
	Paper ID	Author	Paper Title
15:20-15:40	130	Yongzhi Zhang, Hongwen He, Rui Xiong	A data-driven based state of energy estimator of lithium-ion batteries used to supply electric vehicles
15:40-16:00	246	Hongwen He, Zhentong Liu, Yin Hua	Adaptive extended kalman filter based fault detection and isolation for a lithium-ion battery pack
16:00-16:20	290	Fengchun Sun, Rui Xiong, Hongwen He	A novel battery voltage prediction approach for multi-cell battery pack considering model and parameter uncertainties
16:20-16:40	384	Clemente Capasso, Ottorino Veneri	Laboratory bench to test ZEBRA battery plus super-capacitor based propulsion systems for urban electric transportation
16:40-17:00	635	Hari Om Bansal, Aishwarya Panday	Hybrid Electric vehicle Performance Analysis under Various Temperature Conditions
17:00-17:20	210	Zhuang Xu	An Indirect Space-Vector Modulated Three-Phase AC-DC Matrix Converter for Hybrid Electric Vehicles
Room: Capital Suite 7 Session Name: Heat pumps and refrigeration systems Session Chair: Jinshi Wang, Shiming Deng			
Time	Paper ID	Author	Paper Title
15:20-15:40	119	Normah Mohd-Ghazali, Agus Sunjarianto Pamitran, Sentot Novianto, Ulfi Khabibah, Muhammad Idrus Alhamid	Prediction of the optimized frictional pressure drop in a two-phase flow small-channel with genetic algorithm
15:40-16:00	126	Dong Han	Study on zero-emission desalination system based on mechanical vapor recompression technology
16:00-16:20	198	Shengchun Liu, Ling Hao, Xianmin Guo, Zhiming Rao	Experimental study on crystallization process and freezing properties of ice slurry generation based sodium chloride solution
16:20-16:40	286	Atilla Gencer Devecioğlu, Vedat Oruç	Characteristics of Some New Generation Refrigerants with Low GWP
16:40-17:00	370	Hainan Zhang, Shuangquan Shao, Changqing Tian	Simulation of the thermosyphon free cooling mode in an integrated system of mechanical refrigeration and thermosyphon for data centers
17:00-17:20	99	Wei Han, Wei Han, Hongguang Jin	A new absorption–compression refrigeration system using a mid-temperature heat source for freezing application
Room: Capital Suite 8 Session Name: Heat pumps and refrigeration systems Session Chair: Anna Magrini, Changqing Tian			
Time	Paper ID	Author	Paper Title
15:20-15:40	309	Peter Youssef, Raya Al-Dadaha, Saad Mahmoud, Hassan Dakkama, Ahmed Elsayed	Effect of Evaporator and Condenser Temperatures on the Performance of Adsorption Desalination Cooling Cycle
15:40-16:00	347	Pavel Makhnatch	New lower GWP R404A nonflammable replacements in commercial refrigeration applications
16:00-16:20	352	Amin Al-Habaibe, Ben Meyerowitz, Duolan and Anup Athresh	The design and development of an innovative simulator for an open loop system for extracting energy from flooded coal mines
16:20-16:40	496	Weixiong Chen, Chaoyin Shi, Huiqiang Chen, Shuangping Zhang, Jiping Liu, Junjie Yan	1D model to predict ejector performance at critical and sub-critical operation using the real gas property
16:40-17:00	480	Lizhi Jia, Wufeng Jin, Yan Zhang	Experiment study on the influence of the leakage and diffusion of R32 under different air conditioning conditions
17:00-17:20	355	Fei Qin, Guiying Zhang, Huiming Zou, Changqing Tian	Experimental Investigation on Heat Pump for Electric Vehicles with different refrigerant injection compressors

Room: Capital Suite 9 Session Name: Engine and emission reduction Session Chair: Hongming Xu, Shijin Shuai			
Time	Paper ID	Author	Paper Title
15:20-15:40	129	Obed Ali, Abdul Adam Abdullah, Nik Abdullah, Rizalman Mamat	Comparison Of The Effect Of Different Alcohol Additives With Blended Fuel On Cyclic Variation In Diesel Engine
15:40-16:00	484	Cheng Tung Chong, Simone Hochgreb	Fundamental Spray Combustion Characteristics of Rapeseed Biodiesel, Diesel and Blend
16:00-16:20	145	Buyu Wang, Zhi Wang, Shijin Shuai, Linjun Yu, Jianxin Wang	Extension of the Lower Load Limit in Dieseline Compression Ignition Mode
16:20-16:40	621	BS Rajanikanth, Anusuya Bhattacharyya	Biodiesel Exhaust Treatment with HFAC Plasma supported by Red Mud: Study on DeNOx and power consumption
16:40-17:00	446	Jianxin Wang, Haoye Liu, Zhi Wang, Shijin Shuai	Combustion and emission characteristics of direct injection compression ignition engine fueled with wide distillation fuel (WDF)
17:00-17:20	101	Yuesen Wang, Xingyu Liang, Gequn Shu, Lihui Dong	Impact of Lubricating Oil on Morphology of Particles from a Diesel Engine

15:20-17:20 **Room: Capital Suite 10**

PANEL SESSION 3

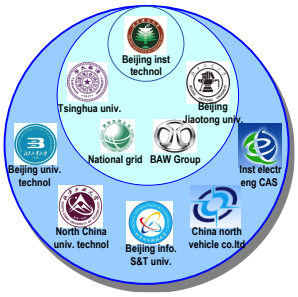
Title: Low Carbon Cities and Urban Energy Systems

Directed by Perry Yang

Panelists: Marilyn Brown, Subhro Guhathakura, Yoshiki Yamagata, Erik Dhalquist, Ronald Wennersten

