

Day 1

Oral Presentations

TIME	DAY 1: October 09		
09:00-09:10	OPENING (Convention Hall No 2)		
09:10-09:50	Prof. Lawrence L. Kazmerski Photovoltaics Technology: Where we are, how we got here, and where we are going		
09:50-10:30	Prof. Heping Xie & Prof. Bin Liang Mineralization, a profitable and prosperous carbon capture, utilization and storage (CCUS) route		
10:30-10:45	TEA/COFFEE BREAK		
10:45-11:25	Prof. Goran Strbac Role and value of flexibility in future low carbon energy systems		
11:25-11:45	Dr. Chengyin Yuan Electric Vehicle and battery pack development in China		
11:45-12:05	Dr. Gaopeng Li Research, development and industrialization of the electric bus in China		
12:05-13:00	LUNCH		
13:00-13:40	POSTER SESSION I		
<p style="text-align: center;">Room: 201#B</p> <p style="text-align: center;">Session Name: Biomass pyrolysis and gasification (I)</p> <p style="text-align: center;">Session Chair: Liang Wang, David Chiaramonti</p>			
Time	Paper ID	Author	Paper Title
13:40-14:00	71	Yu-Fong Huang	Microwave pyrolysis of lignocellulosic biomass
14:00-14:20	138	Zhiqiang Wu, Wangcai Yang, Lin Chen, Haiyu Meng, Jun Zhao, Shuzhong Wang	Catalytic effects of the typical alkali metal on gaseous products distribution and char structure during co-pyrolysis of low rank coal and lignocellulosic biomass
14:20-14:40	145	Wei-Hsin Chen	Fuel property variation of biomass undergoing torrefaction
14:40-15:00	170	Wennan Zhang, Khanh-Quang Tran	Thermogravimetric and online gas analysis on various biomass fuels
15:00-15:20	580	Khanh-Quang Tran	Simultaneously boosting the mass and fixed-carbon yields of charcoal from forest residue via atmospheric carbonization
<p style="text-align: center;">Room: 201#C</p> <p style="text-align: center;">Session Name: Biofuels</p> <p style="text-align: center;">Session Chair: Zhixin Yu, Maria Westerholm</p>			
Time	Paper ID	Author	Paper Title
13:40-14:00	227	Lida Simasatitkul, Amornchai Arpornwichanop	Economic evaluation of biodiesel production from palm fatty acid distillate using a reactive distillation
14:00-14:20	251	Rudy Syah Putra, Arida Liyanita, Erlina Puspitasari, Nadia Arifah, Sawaludin Sawaludin	Enhanced electro-catalytic process on the synthesis of fame using cao from eggshell
14:20-14:40	491	Dawei Wu	Characterization of lubricant degeneration and component deterioration on diesel engine fueling with straight plant oil
14:40-15:00	723	Haitao Lu, Xinhai Yu, Shan-Tung Tu	Low-cost and high-efficient extraction of lipids from chlorella by using industrial ionic liquids
15:00-15:20	340	Xiuxiu Sun, Wang Yajun, Hanzhengnan Yu, Yuesen Wang	Effects of viscosity index improver on morphology and graphitization degree of diesel particulate matter

Room: 201#D			
Session Name: Energy performance in building			
Session Chair: Xiaojing Zhang, Xiaohua Xia			
Time	Paper ID	Author	Paper Title
13:40-14:00	148	Shiming Deng, Huaxia Yan	Simulation study on a three-evaporator air conditioning system for improved humidity control
14:00-14:20	288	Pei Zhou, Junqi Wang, Gongsheng Huang	An evaluation of heat transfer coefficient in an independent zonal temperature control with CFD
14:20-14:40	550	Bo Qiu, Xiaodong Fan	Energy visualization for smart home
14:40-15:00	578	Chun Yin, Xuegang Huang	Tracking the minimum energy consumption for the lighting system though modified extremum seeking method
15:00-15:20	112	Alessandro Fonti, Gabriele Comodi, Stefano Pizzuti, Alessia Arteconi, Lieve Helsen	Low order grey-box models for short-term thermal behavior prediction in buildings
Room: 203#A			
Session Name: Electric vehicles (I)			
Session Chair: Hongwen He, Lin Cheng			
Time	Paper ID	Author	Paper Title
13:40-14:00	296	Hui Meng, Lun Ran, Jing Chen, Zihao Jiao	Goal-driven approach to optimize matching mechanism in electric vehicles ride-sharing system
14:00-14:20	279	Jochen Linssen, Heidi Ursula Heinrichs, Bastian Gillessen, Wilfried Hennings	Electrification of commercial road transport – Attainable effects and impacts on national energy supply systems
14:20-14:40	344	Zhang Fei, Guo Fen, Huang Hong, Li Chaopeng	A study of driving cycle for electric special-purpose vehicle in Beijing
14:40-15:00	80	Jichao Hong	Research on parameter matching and control strategy of load isolation pure electric vehicles
15:00-15:20	18	Duo Yang, Yujie Wang, Rui Pan, Chen Zonghai, Ruiyang Chen	A neural network based state-of-health estimation of lithium-ion battery in electric vehicles
Room: 203#B			
Session Name: Turbine expander, compressor and ejector			
Session Chair: Roland Span, Zoltán Sebestyén			
Time	Paper ID	Author	Paper Title
13:40-14:00	308	Maria Alessandra Ancona, Lisa Branchini, Francesco Melino, Andrea De Pascale, Michele Bianchi	Performance increase of a small-scale liquefied natural gas production process by means of turbo-expander
14:00-14:20	358	Xiaoling Yu, Qin Tan, Wenhua Li, Zhao Lu, Liwen Jin	Numerical study of the reed valve impact in the scroll compressor by FSI model
14:20-14:40	589	Weixiong Chen, Kangkang Xue, Kaihua Li, Daotong Chong, Junjie Yan	Numerical investigation on the performance of different primary nozzle structures in the supersonic ejector
14:40-15:00	861	Kang Huang	Influence of structural parameters of two-throat nozzle ejector on performance of two-phase flow ejector refrigeration system
15:00-15:20	864	Yanshuang Huai	Experimental study on performance of double-throttling device transcritical CO ₂ ejector refrigeration system