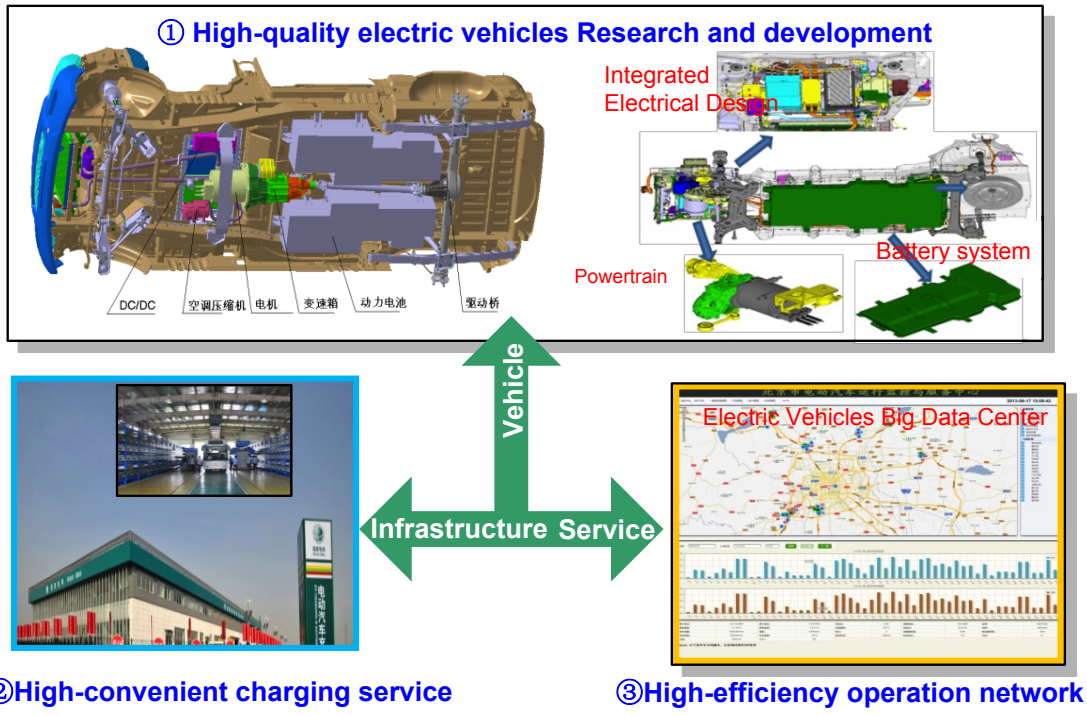
18:15 (Sharp)	**BUS PICK-UP AT THE CONFERENCE CENTER FOR BANQUET**
19:00-22:00	**CONFERENCE BANQUET (Etihad Towers)** **Guest Speaker** **Best Paper Award** **Highly Cited Paper Award** **Best Review Award** **Emirati Folklore Dance**

北京电动车辆协同创新中心
COLLABORATIVE INNOVATION CENTER OF ELECTRIC VEHICLES IN BEIJING



The Collaborative Innovation Center of Electric Vehicles in Beijing was established in September of 2012 jointly by Beijing Institute of Technology (BIT), Tsinghua University, Beijing Jiaotong University, Beijing Automotive Group Corporation and other six research institutes under the framework of the "Collaborative Innovation Program" of the Ministries of Education (MOE) of China, the so-called "National 2011 Program", launched in 2011 after the National "211-Program" and "985-Program".

The mission of the consortium is to integrate key innovative elements among universities, research institutes and enterprises in China and abroad, as well as to take advantage of the strengths in vehicle system dynamics and control, high-efficiency driving and transmission, clean energy resources and power plant, electric vehicle and grid coupling design and management of the ten member institutions in the further advancement of cutting-edge electric vehicles-related research and meanwhile training young generation of research excellence, and in so doing, strengthening research-industry ties and cooperation. The center also focuses on key technologies in electric vehicles application: vehicles, infrastructure and service:



It is thus expected that with the collaborative efforts throughout the world, those problems that could not be solved by individual research groups or even individual universities, can now become well targeted with outputs that leads electric vehicles research in China towards the better international visualization.

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FUTURE ENERGY

FUTURE ENERGY CENTER

THE CHALLENGES due to energy related emissions, increased energy demand and the fragile state of the global economy calls for rethinking global energy systems. Therefore, the research within the Future Energy Center focuses on renewable energy, energy efficiency and emission mitigation, as well as smarter modelling, optimization and management.

FUTURE ENERGY CENTER is an established and internationally competitive research environment to achieve scientific excellence and to enhance co-innovation with stakeholders from industry and other organisations. We develop innovative solutions and tools in the areas of energy, building and environmental engineering.
The center comprises nine professors, fifteen senior researchers and more than forty graduate students.

MER14 "MDH:s Evaluation for improved Research quality" was an evaluation of research conducted at MDH in 2013 and 2014. According to the evaluation Future Energy Center carries out a world-class research.

THREE FOCUS AREAS
The research at Future Energy Center is focused on three areas:

TRACK 1 Renewable energy

TRACK 2 Energy efficiency and emission mitigation

TRACK 3 Smarter modelling/ optimisation and management

FUTURE ENERGY CENTER also offers studies at post-graduate level in Energy and Environmental Engineering.
We are one of the partners of the Graudate School Reesbe (Resource-Efficient Energy Systems in the Built Environment).

CONTACT US
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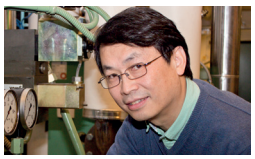

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The Future Energy Center invites applications for a position as Professor of Energy Engineering. Find more information at www.mdh.se/hogskolan/jobb

MÄLARDALEN UNIVERSITY
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RESEARCH THAT PROVIDES **VALUE** AND **BENEFIT**

Mälardalen University invest in research which generates beneficial solutions for societal development.

COOPERATION FOR THE **BENEFIT** OF ALL

MDH has a long tradition and history of close cooperation with society at large and works in a strategic and goal-oriented manner towards being a co-productive university that benefits industry and the community.

STAFF AT THE **UNIVERSITY**

900 employes, 71 professors, 447 teachers, 213 docoral students; 69 are financed externally.

MÄLARDALEN UNIVERSITY SWEDEN

MÄLARDALEN UNIVERSITY (abbreviated MDH) is one of Sweden's large institutes of higher education. The University has over 13,000 students studying our 51 programmes and 1,000 courses, and 900 faculty and staff. The University, with its campuses in Eskilstuna and Västerås, is characterised by its close cooperation with companies and with the public sector in the region and by its distinct environmental profile.

Thanks to our partnerships with international companies such as ABB, Volvo and Bombardier and HEIs all around the world, we offer an international study and working environment.