Room: 203#C			
Session Name: Carbon dioxide emissions reduction			
Session Chair: Reinhard Madlener, Kwang Jing Yii			
Time	Paper ID	Author	Paper Title
13:40-14:00	139	Kwang Jing Yii, Caroline Geetha	The nexus between technology innovation and CO ₂ emissions in Malaysia: Evidence from granger causality test
14:00-14:20	140	Linan Che, Ke Wang	Shadow price of CO ₂ in China's iron and steel industry: A parametric approach based estimation
14:20-14:40	594	Jingli Fan, Xin Pan, Jiaquan Li	Production-based and consumption-based CO ₂ transfers among major countries: a flow chart analysis
14:40-15:00	748	Shuai Geng, Chongqing Xu, Lijun Lin, Guihuan Yan, Jianguo Jiang, Xiaoyang Hui	Evaluation framework of city's carbon emission reduction responsibility
15:00-15:20	881	Qi Zhang	Study on the implementation pathways and key impacts of rps target in china using a dynamic game-theoretical equilibrium power market model
Room: Convention Hall 4 (1st floor) - A			
Session Name: Sustainable growth and climate change			
Session Chair: Qi Zhang, Konstantinos Chalvatzis			
Time	Paper ID	Author	Paper Title
13:40-14:00	42	Clinton Aigbavboa	Sustainable construction practices: "a lazy view" of construction professionals in the South Africa construction industry
14:00-14:20	48	Guochang Fang, Lixin Tian	How to optimize the development of carbon trading in China—Enlightenment from evolution rules of the EU carbon price
14:20-14:40	302	Xi Yang	System optimization and co-benefit analysis of China's deep de-carbonization effort towards its INDC target
14:40-15:00	492	Yaqian Mu, Wenjia Cai, Can Wang	Using sectoral approach as complement to the INDC framework: an analysis based on the CGE model
15:00-15:20	651	Alun GU, Yue Zhang, Bolin Pan	Relationship between industrial water consumption and economic growth in China based on environmental Kuznets curve
Room: Convention Hall 4 (1st floor) - B			
Session Name: Hydrate energy processes (I)			
Session Chair: Praveen Linga, Yi Wang			
Time	Paper ID	Author	Paper Title
13:40-14:00	223	Zeng Wang, Weiguo Liu, Mingjun Yang, Yanghui Li, Yongchen Song, Lei Wang	Influence of porous media on methane hydrate formation from ice powders
14:00-14:20	230	Lanlan Jiang, Minghao Yu, Mingjun Yang, Yongchen Song, Weizhong Li	Numerical studies of methane gas production from hydrate decomposition by depressurization in porous media
14:20-14:40	161	Junnan He, Yinan Liu, Ruikai Zhao, Shuai Deng, Li Zhao, Zhiwei Ma	A literature research on the performance evaluation of hydrate-based CO ₂ capture and separation process
14:40-15:00	215	Li Ai, Jiafei Zhao, Jiaqi Wang, Yongchen Song	Analyzing permeability of the irregular porous media containing methane hydrate using pore network model combined with CT
15:00-15:20	84	Pengfei Wang, Yongchen Song, Mingjun Yang, Shenglong Wang	Methane hydrate formation and decomposition properties during gas migration in porous medium

Room: Convention Hall 4 (1st floor) - C Session Name: Hydrogen energy processes (II) Session Chair: Jürgen-Friedrich Hake, Jinsheng Xiao			
Time	Paper ID	Author	Paper Title
13:40-14:00	717	Byeong Wan Kwon	H ₂ production from reforming biogas (CH ₄ +CO ₂) in the Ni-doped Sr _{0.92} Y _{0.08} TiO ₃ perovskite catalyst
14:00-14:20	34	Jinsheng Xiao, Pierre Bénard, cheng ji, Richard Chahine	Estimation of final hydrogen temperatures during refueling 35 MPa and 70 MPa tanks
14:20-14:40	49	Chunqiong Miao	Optimal hybrid power system using renewables and hydrogen for an isolated island in the UK
14:40-15:00	412	Chao Wang, Xiaoyan Cai, Ying Chen, Zhengdong Cheng, Pengcheng Lin, Zhi Yang, Sifan Sun	Improved hydrogen production by glycerol photoreforming over Ag ₂ O-TiO ₂ nanocomposite mixed oxide synthesized by a sol-gel method
15:00-15:20	708	Taegyu Kim, Soon-mo Kwon, Myoung Jin Kim, Shinwang Kang, Kil-su Park	Compact hydrogen generator for high energy-density fuel cell system of high-endurance unmanned aerial vehicles
Room: Convention Hall 4 (1st floor) - D Session Name: Carbon capture and storage (I) Session Chair: Xi Jiang, Yukun Hu			
Time	Paper ID	Author	Paper Title
13:40-14:00	794	Halina Pawlak Kruczek, Halina Pawlak - Kruczek	Effectiveness of CO ₂ capture by calcium looping with regenerated calcium sorbents - post-calcination sampling
14:00-14:20	292	Zaoxiao Zhang, Yunsong Yu, Xiaomei Wu, Zhen Qin	Experimental study of CO ₂ absorption in a diameter-varying spray tower
14:20-14:40	958	Worrada Nookuea, Fu Wang, Jie Yang, Yuting Tan, Hailong Li, Eva Thorin, Xinhai Yu, Jinyue Yan	Viscosity data of aqueous MDEA-[Bmim][BF ₄] solutions within carbon capture operating conditions
14:40-15:00	563	Maryam Aimazroueia, Omar Asada, Mohammad Abu Zahraa, Toufic Mezhera, I-Tsung Tsaia	CO ₂ -enhanced oil recovery system optimization for contract-based versus integrated operations
15:00-15:20	625	Tao Wu, Haitao Zhao, Xueliang Mu, Pengfei Cao	HG ₀ capture over MoS ₂ nanosheets containing adsorbent: effects of temperature, space velocity, and other gas species
Room: Convention Hall 4 (1st floor) - E Session Name: Carbon capture and storage (II) Session Chair: Stefano Campanari, Geoffrey Hammond			
Time	Paper ID	Author	Paper Title
13:40-14:00	442	Yuan Chi, Yi Zhang, Wanli Xing, Shuyang Liu, Yongchen Song	Competitive adsorption/desorption of CH ₄ /CO ₂ /N ₂ mixture on anthracite from China for ECBM operation
14:00-14:20	599	Hongyin Chen, Weilong Wang	CO ₂ adsorption capacity of fau zeolites in presence of H ₂ O: a monte carlo simulation study
14:20-14:40	619	Xiaolan Wei, Xiang Huang, Weilong Wang, qiheng huang, Jing Ding	Experimental and computational investigation of CO ₂ capture on mix-ligand metal-organic framework UiO-66
14:40-15:00	776	Zhiwu Liang, Helei Liu, Min Xiao, Paitoon Tontiwachwuthikul	A novel model for correlation and predication of the equilibrium CO ₂ solubility in seven tertiary solvents
15:00-15:20	255	Jia-nan Zheng, Mingjun yang, Yongchen Song, Dayong Wang, Bingbing Chen	Research on the CO ₂ gas uptake of different hydrate structures with cyclopentane or methyl-cyclopentane as co-guest molecules

Room: Convention Hall 4 (1st floor) - F Session Name: Phase change materials and energy storage Session Chair: Sourav Mitra, Bin Chen			
Time	Paper ID	Author	Paper Title
13:40-14:00	791	Xinjng Zhang	Design and performance analysis of the distributed generation system based on a diesel engine and compressed air energy storage
14:00-14:20	876	Siming Zhang, Liyu Zhang, Xiaohu Yang, Xiaoling Yu, Fei Duan, Liwen Jin, Xiangzhao Meng	Experimental investigation of a spiral tube inserted in latent thermal energy storage tank using paraffin as PCM
14:20-14:40	904	Huoyan Hu, Xing Jin, Dongjie Shi, Xiaosong Zhang	Optimal location of PCM layer in building walls under nanjing (China) weather conditions
14:40-15:00	134	Miriam Benedetti, Ilaria Bertini, Francesca Bonfà, Silvia Ferrari, Vito Introna, Domenico Santino, Stefano Ubertini	Assessing and improving compressed air systems' energy efficiency in production and use: findings from an explorative study in large and energy-intensive industrial firms
15:00-15:20	31	Fei Ma, Fei Ma, Xinjie Shi	Flow and heat transfer characteristics of micro-encapsulated phase change material slurry and energy transport evaluation
13:40-15:20	Room: 201#A PANEL SESSION: Integrated energy networks Chair: Prof. Jianzhong Wu; Participants: Prof. Goran Strbac, Prof. Qinghua Wu, Dr. Yibin Zhang, Prof. Umberto Desideri		
15:20-15:50	TEA/COFFEE BREAK		
Room: 201#B Session Name: Biomass pyrolysis and gasification (II) Session Chair: Marco Antonelli, Raza Naqvi			
Time	Paper ID	Author	Paper Title
15:50-16:10	209	David Chiaramonti, andrea maria rizzo, Marco Pettorali, Matteo Prussi, Renato Nistri, Luigi Pari	Integration of SRF and carbonization farm for small forestry farms
16:10-16:30	372	Norfadhilah Hamzah, Mohammad Zandi, Koji Tokimatsu, Kunio Yoshikawab	Woody biomass characterization for 100 megawatt-hours (MW) power generation
16:30-16:50	272	Khanh-Quang Tran	CO ₂ gasification of charcoals in the context of metallurgical application
16:50-17:10	364	Siriwat Unyaphan, Thanyawan Tarnpradab, Fumitake Takahashi, Kunio Yoshikawa	An investigation of low cost and effective tar removal techniques by venturi scrubber producing syngas microbubbles and absorbent regeneration for biomass gasification
17:10-17:30	205	Wei-Hsin Chen, Quang-Vu Bach	Effect of wet torrefaction on thermal decomposition behavior of microalga Chlorella vulgaris ESP-31

Room: 201#C			
Session Name: Renewable power generation			
Session Chair: Xinhai Yu, Joann Whalen			
Time	Paper ID	Author	Paper Title
15:50-16:10	194	Lingling Zheng	Hole blocking layer-free perovskite solar cells with over 15% efficiency.
16:10-16:30	581	Chengxi Zhang, Weiling Luan, Yuhang Yin	High efficient Planar-heterjunction perovskite solar cell based on two-step deposition process
16:30-16:50	137	Fhazhil Wamalwa, Xiaohua Xia, Sam. M Sichilalu	Optimal control of hydrokinetic-powered pumpback system for a hydropower plant in dry season: A case study
16:50-17:10	166	Mingming Zhu, Ce Zheng, Dongke Zhang	Characterisation of asphaltenes extracted from an oil sand and two petroleum vacuum residues using HRTEM
17:10-17:30	189	Antonio Pantaleo, Adio Miliuzzi, valeria russo, Sergio Camporeale, Nilay Shah, Christos Markides	CSP/biomass hybrid externally fired gas turbines: thermo-economic assessment
Room: 201#D			
Session Name: Modeling and analysis of EV systems			
Session Chair: Fredrik Wallin, Kai Liu			
Time	Paper ID	Author	Paper Title
15:50-16:10	207	Yiping Lou, Xiaoguang Yang, Wenhuan Wang	Customers' attitude on new energy vehicles' policies and policy impact on customers' purchase intention
16:10-16:30	699	Mpyana Danny Bajany, Xiaohua Xia	A MILP model for truck-shovel scheduling to minimize fuel consumption
16:30-16:50	768	Wang Yu, Li jun, Tan Xiaojun	Research on the classification method for the secondary uses of retired lithium-ion traction batteries
16:50-17:10	803	Pan Liu, Bolan Liu	Road roughness identification and shift control study for a heavy-duty powertrain
17:10-17:30	826	Kai Liu, Jiang-bo Wang	Improving the estimation accuracy of electric vehicle energy consumption considering the effects of ambient temperature
Room: 203#A			
Session Name: Electric vehicles (II)			
Session Chair: Erik Dahlquist, Ottorino Veneri			
Time	Paper ID	Author	Paper Title
15:50-16:10	175	Jichao Hong	Voltage fault detection and precaution of batteries based on entropy and standard deviation for electric vehicles
16:10-16:30	297	Bo Pang	Magnetic integration of LCC compensation topology with minimized extra coupling effects for wireless EV charger
16:30-16:50	322	Ottorino Veneri, Clemente Capasso, Samir Kouro, Sebastian Riviera	Charging architectures integrated with distributed energy resources for the electric sustainable mobility
16:50-17:10	332	Xue Xue, Zhenpo Wang, changhui Qu, Lei Zhang	Design and control strategy optimization for four-wheel independently actuated electric vehicles
17:10-17:30	17	Yujie Wang, Rui Pan, Duo Yang, Xiaopeng Tang, Chen Zonghai	Remaining useful life prediction of lithium-ion battery based on discrete wavelet transform

Room: 203#B			
Session Name: Advanced energy processes			
Session Chair: Francesco Melino, Wennan Zhang			
Time	Paper ID	Author	Paper Title
15:50-16:10	421	Yang Jingjing, Liu Di	Numerical simulation of sudden gas pipeline leakage in urban block
16:10-16:30	608	Mei Lin	Probability density function of streamwise velocity fluctuation in turbulent T-junction flows
16:30-16:50	780	Er Shi, Yecong He, Sun Xiaoqin, Changwei Jiang	Entropy generation and natural convection of air under a magnetic quadrupole field in a square enclosure
16:50-17:10	952	Md Lokman Hosain, Rebei Bel-Fdhila, Kristian Rönnerberg	Air-Gap flow and thermal analysis of rotating machines using CFD
17:10-17:30	905	Chuan Wang, Jonas Zetterholm, Magnus Lundqvist, Jürgen Schlimbach	Modelling and analysis of oxygen enrichment to hot stoves
Room: 203#C			
Session Name: LCA of energy systems (I)			
Session Chair: Konstantinos Chalvatzis			
Time	Paper ID	Author	Paper Title
15:50-16:10	547	Hansi Liu, Xunmin Ou, Xiongwen Zhang	Life cycle analysis of distributed energy system projects' energy consumption and GHG emission – a case of beer brewery auxiliary power supply in China
16:10-16:30	700	Han Hao, Qinyu Qiao, Fuquan Zhao, Zongwei Liu, Shuhua Jiang	Comparative study on life cycle CO ₂ emissions from the production of electric and conventional vehicles in China
16:30-16:50	753	Bo Zhang, Mani Sarathy, Amir F.N. Abdul-Manan	Optimizing blendstock composition and ethanol feedstock to reduce gasoline well-to-pump CO ₂ emission
16:50-17:10	812	Yi Yi, Ziyi Wang, Qie Sun, Ronald Wennersten	Life cycle assessment of delivery packages in China
17:10-17:30	827	Wencong Yue, Yanpeng Cai, Meirong Su, Qian Tan, Meng Xu	Carbon footprint of copying paper: Considering temporary carbon storage based on life cycle analysis
Room: Convention Hall 4 (1st floor) - A			
Session Name: Assessment of climate change mitigation options			
Session Chair: Qie Sun, Shixue Wang			
Time	Paper ID	Author	Paper Title
15:50-16:10	781	Shuyin Guo, Ye Xu	Impacts of climate change on electricity demand in the city of Beijing, China
16:10-16:30	888	Olusegun Oguntona, Clinton Aigbavboa	Biomimetic strategies for climate change mitigation in the built environment
16:30-16:50	9	Xingxing Zhang, Jingchun Shen, Tong Yang, Llewellyn Tang, Song Pan, Yupeng Wu, Jinshun Wu, Peng Xu	Assessment of the effectiveness of investment strategy in solar photovoltaic (PV) energy sector: a case study
16:50-17:10	22	Ling Xiong, Zhiyong Tu, Lan Ju	Reconciling regional differences in financial development and carbon emissions: a dynamic panel data approach
17:10-17:30	851	Reinhard Madlener, Eide Hammann, Christoph Hilgers	Economic feasibility of a compressed air energy storage system under market uncertainty: a real options approach