MÄLARDALEN UNIVERSITY
SWEDEN

Oral Presentations

Day 3

Room: Capital Suite 1 Session Name: Thermoelectric Generator (I) Session Chair: Qiuwang Wang, Rui Xiong			
Time	Paper ID	Author	Paper Title
08:20-08:40	558	Fangfang Meng, Ling Zhang, Jianliang Li, Can Lib , Lie Xie, Yongqiang Luo, Zhongbing Liu	Investigation of thermoelectric warm air heater
08:40-09:00	116	Jonathan Siviter, Andrea Montecucco, Andrew Knox	Experimental application of thermoelectric devices to the Rankine cycle
09:00-09:20	475	Wenguang Li, Manosh C Paul, Andrea Montecucco, Andrew R. Knox, Jonathan Siviter, Nazmi Sellamib, Xian-long Meng, Eduardo Fernandez Fernandez, Tapas K Mallick, Paul Mullena , Ali Ashraf, Antonio Samarelli, Lourdes Ferre Llin, Douglas J. Paul, Duncan H Gregory, Min Gaod , Tracy Sweet, Feridoon Azough, Robert Lowndes, and Robert Freer	Multiphysics Simulations of a Thermoelectric Generator
09:20-09:40	157	Ting Ma, Jaideep Pandit, Srinath V. Ekkad, Scott T. Huxtable, Samruddhi Deshpande, Qiuwang Wang	Study on thermoelectric-hydraulic performance of longitudinal vortex generators in a large-scale thermoelectric power generator
09:40-10:00	183	Muhammad Fairuz Remeli, Kiatbodin Loorungroj, Baljit Singh, Kritad Verojporn, Abhijit Date, Aliakbar Akbarzadeh	Power generation from waste heat using Heat Pipe and Thermoelectric Generator
Room: Capital Suite 2 Session Name: Waste to energy Session Chair: Markus Kraft, Andrea Montecucco			
Time	Paper ID	Author	Paper Title
08:20-08:40	586	Isam Janajerh, Tala Alsamad, Ahmed Aljaberi, Mohamed Diouri	Transesterification of Waste Cooking Oil: Kinetic Study and Reactive Flow Analysis
08:40-09:00	345	Zhongyi Su, Yao Dong Wang	Analysis of energy utilization and waste in China's processing industry based on a case study
09:00-09:20	428	Mingming Zhu, Zhezi Zhang, Hendrix Yulis Setyawan, Dongke Zhang	An Experimental Study of Effect of Water on Ignition and Combustion Characteristics of Single Droplets of Glycerol
09:20-09:40	285	Srikandi Novianti, Anissa Nurdiawati, Ilman Nuran Zaini, Pandji Prawisudha, Kunio Yoshikawa, Hiroaki Sumida	Low-potassium fuel production from Empty Fruit Bunch by hydrothermal treatment processing and water leaching
09:40-10:00	683	Muhammad Kunta Biddinika, Bayu Indrawan, Bakhtiyor Nakhshiniev, Koji Tokimatsu, Kunio Yoshikawa, Fumitake Takahashi	Internet video sharing as a public engagement tool on renewable energy
Room: Capital Suite 3 Session Name: Energy economics Session Chair: Holger Schlör, Ronald Wennersten			
Time	Paper ID	Author	Paper Title
08:20-08:40	632	Raja Jayaraman, Davide La Torre, Tufail Malik, Yanthe Pearson	Optimal labour allocation for energy, economic and environmental sustainability in the United Arab Emirates: A goal programming approach
08:40-09:00	689	Cheng Cheng, Zhen Wang, Mingming Liu, Yikang Zhao	A Quantitative Analysis of the Impact of Production Uncertainty on the Offshore Oil Project Investment
09:00-09:20	249	Afshin Afshari, Luiz Friedrich	Short-term forecasting of the Abu Dhabi electricity load using multiple weather variables
09:20-09:40	306	Zahi Omer, Abbas Fardoun, Ahmed Alameri	Economic Feasibility Study of Two Renewable Energy Systems for Remote Areas in UAE
09:40-10:00	656	Haslenda Hashim, Jeng Shiun Lim, Muhammad Razif Ramlan, Muhd Zaimi Abd Majid, Chew Tin Lee, Hesam Kamyab	An Integrated Carbon Accounting and Mitigation Framework for Greening the Industry

DAY 3

Room: Conference Hall B Session Name: Energy processes and analysis Session Chair: Frank Qin, Chuan Wang			
Time	Paper ID	Author	Paper Title
08:20-08:40	256	Pham Quang Vu, Choi Kwang-Il, Jong-Taek Oh, Cho Honggi, Kim Taehun, Kim Jungho, Choi Jaeyoung	An experimental investigation of condensation heat transfer coefficient of R-410A in horizontal circular tubes.
08:40-09:00	165	Liwen Jin, Xing Liu, Lianying Zhang	Numerical Simulation of H2O/LiBr Falling Film Absorption Process
09:00-09:20	294	Xianglong Luo, Junjun Xu, Ying Chen, Songping Mo	Mathematical optimization of liquid separation condenser used in organic Rankine cycle
09:20-09:40	386	Avinash Vishwanath Waghmare, Ashok Tukaram Pise	Numerical investigation of concentric cylinder latent heat storage with / without gravity and buoyancy
09:40-10:00	534	Suraya Hanim Abu Bakar, Mohd Kamaruddin Abd Hamid, Sharifah Rafidah Wan Alwi, Zainuddin Abdul Manan	Effect of Delta Temperature Minimum Contribution in Obtaining an Operable and Flexible Heat Exchanger Network
Room: Capital Suite 4 Session Name: LCA of energy systems Session Chair: SK. Chou, Yuejun Zhang			
Time	Paper ID	Author	Paper Title
08:20-08:40	79	Jan Christian Koj, Petra Zapp, Andrea Schreiber, Pablo Marcuello	Life Cycle Assessment of improved high pressure alkaline electrolysis
08:40-09:00	155	Holger Schlör, Petra Zapp, Josephine Marx, Jürgen-Friedrich Hake	Non-Renewable Resources for the Energiewende – A Social Life Cycle Analysis
09:00-09:20	230	Chi Kwan Chau, Wai Yin NG	New life of the building materials- recycle, reuse and recovery
09:20-09:40	516	Zhifeng Que, Shixue Wang, Weiyi Li	Potential of energy saving and emission reduction of battery electric vehicles with two type of drivetrains in China
09:40-10:00	571	Brandon Yong, Jiming Pang, Catharine Kastner, Markus Kraft, Raymond Lau	Towards the development of carbon dioxide emission landscape in Singapore
Room: Capital Suite 5 Session Name: Advanced Turbines Session Chair: Konstantinos Kyprianidis, Xiong Liu			
Time	Paper ID	Author	Paper Title
08:20-08:40	307	Kiyarash Rahbar, Saad Mahmoud, Raya Al-Dadaha, Nima Moazami, Ali Bahr Ennil	Preliminary Mean-line Design and Optimization of a Radial Turbo-Expander for Waste Heat Recovery using Organic Rankine Cycle
08:40-09:00	486	Mohamad Ramadana, Mahmoud Khaled, Hicham El Hage	Using speed bump for power generation –Experimental study
09:00-09:20	137	Xiong Liu, Cheng Lu, Shi Liang, Ajit Godbole, Yan Chen	Influence of the vibration of large-scale wind turbine blade on the aerodynamic load
09:20-09:40	438	Ruiping Zhi, Yuting Wu, Wei Wang, Jingfu Wang, Chongfang Ma	Static Structure and Modal Analysis of a Main Rotor in Single Screw Compressors
09:40-10:00	44	Yao Zhao , Zhenyi Liua, Xiaohui Shi , Xinming Qian , Yi Zhou, Deping Zhang, Qing Li	Numerical Simulation on BLEVE Mechanism of Supercritical Carbon Dioxide
Room: Capital Suite 6 Session Name: Micro and nano energy technologies Session Chair: Henrik Ström, Erik Dahlquist			
Time	Paper ID	Author	Paper Title
08:20-08:40	173	Henrik Strom	A computational method to optimize the distribution of a catalytically active material inside a nano-scale pore
08:40-09:00	202	Li Zhang, Yanlun Ren, Qing Luo, Xiang Ying , Hong Xu, Jin Xuan	A Novel Method to From Well-adhered γ-Al2O3 Coating in 316L Stainless Steel Microchannels
09:00-09:20	281	Xuefeng Shao, Ying Chen, Songping Mo, Zhengdong Cheng, Tao Yin	Dispersion Stability of TiO2-H2O Nanofluids Containing Mixed Nanotubes and Nanosheets
09:20-09:40	430	Mrinal Jagirdar, Poh Seng Lee	Temperature transients for detection of flow-regimes in a mini/microchannel
09:40-10:00	703	Ziming Zhao, Weiling Luan	Metal structural integrity monitoring via optical response of quantum dots-epoxy resin