Room: Convention Hall 4 (1st floor) - B**Session Name: Thermophysical properties and cycle analysis****Session Chair: Roland Span, Shandong Tu**

Time	Paper ID	Author	Paper Title
15:50-16:10	931	Shengchun Liu, Baomin Dai, Zhili Sun, Yitai Ma	Thermodynamic performance analysis of CO ₂ transcritical refrigeration cycle assisted with mechanical subcooling
16:10-16:30	122	Xin Cui, Balaji Mohan, Md Raisul Islam, Kian Jon Chua	Modelling and performance evaluation of an air handling unit for an air treatment system with regulated outdoor-air fraction
16:30-16:50	57	Pan Gao, Wufeng Jin, Zheng Yafei	Experimental study on ventilation effect on concentration distribution of R32 leaking from floor type air conditioner
16:50-17:10	244	Chien Nguyen, Jong-Taek Oh, Choi Kwang-II, Pham Quang Vu	Boiling heat transfer of R32, CO ₂ and R290 inside horizontal minichannel
17:10-17:30	923	Li Xiaowei, guoyao yu, Wei Dai, Ercang Luo	A resonance tube coupled duplex stirling cooler

Room: Convention Hall 4 (1st floor) - C**Session Name: Cogeneration and polygeneration (I)****Session Chair: Taegyu Kim, Stefano Campanari**

Time	Paper ID	Author	Paper Title
15:50-16:10	567	Giulio Guandalini, Stefano Campanari, Stefano Foresti, Jorg Coolegem, Jan ten Have	Simulation of a 2 MW PEM fuel cell plant for hydrogen recovery from chlor-alkali industry
16:10-16:30	746	Xi Jiang, Xuejin Zhou	Analysis of the chemical structure in a nonpremixed H ₂ /N ₂ flame using large eddy simulation with detailed chemistry
16:30-16:50	810	Hongsheng Wang, Yong Hao	Thermodynamic study of solar thermochemical methane steam reforming with alternating H ₂ and CO ₂ permeation membranes reactors
16:50-17:10	865	Tariq Shamim, Technology, Mohammed Khan	Influence of specular coefficient on the hydrodynamics and bubble statistics of an annular fluidized bed reactor
17:10-17:30	35	Jinsheng Xiao, Pierre Bénard, Richard Chahine, Xu Wang	Final hydrogen mass determined from refueling parameters

Room: Convention Hall 4 (1st floor) - D**Session Name: Combustion and emissions****Session Chair: Halina Pawlak - Kruczek, Zaoxiao Zhang**

Time	Paper ID	Author	Paper Title
15:50-16:10	39	Xuan Liu, Qiongliang Zha, Kai Xu, Changan Wang, Debo Li, Qiang Lv, Yongxin Feng, Jun Zhong, Defu Che	Numerical study on combustion and heat transfer properties under oxy-fuel condition in a 600 MW utility boiler
16:10-16:30	94	Simone Giorgetti, Ward De Paepe, Laurent Bricteux, Alessandro Parente, Francesco Contino	Carbon capture on a micro gas turbine: assessment of the performance
16:30-16:50	172	Zaoxiao Zhang, Tingting Zhang, Yunsong Yu	Simulations on hybrid reaction process in piperazine and monoethanolamine mixed solution absorbing CO ₂
16:50-17:10	886	Hyungwoong Ahn, Yue Hu	Techno-economic analysis of a natural gas combined cycle power plant integrated with a Ca-looping process for post-combustion capture
17:10-17:30	693	Dandan Wang, Feng Liu, Sheng Li, Lin Gao, Jun Sui	Upgrading low-temperature steam to match CO ₂ capture in coal-fired power plant integrated with double absorption heat transformer

Room: Convention Hall 4 (1st floor) - E Session Name: Carbon capture and storage (III) Session Chair: Sheng Li, Nadia Maizi			
Time	Paper ID	Author	Paper Title
15:50-16:10	221	Pengfei Lv, Yu Liu, Hongsheng Dong, Lanlan Jiang, Yongchen Song, Bohao Wu, Shuyang Liu, Zhe Wang	Pore-scale displacement mechanisms investigation in CO ₂ -brine-glass beads system
16:10-16:30	859	Tariq Shamim, Technology, Oghare Ogidiama, Technology	Numerical analysis of a solar assisted chemical looping combustion system for CO ₂ capture
16:30-16:50	325	Bin Liu, Xiong Liu, Cheng Lu, Ajit Godbole, Guillaume Michal, Anh Tieu	Decompression modelling of pipelines carrying CO ₂ -N ₂ mixture and the influence of non-equilibrium phase transition
16:50-17:10	964/965	Yuting Tan, Worrada Nookuea, Hailong Li, Eva Thorin, Jinyue Yan	Property impacts on plate-fin multi-stream heat exchanger (cold box) design in CO ₂ cryogenic process: part i. heat exchanger modeling and sensitivity study
17:10-17:30	326	Ying Teng, Yu Liu, Lanlan Jiang, Guohuan Lu, Dayong Wang, Yongchen Song, Yinting Fan	Experimental study of density-driven convection in porous media by using MRI
Room: Convention Hall 4 (1st floor) - F Session Name: Distributed energy systems and microgrid Session Chair: Bin Ye, Dennis Y.C. Leung			
Time	Paper ID	Author	Paper Title
15:50-16:10	93	Yibo Chen, Hongwei Tan, Xiaodong Song	Day-ahead forecasting of non-stationary electric power demand in commercial buildings: hybrid support vector regression based
16:10-16:30	569	Kateryna Morozovska, Patrik Hilber	Study of the monitoring systems for dynamic line rating
16:30-16:50	782	Xiaolong Jin, Wei Lin, Yunfei Mu, Hongjie Jia, Xiandong Xu, Xiaodan Yu	Multi-objective optimal hybrid power flow algorithm for integrated community energy system
16:50-17:10	852	Francesco Spagnolo, Vincenzo Mulone	Grid-connected microgrids to support renewable energy sources penetration
17:10-17:30	893	Mingshen Wang, Yunfei Mu, Hongjie Jia, Shiguang Li, Ting Yu	A unified management and control model of demand-side resources
15:50-17:30	Room: 201#A PANEL SESSION: UNiLAB Chair: Prof. Jinyue Yan; Participants: Prof. CS Wang, Dr. Praveen Linga, Prof. Jianzhong Wu, Prof. Roland Span, Prof. Shan-Tung Tu, Prof. LX Tian, Dr.Y. Ding, Prof. CF SUN, Prof. C Wang		

Day 2

Oral Presentations

Room: 201#B

Session Name: Biomass pyrolysis and gasification (III)

Session Chair: KunioYoshikawa, Matthäus Bähler

Time	Paper ID	Author	Paper Title
08:10-08:30	392	Muhammad Aziz, Ilman Nuran Zaini	Energy-efficient conversion of microalgae to hydrogen and power
08:30-08:50	425	Tian Li	CFD simulation of devolatilization of biomass with shrinkage effect
08:50-09:10	455	Zsuzsanna Czegeny, liang Wang, Eszter Barta Rajnai, Zoltán Sebestyén, Zsolt Barta, Roger Khalil, Øyvind Skreiberg, Morten Grønli, Emma Jakab	Effect of temperature and duration of Torrefaction on the thermal behavior of stem wood, bark, and stump of spruce
09:10-09:30	521	Marco Baratieri, Francesco Patuzzi, Vittoria Benedetti	Gasification char as a potential substitute of activated carbon in adsorption applications
09:30-09:50	485	Rajesh S Kempegowda, Øyvind Skreiberg, Khanh-Quang Tran	Biocarbonization process for high quality energy carriers: techno-economics

Room: 201#C

Session Name: Solar photovoltaic system

Session Chair: Gang Pei, Yaodong Wang

Time	Paper ID	Author	Paper Title
08:10-08:30	118	Peishi Wu, Xiaoming Ma, Junping Ji, Yunrong Ma	Review on life cycle assessment of energy payback of solar photovoltaic systems and a case study
08:30-08:50	136	Yongqiang Luo, Ling Zhang, Zhongbing Liu, Jing Wu, Xiliang Wang, Lie Xie, Xiu Xu, Xiaohui Lv	Building integrated photovoltaic thermoelectric wall system: balancing simulation speed and accuracy
08:50-09:10	154	Kok-Keong Chong	Prototype of dense-array concentrator photovoltaic system using non-imaging dish concentrators and cross compound parabolic concentrator
09:10-09:30	182	Mei Sun, Peipei Zhang, Cuixia Gao, Jiawen Ji, Benjamin Chris Ampimah	Based on the network perspective to identify the market leading enterprise-photovoltaic industry as an example
09:30-09:50	685	Meng Wang, Jinqing Peng, Nianping Li, Lin Lu, Hongxing Yang	Experimental study on thermal performance of semi-transparent PV window in winter in Hong Kong

Room: 201#D

Session Name: Power system and microgrid

Session Chair: Xiaohua Xia

Time	Paper ID	Author	Paper Title
08:10-08:30	187	Qi Qi, Jianzhong Wu	Increasing distributed generation penetration using network reconfiguration and soft open points
08:30-08:50	579	Chun Yin	Peak searching for multimodal optimization through gradient-based stochastic extremum seeking technique
08:50-09:10	673	Vincent Mazauric, Nadia Maizi, Vincent Krakowski, Xiang Li	Power system synchronism in planning exercises: From Kuramoto lattice model to kinetic energy aggregation
09:10-09:30	736	Xiaolong Jin, Fengyu Qi, Yunfei Mu, Hongjie Jia, Xiandong Xu, Tong Wang, Xiaodan Yu	Model predictive control approach for building microgrid considering dynamic thermal characteristics of building
09:30-09:50	501	Fan Feng, Zhengwei Li	A methodology to identify multiple equipment coordinated control with power metering system

Room: 203#A			
Session Name: Energy management system in electric vehicle			
Session Chair: Min Ye, Daobin Mu			
Time	Paper ID	Author	Paper Title
08:10-08:30	352	Jun Xu, Bin Wang, Binggang Cao, Zhen Yan, Qingxia Yang	Duty-ratio based adaptive sliding-mode control method for boost converter in a hybrid energy storage system
08:30-08:50	355	Yang Zhao	Electric vehicle battery fault diagnosis based on statistical method
08:50-09:10	376	Jen-Chiun Guan, Bo-Chiuan Chen	Adaptive power management strategy for a Four-mode hybrid electric vehicle
09:10-09:30	394	Pingliang Zeng, Xiaohong Dong, Yunfei Mu, Hongjie Jia, Xiaodan Yu	Heuristic planning method of EV fast charging station on a freeway considering the power flow constraints of the distribution network
09:30-09:50	400	Jinquan Guo, Hongwen He, Chao Sun	Road grade prediction for predictive energy management in hybrid electric vehicles
Room: 203#B			
Session Name: Hydrate energy processes (II)			
Session Chair: Praveen Linga, Xiaosen Li			
Time	Paper ID	Author	Paper Title
08:10-08:30	135	Yi Wang, Jing-Chun Feng, Xiao-Sen Li	Experimental investigation into methane hydrate dissociation by thermal stimulation with dual vertical well
08:30-08:50	370	Zheng Li, Dongliang Zhong, Jin Yan, Yi-Yu Lu	Efficient CO ₂ capture from a simulated shale gas using Tetra-n-butylphosphonium bromide semiclathrate hydrate
08:50-09:10	507	Zheng Rong Chong, Praveen Linga, Zhenyuan Yin	Production behavior from hydrate bearing marine sediments using depressurization approach
09:10-09:30	571	Jing Cai, Chungang Xu, Zhaoyang Chen, Xiao-Sen Li	Hydrate-based methane recovery from coal mine gas in scale-up equipment with bubbling
09:30-09:50	641	Gaurav Bhattacharjee, Vivek Barmecha, Darshan Pradhan, Rajesh Naik, Omkar Singh Kushwaha, Rahul Mawlankar, Syed G. Dastager, Rajnish Kumar, Kirti Zare	The biosurfactant Surfactin as a kinetic promoter for methane hydrate formation
Room: 203#C			
Session Name: Urban energy: system & design			
Session Chair: Perry Yang, Yoshiki Yamagata			
Time	Paper ID	Author	Paper Title
08:10-08:30	854	Konstantinos Chalvatzis, Alexis Ioannidis	Energy supply security and financial vulnerability: the case of southern Europe and Ireland
08:30-08:50	846	Perry Yang, Steven Jige Quan, Florina Dutt, Erik Woodworth, Yoshiki Yamagata	Local climate zone mapping for energy resilience: A fine-grain and 3D approach
08:50-09:10	222	Zhengwei Li, Xin Wang	A systematic approach to evaluate the impact of urban form on urban energy efficiency: a case study in Shanghai
09:10-09:30	248	Yoshiki Yamagata, Daisuke Murakami	Spatially-explicit resilience modeling for PV electricity supply-demand balance
09:30-09:50	871	Perry Yang, Florina Dutt, Steven Jige Quan, Erik Woodworth, Daniel Castro-Lacouture, Ben J. Stuart	Modeling algae powered neighborhood through GIS and BIM integration