Room: Capital Suite 7 Session Name: Energy efficiency in buildings (II) Session Chair: Fabrizio Ascione, Shengwei Wang			
Time	Paper ID	Author	Paper Title
08:20-08:40	90	Yin Zhang, Yinping Zhang, Wenxing Shi, Xin Wang	Application of heat adaptor: thermodynamic optimization for central heating system through extremum principle
08:40-09:00	250	Xiaoshu Lü, Tao Lu, Martti Viljanen	Calibrating numerical model by neural networks: A case study for the simulation of the indoor temperature of a building
09:00-09:20	259	Syed Ihtsham-ul-Haq Gilani, Muhammad Hammad Khan, William Pao	Thermal comfort analysis of PMV model Prediction in Air conditioned and Naturally Ventilated Buildings
09:20-09:40	316	Xing Liu, Lianying Zhang, Weibin Kang, Zhao Min, Xiangzhao Meng, Wangyang Hu	Experimental investigation on a celling capillary radiant heating system
09:40-10:00	603	Anna Laura Pisello, Franco Cotana	Experimental and numerical study on thermal performance of new cool clay tiles in residential buildings in Europe
Room: Capital Suite 8 Session Name: Energy efficiency in buildings (III) Session Chair: Xiaojing Zhang, Rosa Francesca De Masi			
Time	Paper ID	Author	Paper Title
08:20-08:40	171	Xinxin Liang, Yaodong Wang, Tony Roskilly	Reduce household energy consumption using passive methods
08:40-09:00	552	Farajallah Alrashed, Muhammad Asif	An exploratory of residents' views towards applying renewable energy systems in Saudi dwellings
09:00-09:20	334	Yilong Han, John Taylor	Disaggregate Analysis of the Inter-Building Effect in a Dense Urban Environment
09:20-09:40	447	Qi Cheng, Chengchu Yan, Shengwei Wang	Robust optimal design of chiller plants based on cooling load distribution
09:40-10:00	278	Fei Xiong, Yin Zhang, Xin Wang, Yinping Zhang	Optimal phase change temperature for energy storage based on fluctuating loads in building cooling heating and power system
Room: Capital Suite 9 Session Name: Modeling of energy processes Session Chair: Rebei Bel Fdhila, Guoyan Zhou			
Time	Paper ID	Author	Paper Title
08:20-08:40	699	Yukun Hu, Chee-Keong Tan, Jonathan Broughton, Edward McGee, Alexander Matthew, Paul Alun Roach	Development of transient mathematical models for a large-scale reheating furnace using hybrid zone-CFD methods
08:40-09:00	32	Hsuan Chang, Jian-An Hsu, Cheng-Liang Chang, Chii-Dong Ho	CFD simulation of direct contact membrane distillation modules with rough surface channels
09:00-09:20	144	Peng Zhang, Zhaonan Meng, Hua Zhu, Yanling Wang, Shiping Peng	Experimental and numerical study of heat transfer characteristics of a paraffin/metal foam composite PCM
09:20-09:40	400	Baiman Chen, Kelvin Ho, Frank G.F. Qin, Runhua Jiang, Yousif A. Abakr, Andrew Chan	Validation and Visualization of Decaying Vortex Flow in an Annulus
09:40-10:00	416	Matthew Law, Poh Seng Lee	Comparative study of temperature and pressure instabilities during flow boiling in straight- and 10° oblique-finned microchannels
10:00 – 10:20		**TEA/COFFEE BREAK**	
Room: Capital Suite 1 Session Name: Wind and energy storage Session Chair: Ramesh Bansal, Francesco Castellani			
Time	Paper ID	Author	Paper Title
10:20-10:40	574	Jianwei Li, Min Zhang, Jiahui Zhu, Qingqing Yang, Weijia Yuan	Analysis of Superconducting Magnetic Energy Storage Used in A Submarine HVAC Cable Based Offshore Wind System
10:40-11:00	492	Francesco Castellani, Davide Astolfi, Alberto Garinei, Paolo Sdringola, Ludovico Terzi, Umberto Desideri, Stefania Proietti	How wind turbines alignment to wind direction affects efficiency? A case study through SCADA data mining.
11:00-11:20	602	Matthias Schmitz, Reinhard Madlener	Economic Viability of Kite-Based Wind Energy Powerships with CAES or Hydrogen Storage
11:20-11:40	612	Jiahui Zhu, Xiaodong Zheng, Ming Qiu, Zhipeng Zhang, Jianwei Li, Qingqing Yang, Weijia Yuan	Application Simulation of a Resistive Type Superconducting Fault Current Limiter (SFCL) for in Transmission and Wind Power System
11:40-12:00	456	A. K. Azad, Mohammad Rasul, Imrul Reza Shishir	Analysis of wind energy prospect for power generation by three Weibull distribution methods