Room: Convention Hall 4 (1st floor) - A**Session Name: Energy policy analysis****Session Chair: Qi Zhang, Geoffrey Hammond**

Time	Paper ID	Author	Paper Title
08:10-08:30	144	Xue Qu, Jing Meng, Xudong Sun, Bo Zhang	Demand-driven primary energy requirements by Chinese economy 2012
08:30-08:50	190	Nan Wang, Gento Mogi	From regulation to deregulation: an empirical study of Japan electric utility R&D investment behavior under transition
08:50-09:10	224	Yousef Saif, Ali Almansoori	An optimization framework for the climate, land, energy, and water (CLEWS) nexus by a discrete optimization model
09:10-09:30	271	Natalia Restrepo, Jorge Uribe, Diego Manotas	Effects of oil and stock market prices on oil firms returns: amultivariate quantile approach
09:30-09:50	406	Haizhong An, Shupeì Huang	Does the exchange rate matter for the oil-stock nexuse?

Room: Convention Hall 4 (1st floor) - B**Session Name: Heat transfer simulations****Session Chair: Marialaura Di Somma, Hsuan Chang**

Time	Paper ID	Author	Paper Title
08:10-08:30	683	Ji Feng, Kong Qiongxiang, Chunlei Yang, Zhen Miao, Xiao He	Numerical simulation of a radiant floor cooling office based on CFD-BES Coupling and FEM
08:30-08:50	225	Yantao Yin, Qiao Xiaoyu, Chen Kai, Mei Lin, Qiuwang Wang	Mean pressure distributions on the vanes and flow loss in the branch in a T pipe junction with different angles
08:50-09:10	249	Shen Tian, Yuping Gao, Shuangquan Shao, Hongbo Xu, Changqing Tian	A local air velocity measurement method for estimating infiltration heat load through doorway of the cold store
09:10-09:30	751	Ismael Matino, Valentina Colla, Stefano Baragiola	Electric energy consumption and environmental impact in unconventional EAF steelmaking scenarios
09:30-09:50	807	Jimin kim, Taehoon Hong, Jaemin Jeong, Myeonghwi Lee, Changyoon Ji	Automatic calibration model of a building energy simulation using optimization algorithm

Room: Convention Hall 4 (1st floor) - C**Session Name: Boilers and turbines****Session Chair: Lin Gao, Hongtao Wang**

Time	Paper ID	Author	Paper Title
08:10-08:30	127	Phil Bowen, Agustin Valera-Medina, HUA XIAO, Micheal Howard, Stephen Dooley	Reduced chemical mechanisms for Ammonia/Methane Co-Firing for gas turbine applications
08:30-08:50	180	Yong Liu, Yundi Fu, Zhiguo Qu	Numerical investigation of moisture separators with corrugated plates
08:50-09:10	192	Ziwei Bai, Guoqiang Zhang, Yongping Yang	Analysis of recuperated combined cycle with small temperature rise under design/off-design conditions
09:10-09:30	381	Maddalena Pondini, Annamaria Signorini, Gas - Nuovo Pignone, Valentina Colla	Steam turbine control valve and actuation system modeling for dynamics analysis
09:30-09:50	664	Yukun Hu	Further improvement of fluidized bed models by incorporating zone method with Aspen Plus interface

Room: Convention Hall 4 (1st floor) - D**Session Name: Industrial energy systems****Session Chair: Wei-Hsin Chen, Xuesong Bai**

Time	Paper ID	Author	Paper Title
08:10-08:30	5	Fuyan Gao, Eric J. Hu	Effects of multi-factors on stability of bubble petroleum coke water slurry
08:30-08:50	26	Hanzhengnan Yu, xiuxiu sun, Yuesen Wang, Hongsheng Zhang	Numerical investigation on combustion and emission of a diesel engine using two-stage injection strategy
08:50-09:10	286	Yongxiu He, Yuexia Pang , Han Shu	Numerical study of dynamic response of different fuels jet diffusion flame to standing waves in a longitudinal tube
09:10-09:30	88	Xiuxiu sun, Sun Xiuxiu	Comparison the performance of n-heptane, n-dodecane, n-tetradecane and n-hexadecane for different conditions
09:30-09:50	109	Zhilong Cheng, Shangshang Wei, Zhigang Guo, Yan Liu, Jian Yang, Qiuwang Wang	Visualization study on the methane segregation injection technology in iron ore sintering process

Room: Convention Hall 4 (1st floor) - E**Session Name: Battery storage****Session Chair: Michael K.H. Leung, Caiping Zhang**

Time	Paper ID	Author	Paper Title
08:10-08:30	25	Jin Xuan, Dennis Y.C. Leung, Huizhi Wang, Manuel Ojeda, Binbin Chen	A hydrogel template synthesis of TiO ₂ nanoparticles for aluminium-ion batteries
08:30-08:50	101	Xu Lu	Numerical modelling of a ual electrolyte membraneless electrolytic cell for CO ₂ to fuel conversion
08:50-09:10	163	Farshad Barzegar, Abdul hakeem Bello, Julien K. Dangbegnon, Ncholu Manyala, Xiaohua Xia	Asymmetric carbon supercapacitor with activated expanded graphite as cathode and Pinecone tree activated carbon as anode materials
09:10-09:30	291	Xuning Feng, Zhengyu Chu, Minggao Ouyang, Languang Lu, Jianqiu Li, Xuebing Han	Non-destructive fast charging strategy of the lithium ion battery based on the control-oriented electrochemical model
09:30-09:50	176	ximing Cheng	Engineering-oriented modeling for thermal behaviors of 18650 Li-ion batteries

Room: Convention Hall 4 (1st floor) - F**Session Name: Energy performance in buildings****Session Chair: Yang Bai, Ramesh Bansal**

Time	Paper ID	Author	Paper Title
08:10-08:30	124	Xi Chen, Hongxing Yang, Weilong Zhang	A proposed new weighting system for passive design approach in BEAM Plus
08:30-08:50	611	Mengjie Song, Ning Mao	A numerical study on the effects of envelope thermal loads on energy use and thermal environment in bedrooms with a task/ambient air conditioning (TAC) system
08:50-09:10	741	Fabrizio Leonforte, Niccolò Aste, Claudio Del Pero, Rajendra Adhikari, Harold Huerto, Michela Buzzetti, Stefano Della Torre	CFD comfort analysis of a sustainable solution for church heating
09:10-09:30	779	Angelo Aquino, John Kaiser Calautit, Ben Richard Hughes, Sally Salome Shahzad, Siti Diana Nabilah Nasir	Thermal comfort and indoor air quality analysis of a low-energy cooling windcatcher
09:30-09:50	946	Zhanyu Ma, Jiyang Xie, Hailong Li, Qie Sun, Zhongwei Si, Jun Guo, Fredrik Wallin	Analysis of key factors in heat demand prediction with neural networks