Room: Capital Suite 2 Session Name: Advanced energy processes (II) Session Chair: Yukun Hu, Xuesong Bai			
Time	Paper ID	Author	Paper Title
10:20-10:40	282	Le Zhang, Ruina Xu, Peixue Jiang, Pathegama.Gamage Ranjith	Numerical simulations of mechanical effect on the fluid flow and heat transfer in Enhanced Geothermal Systems
10:40-11:00	344	Simone Lombardi, Katarzyna Bizon, Francesco Saverio Marra, Continillo Gaetano	Effect of coupling parameters on the performance of Fluidized Bed Combustor - Stirling Engine for a microCHP System.
11:00-11:20	565	Linfeng Zhang, Zhang Quan, Li Min, Yaxing Du	A new analytical model for the underground temperature profile under the intermittent operation for Ground-Coupled Heat Pump systems
11:20-11:40	120	Mingming Zhu, Ce Zheng, Dongke Zhang	Characterisation of Asphaltenes Extracted from an Indonesian Oil Sand Using NMR, DEPT and MALDI-TOF
11:40-12:00	132	Bingjian Zhang, Kai Liu, Qinglin Chen	A new adsorption process to intensify liquefied petroleum gas recovery from raw natural gas
Room: Capital Suite 3 Session Name: Thermoelectric generator (II) Session Chair: Jianzhong Wu, Weiling Luan			
Time	Paper ID	Author	Paper Title
10:20-10:40	149	Hua Tian, Na Jiang, Qi Jia, Xiuxiu Sun, Gequn Shu, Xingyu Liang	Comparison of segmented and traditional thermoelectric generator for waste heat recovery of diesel engine
10:40-11:00	466	Andrea Montecucco, Jonathan Siviter, Andrew Knox	A combined heat and power system for solid-fuel stoves using thermoelectric generators
11:00-11:20	557	Yongqiang Luo, Ling Zhang, Jianliang Li, Can Li, Lie Xie, Zhongbing Liu, Fangfang Meng, Qing Xie	Study on thermal conductance allocation ratio of heat sink of thermoelectric cooler for electronic device in cold region
11:20-11:40	239	Muhammad Fairuz Remeli, Kritad Verojporn, Baljit Singh, Kiatbodin Loorungroj, Abhijit Date, Aliakbar Akbarzadeh	Passive Heat Recovery System using Combination of Heat Pipe and Thermoelectric Generator
11:40-12:00	451	Lama Mahmoud, Mohammad Alhwarai, Yarjan Abdul Samad, Baker Mohammad, Kin Laio, Ismail Elnaggar	Characterization of a Graphene-Based Thermoelectric Generator using a Cost-Effective Fabrication Process

10:20-12:00

ROOM: Conference Hall B

PANEL SESSION 4

Title: The Future of Fossil Fuels (i.e. The Future of Renewable Sources)

Directed by Tony Roskilly, Markus Kraft, Dongke Zhang, Hongxing Yang

Room: Capital Suite 4 Session Name: District heating and cooling Session Chair: Hongwei Li, Iana Vassileva			
Time	Paper ID	Author	Paper Title
10:20-10:40	127	Dagnija Blumberga, Girts Vigants, Ivars Veidenbergs, Edgars Vigants	Cost analysis of a wood chip boiler house with a gas condenser
10:40-11:00	613	Anup P Athresh, Amin Al-Habaibeh, Keith Parker	Innovative approach for heating of buildings using water from a flooded coal mine through an open loop based single shaft GSHP system
11:00-11:20	449	Jelena Ziemele, Armands Gravelsins, Dagnija Blumberga	Decomposition analysis of district heating system based on complemented Kaya identity
11:20-11:40	561	Wenjie Gang, Wang Shengwei, Xiao Fu, Diance Gao	Performance Assessment of District Cooling System Coupled with Different Energy Technologies in Subtropical Area
11:40-12:00	394	Qunli Zhang, Mingkai Cao, Qiuyue Zhang, Hongfa Di	Research on A New District Heating Method Combined with Hot Water Driven Ground Source Absorption Heat Pump
Room: Capital Suite 5 Session Name: Energy forecasting and policy analysis Session Chair: G. Hammond, Bo Shen			
Time	Paper ID	Author	Paper Title
10:20-10:40	68	Alberto Betancourt, Ali Almansoori	Multi-period optimization model for the UAE power sector
10:40-11:00	156	Liliana Proskuryakova, Sergey Filippov	Energy technology Foresight 2030 in Russia: an outlook for safer and more efficient energy future
11:00-11:20	243	Jingxuan Hui, Wenjia Cai, Minhua Ye, Can Wang	Clean generation technologies in Chinese power sector: penetration thresholds and supporting policies
11:20-11:40	694	George Alex Thopil, Anastassios Pouris	Water usage forecasting in coal based electricity generation: The case of South Africa
11:40-12:00	607	Muhammad Danish, Syed Muhammad Raza Naqvi, Usman Farooq, Salman Raza Naqvi	Characterization of South Asian agricultural residues for potential utilization in future 'energy mix'

DAY 3

Room: Capital Suite 6 Session Name: Emission reduction Session Chair: Niklas Hedin, Erik Dahlquist			
Time	Paper ID	Author	Paper Title
10:20-10:40	223	Liu Jipinga, Chen Keqiang, Zhang Xiaobo, Wang Jinshi, Yan Junjie, Yoshiro Deguchi	Numerical Simulation on the Laser Induced Oxygen Spark under Different Ambient Conditions
10:40-11:00	436	Zhou Dong, Luo Zhongyang, Fang Mengxiang, Jiang Jianping, Chen Hao, Sha Donghui, Lu Mengshi	Numerical study of the movement of fine particle in sound wave field
11:00-11:20	248	Tao WU, Haitao Zhao, Cheng Heng Pang, Gang Yang, Hua Fan, Philip Hall	Screening of Metal Oxides for Hg0 Capture
11:20-11:40	421	Charles O. R. Okpala, Gioacchino Bono, Abdurahim Abdulkadir, Chukwuka U. Madumelu	Ozone (O3) Process Technology (OPT): An Exploratory Brief of Minimal Ozone Discharge applied to Shrimp Product
11:40-12:00	124	Hesam Kamyab, Ali Keyvanfar, Mohd Fadhil Md Din, Amirreza Talaiekhozani, Arezou Shafaghat, Chew Tin Lee, Muhd Zaimi Abd Majid, Jeng Shiun Lim, Hasrul Haidar Ismail	Efficiency of Microalgae Chlamydomonas on the Removal of Pollutants from Palm Oil Mill Effluent (POME)
Room: Capital Suite 7 Session Name: Energy efficiency in buildings (IV) Session Chair: Liwen Jin, Carl-Fredrik Lindberg			
Time	Paper ID	Author	Paper Title
10:20-10:40	59	Zhang Lianying, Wang Yuan, Zhang Jiyuan, Liu Xing, Zhang Linhua	Numerical Study of Effects of Wall's Insulation Thickness on Energy Performance for Different Climatic Regions of China
10:40-11:00	398	Yuling Fan, Xiaohua Xia	A Multi-objective Optimization Model for Building Envelope Retrofit Planning
11:00-11:20	105	Fabrizio Ascione, Olaf Böttcher, Robert Kaltenbrunner, Giuseppe Peter Vanoli	Summer overheating in a new multi-storey building in Berlin: numerical study for improving the indoor microclimate
11:20-11:40	83	Uta Krone, Fabrizio Ascione, Nicola Bianco, Thomas Tschirner, Olaf Böttcher	Prescriptive- and performance-based approaches of the present and previous German DIN 4108-2. Hourly energy simulation for comparing the effectiveness of the methods
11:40-12:00	139	Rosa Francesca De Masi, Fabrizio Ascione, Francesca Ceroni, Maria Rosaria Pecce, Filippo De' Rossi	Multidisciplinary approach to structural/energy diagnosis of historical buildings: a case study
Room: Capital Suite 8 Session Name: Energy efficiency in buildings (V) Session Chair: SK. Chou, Shengwei Wang			
Time	Paper ID	Author	Paper Title
10:20-10:40	23	Musahib Ali, Usama Perwez, Syed Fahad Hassan, Attique Sajid	Free Cooling Investigation of RCMS Data Center
10:40-11:00	26	Xiaojing Zhang, Ziyue Song, Clas Eriksson	Data Center Energy and Cost Saving Evaluation
11:00-11:20	82	Fabrizio Ascione, Nicola Bianco, Claudio De Stasio, Gerardo Maria Mauro, Giuseppe Peter Vanoli	Building envelope, HVAC systems and RESs for the energy retrofit of a Conference Hall on Naples promenade
11:20-11:40	117	Wan Iman Wan Nazi, Yao Dong Wang, Tony Roskilly	Methodologies to Reduce Cooling Load using Heat Balance Analysis: A Case Study in an Office Building in a Tropical Country
11:40-12:00	19	Xingyang Yang	Theoretical analysis of a novel combined power and ejector refrigeration cycle
Room: Capital Suite 9 Session Name: Combined cooling, heating and power generation Session Chair: Shengchun Liu, Zaoxiao Zhang			
Time	Paper ID	Author	Paper Title
10:20-10:40	420	Runhua Jiang, Frank G.F. Qin, Xiaoxi Yang, Simin Huang, Baiman Chen, Minlin Yang, Yongjun Xu, Youyuan Shao	Experimental study of a liquid Dehumidification Unit Integrated in a CCHP System with Varying Operating Condition
10:40-11:00	41	Daniel Torstensson, Fredrik Wallin	Potential and barriers for demand response at household customers
11:00-11:20	511	Ovidiu Big, Hongwei Li, Svend Svendsen	Demand Side Management for Smart District Heating
11:20-11:40	170	Maria Alessandra Ancona, Francesco Melino, Lisa Branchini, Andrea De Pascale	Smart District Heating: Distributed Generation Systems' Effects on the Network
11:40-12:00	542	Hongwei Li, Stephen Jia Wang	Load Management in District Heating Operation
12:00-13:00		**LUNCH**	