08:10-09:50	Room: 201#A PANEL SESSION: Scholarly publication Chair: Mrs. Fernanda Ogochi; Participants: Prof. Jinyue Yan, Prof. SK Chou, Prof. Umberto Desideri
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09:50-10:20	TEA/COFFEE BREAK
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Room: 201#B Session Name: Biomass pyrolysis and gasification (IV) Session Chair: Tiejun Wang, Joann Whalen			
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Time	Paper ID	Author	Paper Title
10:20-10:40	494	Tian Li	Gasification of high heating-rate biomass-derived chars at elevated temperatures
10:40-11:00	517	Mirko Morini, Andrea Zubani, Agostino Gambarotta	A model for the prediction of pollutant species production in the biomass Gasification Process
11:00-11:20	941	Lan Zhang	The recovery of energy, nitrogen and phosphorous from three agricultural wastes by pyrolysis
11:20-11:40	774	Syed Muhammad Raza Naqvi	Comparison of gas quality from black liquor and wood pellet gasification using modelica simulation and pilot plant results
11:40-12:00	553	Noor Asma Fazli Bin Abdul Samad, Suriyati Saleh, Nur Hazirah Huda Mohd Harun	Development of kinetics model for torrefaction of empty fruit bunch from palm oil waste

Room: 201#C Session Name: Solar photovoltaic system (II) Session Chair: Christos Markides, Zhicong Chen			
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Time	Paper ID	Author	Paper Title
10:20-10:40	770	Hao Lua, Lin Lua, Yuanhao Wang	Numerical study on pollution process of polydispersed dust particles on solar photovoltaic panels mounted on building roofs
10:40-11:00	734	Haruhiko Yamasaki, Hiroshi Yamaguchi, Chayadit Pumaneratkul, Takahiro Maki, Yuhiro Iwamoto	Experimental study on the performance of CO ₂ -based photovoltaic-thermal hybrid system
11:00-11:20	744	Fabrizio Leonforte, Daniele Testa, Roberto Fusco, Niccolò Aste, Claudio Del Pero, Michela Buzzetti	Visual performance of yellow, orange and red LSCs integrated in a Smart Window
11:20-11:40	834	Yan Hu, Yuanhao Wang, Hong Zhong, Hongxing Yang	TiO ₂ /Silane coupling agent composed two Layers structure: A novel stability super-hydrophilic self-cleaning coating applied in PV Panels
11:40-12:00	867	Luyao Liu, Qinxing Wang, Haiyang Lin	Power generation efficiency and prospects of floating photovoltaic systems

Room: 201#D			
Session Name: Energy performance in buildings (II)			
Session Chair: Shiming Deng, Jonn Are Myhren			
Time	Paper ID	Author	Paper Title
10:20-10:40	502	Oluleke Bamodu, Liang Xia, Llewellyn Tang	A numerical simulation of air distribution in an office room ventilated by 4-way cassette air-conditioner
10:40-11:00	784	Siming Zhang, Song Gao, Yuang Wang, Xiangzhao Meng, Zhao Min, Lianying Zhang, Liwen Jin, Charles Chun Yang	Numerical investigation on the relationship between human thermal comfort and thermal balance under radiant cooling system
11:00-11:20	15	Xiaoqing Zhang, Ning Xiong, Valeriy Vyatkin, Arash Mousavi	Cooling energy consumption investigation of data center IT room with vertical placed server
11:20-11:40	630	Sally Salome Shahzad, Ben Richard Hughes, John Kaiser Calautit, Siti Diana Nabilah Nasir	Computational and field test analysis of thermal comfort performance of user-controlled thermal chair in an open plan office
11:40-12:00	656	Anna Frost, Hailong Li, Fredrik Wallin, Azaza Maher	Patterns and temporal resolution in commercial and industrial typical load profiles
Room: 203#A			
Session Name: Electric vehicles (III)			
Session Chair: Umberto Desideri, Hao Mu			
Time	Paper ID	Author	Paper Title
10:20-10:40	410	Lu Yi, Hongwen He, Jiankun Peng	Combinatorial optimization algorithm of MIGA and NLPQL for a plug-in hybrid electric bus parameters optimization
10:40-11:00	423	Saeid Habibi, qiang song, song li	Research on a new series powerline configuration and its DC voltage stabilization control Strategy
11:00-11:20	459	Wentong Shi, Li Junqiu, Xin Jin	Two-layer thermal model and experiment of cylindrical lithium-ion battery for sinusoidal alternate current heating
11:20-11:40	511	Ocktaeck Lim	A simulation and experimental study of operating characteristics of an electric bicycle
11:40-12:00	515	Hui Jia, Hongwen He, Weiwei Huo, Mei Yan	Stochastic dynamic programming of air conditioning system for electric vehicles
Room: 203#B			
Session Name: Hydrate energy processes (III)			
Session Chair: Praveen Linga, Xiaosen Li			
Time	Paper ID	Author	Paper Title
10:20-10:40	653	Nilesh Choudhary, Omkar Singh Kushwaha, Gaurav Bhattacharjee, Suman Chakrabarty, Rajnish Kumar	Molecular dynamics simulation and experimental study on the growth of methane hydrate in presence of methanol and sodium chloride
10:40-11:00	695	Hari Prakash Veluswamy, Praveen Linga, Kulesha Priyalal Premasinghe	CO ₂ hydrates – effect of additives and operating conditions on the morphology and hydrate growth
11:00-11:20	204	Yi Wang, Jing-Chun Feng, Xiao-Sen Li	Huff and puff induced hydrate dissociation above and below the phase equilibrium point with low gas saturation
11:20-11:40	305	Dongliang Zhong, Wen-Chun Wang, Yi-Yu Lu, Jin Yan	Using Tetra-n-butyl Ammonium Chloride Semiclathrate Hydrate for methane separation from low-concentration coal mine gas
11:40-12:00	197	Weiguo Liu, Yanghui Li, Yongchen Song, Qi Wu, Zhaoran Wu, tingting luo	Mechanical properties of stratified hydrate-bearing sediments

Room: 203#C

Session Name: Energy performance in buildings (III)

Session Chair: Perry Yang, Yoshiki Yamagata

Time	Paper ID	Author	Paper Title
10:20-10:40	831	Perry Yang, Michael Tobey, Steven Jige Quan, Yihan Wu, Jiang Wu, Annette Wiedenbach, Yogendra Chauhan	Material based urban modeling: An approach to integrate smart materials in a Near-Zero community design
10:40-11:00	213	Kanae Matsui	An information provision system as a function of HEMS to promote energy conservation and maintain indoor comfort
11:00-11:20	848	Perry Yang, Michael Tobey, Steven Jige Quan	Multi-disciplinary design optimization of mixed-use structure and energy performance
11:20-11:40	468	Ayotunde Dawodu, Ali Cheshmehzangi	Passive cooling energy systems SWOT analyses for energy-use reductions at three spatial levels
11:40-12:00	963	Kai Zhu	Experimental study of energy saving performances in chip cooling by using heat sink with embedded heat pipe