DAY 3

Room: Capital Suite 1 Session Name: Catalytic enhanced biofuels Session Chair: Xuesong Bai			
Time	Paper ID	Author	Paper Title
13:00-13:20	515	Elina Dace, Dagnija Blumberga, Ivars Veidenbergs	Modeling syngas composition in an integrated system of biomass gasification, electrolysis and methanation
13:20-13:40	72	Mingyue Ding, Tiejun wang, Lungang Chen	Design of bimodal pore Cu-Fe based catalyst with enhanced performances for higher alcohols synthesis
13:40-14:00	131	Tiejun Wang, Yujing Weng, Songbai Qiu, Jinxing Long, Lungang Chen , Kai Li， Qiying Liu, Qi Zhang, Longlong Ma	Gasoline production by one-pot catalytic conversion of Lignocellulosic biomass derived sugar/polyol
14:00-14:20	114	Hesameddin Fatehi, Xue-Song Bai	Effect of pore size on the gasification of biomass char
14:20-14:40	167	Salman Raza Naqvi, Yoshimitu Uemura, Suzana Yusup, Y. Sugiur, N. Nishiyama, M. Naqvi	The Role of Zeolite Structure and Acidity in Catalytic Deoxygenation of Biomass Pyrolysis Vapors
14:40-15:00	25	M. Groisil, S. Ibrahim, A. K. Gupta, A. AlShoaibi	Numerical Examination of Acid Gas for Syngas and Sulfur Recovery
Room: Capital Suite 2 Session Name: Biofuels Session Chair: Zhifeng zheng, Markus Kraft			
Time	Paper ID	Author	Paper Title
13:00-13:20	254	Ujjaini Sarkar, Suvra Sadhukhan	Characterization of biodiesel produced from Crotalaria juncea oil: A comparison with the fuel properties of the oil itself
13:20-13:40	324	Liang-Jung Chien, Tien-Ping Hsu	Novel codon-optimization genes encoded in Chlorella for triacylglycerol accumulation
13:40-14:00	24	M. Chardonneaua, S. Ibrahim, A. K. Gupta, A. AlShoaibi	Role of Toluene and Carbon Dioxide on Sulfur Recovery Efficiency in a Claus Process
14:00-14:20	180	Nima Moazami, Hamid Mahmoudi, Pooria Panahifar, Kiyarash Rahbar, Athanasios Tsolakis, Miroslaw L Wyszynski	Mathematical Modeling and Performance Study of Fischer-Tropsch Synthesis of Liquid Fuel over Cobalt-Silica
14:20-14:40	681	Fujie Lu, Wei Yu, Xinhai Yu, Shan-Tung Tu	Transesterification of vegetable oil to biodiesel over Mgo-Li2O catalysts templated by a PDMS-PEO comb-like copolymer
14:40-15:00	215	M. M. K. Bhuiya, M. G. Rasul, M. M. K. Khan, N. Ashwath, A. K. Azada M. Mofijur	Optimisation of Oil Extraction Process from Australian Native Beauty Leaf Seed (Calophyllum inophyllum)
Room: Capital Suite 3 Session Name: Algal fuels and environmental sustainability Session Chair: Raza Naqvi, Guoyan Zhou			
Time	Paper ID	Author	Paper Title
13:00-13:20	713	Sally Salome Shahzad, John Brennan, Dimitris Theodossopoulos, Ben Richard Hughes, John Kaiser Calautit	Energy efficiency and user comfort in the workplace: Norwegian cellular vs. British open plan workplaces
13:20-13:40	56	Feiyang Zhao, Wenming Yang, Woei Wan Tan, Siaw Kiang Chou, Wenbin Yu	An Overall Ship Propulsion Model for Fuel Efficiency Study
13:40-14:00	448	Saikat Chakraborty, Shoaib Shariff	Two-mode model for describing mixing effects in algal photobioreactors
14:00-14:20	441	David Chiaramonti, Matteo Prussi, Marco Buffi, David Casini, Andrea Maria Rizzo	Thermochemical conversion of microalgae: challenges and opportunities
14:20-14:40	551	Yong Hao, Hui Kong, Hongguang Jin, Yawen Zhao	Isothermal vs. Two-Temperature Solar Thermal Fuel Synthesis: Pros and Cons
14:40-15:00	91	Ziye Ling, Guohao Zeng, Tao Xu , Xiaoming Fang , Zhengguo Zhang	Performance of a coil-pipe heat exchanger filled with mannitol for solar water heating system
Room: Conference Hall B Session Name: Advancements in nanomaterials Session Chair: Henrik Ström, Sen Mei			
Time	Paper ID	Author	Paper Title
13:00-13:20	453	Qing Ni, Hong Ye	First-principles investigation on diffusion mechanism of Zinc in n-GaSb
13:20-13:40	687	Lingli Luo, Weiling Luan, Binxia Yuan, Chengxi Zhang, Lin Jin	High efficient and stable solid solar cell: based on FeS2 nanocrystals and P3HT:PCBM
13:40-14:00	672	Sen Mei, Juan Yang, Simon Christian, Songdong Yuan, José Maria F. Ferreira	Fabrication and characterisation of titania nanoporous thin film for photoelectrochemical (PEC) conversion of water
14:00-14:20	94	Ashok Kumar Kherodia, Ashish K Panchal	Estimation of Optical Properties of Multilayer Silicon Nano Films with Different Hydrogen Dilution
14:20-14:40	308	Zhuowei Liu, Tao Yin, Ying Chen, Zhengdong Cheng, Songping Mo, Lisi Jia	Improving the Stability of TiO2 Aqueous Suspensions by Coupling TiO2 Nanoparticles on ZrP Nanoplatelets
14:40-15:00	146	Subba Reddy Basappa, Shakti Prasad	Computation of power released during corona treatment on polymeric insulators under ac and dc excitation

DAY 3

Room: Capital Suite 4 Session Name: Energy system analysis Session Chair: Holger Schlör, Fredrik Wallin			
Time	Paper ID	Author	Paper Title
13:00-13:20	349	Alexey Raskin, Petr Rudakov	Typical Day Detection for Long Term Price Forecasting
13:20-13:40	600	Geoffrey Hammond, Áine O'Grady, David Packham	Energy Technology Assessment of Shale Gas 'Fracking' - A UK Perspective
13:40-14:00	409	Aaron Praktiknjo, Georg Erdmann	Input-Output based Estimation of Power Interruption Costs in Economic Sectors: An Example from Germany with 51 Sectors
14:00-14:20	465	Hongjun Zhang, Wenying Chen	The role of biofuels in China's transport sector in carbon mitigation scenarios
14:20-14:40	141	C. Tagliaferri, P. Lettieri, C. Chapman	Life cycle assessment of shale gas in the UK
14:40-15:00	476	Difei Su, Qi Zhang, Ge Wang, Hailong Li	Market Analysis of Natural Gas for District Heating in China
Room: Capital Suite 5 Session Name: Biofuels - Biogas Session Chair: Sebastian Schwede, Johan Lindmark			
Time	Paper ID	Author	Paper Title
13:00-13:20	118	Dagnija Blumberga, Ivars Veidenbergs, Andra Blumberga, Francesco Romagnoli, Silvija Kalnins, Edgars Vigants	Hybrid system with biomethanation for wind energy accumulation in the Baltic countries
13:20-13:40	267	Purnanand Bhale, Vikram Rathod, Puneet Bansal	Analytical and Experimental Investigations for Hydrogen Rich Syngas Production by Biogas Reforming Processes
13:40-14:00	490	Anbarasan Anbalagan, Sebastian Schwede, Emma Nehrenheim	Influence of light emitting diodes on indigenous microalgae cultivation in municipal wastewater
14:00-14:20	541	Iwona Cybulska, Grzegorz Brudecki, Jens Ejbye Schmidt, Mette Thomsen	Organosolv fractionation of palm treidues
14:20-14:40	587	Grzegorz Brudecki, Iwona Cybulska, Mette Thomsen, Jens Ejbye Schmidt, Rashed Farzanah	Evaluation of composition and biogas production potential from sea grass (Halodule uninervis) native to Abu Dhabi
14:40-15:00	702	César Cisneros Ramírez, Celso Recalde	Small-Scale of Water Production Using Renewable Energy: Economic Evaluation
Room: Capital Suite 6 Session Name: Fuel cells Session Chair: Tariq Shamim, Yunfei Mu			
Time	Paper ID	Author	Paper Title
13:00-13:20	75	Karthik Balasubramanian, Basil Jacob, Priya K, Rajasekar N, Sudhakar Babu Thanikanti	Critical evaluation of Genetic Algorithm based fuel cell parameter extraction
13:20-13:40	187	Binbin Chen, Dennis Y.C. Leung, Jin Xuan, Huizhi Wang	A high performance dual electrolyte aluminium-air cell
13:40-14:00	245	Hao Zhang, Hong Xu, Li Zhang, Dennis Y.C. Leung, HuiZhi Wang, Jin Xuan	A counter-flow microfluidic fuel cell achieving concentrated fuel operation
14:00-14:20	377	Andrea Calabriso, Simone Giovanni Santori	Assessment of CO2 bubble generation influence on direct methanol fuel cell performance
14:20-14:40	643	Tingting Guan, Per Alvfors	An overview of biomass-fuelled proton exchange membrane fuel cell (PEMFC) systems
14:40-15:00	479	Washington Logroño, Geovany Ramírez, Celso Recalde, Magdy Echeverría, Ana Cunachi	Bioelectricity generation from vegetables and fruits wastes by using single chamber microbial fuel cells with high Andean soils
Room: Capital Suite 7 Session Name: Numerical modeling of energy process Session Chair: Rebei Bel Fdhila, Yukun Hu			
Time	Paper ID	Author	Paper Title
13:00-13:20	293	Mariam Itani, Kamel Ghali, Nesreen Ghaddara	Performance evaluation of displacement ventilation system combined with a novel evaporative cooled ceiling for a typical office in the city of Beirut
13:20-13:40	211	Zhuang Xu	Power Flow Control of High Voltage DC Networks for Grid Integration of Offshore Wind Power
13:40-14:00	31	Dominic O'Connor, Ben Richard Hughes, John Kaiser Calautit	Effect of Rotation Speed of a Rotary Thermal Wheel on Ventilation Supply Rates of Wind Tower System
14:00-14:20	234	Gerardo Maria Mauro, Fabrizio Ascione, Nicola Bianco, Claudio De Stasio, Giuseppe Peter Vanoli	Thermal dynamic insulation: numerical modeling in a transient regime and application to alternative aviary houses
14:20-14:40	508	Isam Janajerh, Dana Suwwan, Raed Hashaikeh	Low Energy Direct Contact Membrane Desalination: Conjugated Heat and High Fidelity Flow Simulation
14:40-15:00	37	John Kaiser Calautit, Ben Richard Hughes, Dominic O'Connor, Sally Salome Shahzad	CFD and Wind Tunnel Study of the Performance of a Multi-Directional Wind Tower with Heat Transfer Devices

Room: Capital Suite 8 Session Name: Energy economics (VI) Session Chair: Guohong Tian, Erik Dahlquist			
Time	Paper ID	Author	Paper Title
13:00-13:20	222	M. Mofijur, M.G. Rasul, J. Hyde, M.M.K. Bhuyia	Role of Biofuels on IC Engines Emission Reduction
13:20-13:40	662	Shiva Gorjian, Barat Ghobadian	Solar Thermal Power Plants: Progress and Prospects in Iran
13:40-14:00	229	Muhammad Aziz, Takuya Oda, Takashi Mitani, Takumi Kurokawa, Norihiro Kawasaki, Takao Kashiwagi	Enhanced Energy Utilization System of Algae: Integrated Drying, Gasification and Combined Cycle
14:00-14:20	341	G.Valenti, S. Campanari, P. Silva, A. Ravidà, E. Macchi, A. Bischi	On-off cyclic testing of a micro-cogeneration Stirling unit
14:20-14:40	228	Liang Xia, Yue Chan	Investigation of the enhancement effect of heat transfer using micro channel
14:40-15:00	265	Xu, Guoyao Yu, Limin Zhang , Wei Dai, Ercang Luo	Numerical investigation on a 300 Hz pulse tube cryocooler driven by a double-acting thermoacoustic heat engine
Room: Capital Suite 9 Session Name: Energy economics (VI) Session Chair: Wei Dai, Wei Han			
Time	Paper ID	Author	Paper Title
13:00-13:20	71	Balaji Mohan, Wenming Yang, Wenbin Yu, Kun Lin Tay, Siaw Kiang Chou	Numerical simulation on spray characteristics of ether fuels
13:20-13:40	176	S. Villacís, J. Martínez, A. J. Riofrío, D. F. Carrión, M. A. Orozco, D. Vaca	Energy efficiency of different materials for cookware commonly used in induction cookers
13:40-14:00	303	Zhanghua Wu, Yanyan Chen, Dai Wei, Ercang Luo	Experimental investigation on the heat loss in the thermal buffer tube of traveling-wave thermoacoustic heat engine
14:00-14:20	261	Xiufeng Liu, Hui Honga, Hongguang Jin	Synergy of Two Mid-temperature Solar-driven Reactions for Thermochemical Power System at Off-design Solar Radiation Conditions
14:20-14:40	311	Tianjiao Bi, Limin Zhang, Zhanghua Wu, Ercang Luo, Wei Dai	A 5kW traveling-wave thermoacoustic electric generator
14:40-15:00	513	Arif Hidayata, Rochmadi, Karna Wijaya, Annisa Nurdiawati, Winarto Kurniawand, Hirofumi Hinode, Kunio Yoshikawa, Arief Budiman	Esterification of palm fatty acid distillate with high amount of free fatty acids using coconut shell char based catalyst
Room: Capital Suite 10 Session Name: Energy economics and policy Session Chair: Victor Nian, Ke Wang			
Time	Paper ID	Author	Paper Title
13:00-13:20	572	Sieting Tan, Jin Yang, Jinyue Yan	Development of the Low-carbon City Indicator (LCCI) Framework
13:20-13:40	463	Victor Nian	Progress in Nuclear Power Technologies and Implications for ASEAN
13:40-14:00	58	Wenbin Yu, Wenming Yang, Balaji Mohan, Kunlin Tay, Feiyang Zhao, Siaw Kiang Chou	Multiple Injections study based on an advanced combustion investigation system
14:00-14:20	609	Franck Lucas, Pascal Ortega, Mathieu David, Frantz Sinama, Boris Brangeon, Fabien Picgirard	A Method to Evaluate Energy Performance of Buildings Cooled by Room Air Conditioners
14:20-14:40	277	Yu Hao, Shuo Wang, Hua Liaoa	Examine the Convergence in Per Capita Energy Consumption in China with Breakpoints
14:40-15:00	86	T. Nacer, A. Hamidat, O. Nadjemi	Techno-economic impacts analysis of a hybrid grid connected energy system applied for a cattle farm

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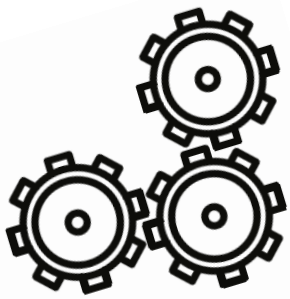

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