Room: Convention Hall 4 (1st floor) - A

Session Name: Economic and market assessments of new technologies

Session Chair: Mei Sun, Jingchun Feng

Time	Paper ID	Author	Paper Title
10:20-10:40	527	Yanxia Li, Wenjia Cai, Can Wang	Economic assessment of wind and solar photovoltaic development in China
10:40-11:00	568	Huajiao Li, Haizhong An	How does the coal stock market, carbon market and coal price co-fluctuation with each other in China: A co-fluctuation matrix transmission network perspective
11:00-11:20	596	Hendrik Broering, Reinhard Madlener	Simulation and evaluation of the economic merit of cloud energy storage for prosumers: The case of Germany
11:20-11:40	610	Yingzhu Li	Economic, social and environmental impacts of energy subsidies: case study of Malaysia
11:40-12:00	674	Kwang Jing Yii, Caroline Geetha, Vivin Vincent Chandran	Estimating the elasticity of energy over consumption at micro level: A case study in Sabah, Malaysia

Room: Convention Hall 4 (1st floor) - B

Session Name: Sustainability assessment of renewable energy applications

Session Chair: Geoffrey Hammond, Catherine Ross

Time	Paper ID	Author	Paper Title
10:20-10:40	884	Juan C. Gonzalez Palencia, Yuki Otsuka, Mikiya Araki, Seiichi Shiga	Impact of new vehicle market composition on the light-duty vehicle fleet CO ₂ emissions and cost
10:40-11:00	36	Stephen Jia Wang, Patrick Moriarty	Strategies for household energy conservation
11:00-11:20	177	Zaoxiao Zhang, Zhen Qin, Xiaomei Wu	Carbon exergy footprint to evaluate the greenhouse impact of operating units
11:20-11:40	823	Hongtao Wang	Energy self-sufficient wastewater treatment plants: feasibilities and challenges
11:40-12:00	313	Tianqi Li, Tony Roskilly, Yao Dong Wang	A Regional life cycle sustainability assessment approach and its application on solar photovoltaic

Room: Convention Hall 4 (1st floor) - C
Session Name: Organic rankine cycle (ORC)
Session Chair: Roberto Pili, Chao Liang

Time	Paper ID	Author	Paper Title
10:20-10:40	303	Xuan Wang, Gequn Shu, Hua Tian	Dynamic response performance comparison of ranking cycles with different working fluids for waste heat recovery of internal combustion engines
10:40-11:00	76	Yiji Lu, Yao Dong Wang, Tony Roskilly	Design and parametric study of an Organic Rankine cycle using a scroll expander for engine waste heat recovery
11:00-11:20	106	Lan Xiao, Shuang-Ying Wu, Han Yang, Chun Li	Comparative investigation on thermo-economic performance between ORC and LiBr absorption refrigerating cycle in waste heat recovery
11:20-11:40	110	Zhilong Cheng, Yan Liu, Jingyu Wang, Jian Yang, Qiuwang Wang	System design and thermodynamic analysis of a sintering-driven organic Rankine cycle
11:40-12:00	143	Dong Bensi, Guoqiang Xu, Guoqiang Xu, Laihe Zhuang, Yongkai Quan	Potential of low temperature organic Rankine cycle with zeotropic mixtures as working fluid

Room: Convention Hall 4 (1st floor) - D
Session Name: Industrial energy system (I)
Session Chair: Francesco Patuzzi, Tao Wu

Time	Paper ID	Author	Paper Title
10:20-10:40	159	Muhammad Aziz	Highly energy-efficient conversion of lignite to H ₂ and power
10:40-11:00	253	he zhao, Song Chen	Numerical study of a methane Jet Diffusion Flame in a longitudinal tube with a standing wave
11:00-11:20	256	Arif Darmawan, Muhammad Aziz, Koji Tokimatsu, Dwika Budianto	Cofiring assessment of hydrothermally-treated empty fruit bunch and low rank coal in a drop tube furnace
11:20-11:40	565	Norbert Modlinski	Development of prognostic tool for high-temperature corrosion risk assessment in pulverised coal boilers based on the waterwalls boundary layer monitoring system and CFD simulations
11:40-12:00	624	Pengfei Cao, Tao WU, Stephen Adegbite	Thermodynamic equilibrium analysis of CO ₂ reforming of methane: carbon elimination and adjustment of H ₂ /CO ratio

Room: Convention Hall 4 (1st floor) - E
Session Name: Battery energy storage systems
Session Chair: Clemente Capasso, Rui Xiong

Time	Paper ID	Author	Paper Title
10:20-10:40	482	Amin Lahnaoui, Bastian Gillessen	Tilt angle and orientation impact on the techno-economic performance of photovoltaic battery systems
10:40-11:00	552	Kosmas Kavadias, Dimitris Apostolou, Ioannis Kaldellis	Analytical hydrogen production and storage simulation for the "Kos-Kalymnos" system
11:00-11:20	613	aihua Tang, Cheng Lin, Jilei Xing	Lithium-ion battery state of charge/state of health estimation using SMO for EVs
11:20-11:40	790	Menglian Zheng, Jiahui Fu, Tao Wang, Xinhao Wang, Jie Sun	Dynamic flow rate control for vanadium redox flow batteries
11:40-12:00	878	Rui Xiong, Min Ye, Hui Guo	An online model-based battery parameter and state estimation method using multi-scale dual adaptive particle filters

Room: Convention Hall 4 (1st floor) - F			
Session Name: Emission mitigation modelling and analysis			
Session Chair: Erik Dahlquist, Marco Antonelli			
Time	Paper ID	Author	Paper Title
10:20-10:40	38	Chuntao Yang, Xiaolan Wei	Effect of nickel base alloy on NO _x emissions from binary molten nitrate salts in thermal energy storage process
10:40-11:00	797	A.M. Suranto a, Sayoga Heru P	Investigation of multilevel injector for ramp-up process in vertical well using steam assisted gravity drainage method
11:00-11:20	749	Liwen Lin	Mitigation strategy for AC side to suppress CM current flowing on DC cables of the motor drive system
11:20-11:40	231	Yan Hu, Hongxing Yang, Hong Zhong, Yuanhao Wang	Development of an antimony doped Tin Oxide/TiO ₂ double-layers coated HGM: A high reflectivity and low transmittance building thermal conservation material
11:40-12:00	257	Shahid Rabbani, Mohamed Sassi, Tariq Shamim, Technology	Numerical modelling and simulation of gas-liquid trickle flow in trickle bed reactor using an improved phenomenological model
10:20-12:00	<p align="center">Room: 201#A</p> <p align="center">PANEL SESSION: Fuel Cells R&D and Demonstration: introducing the world first largest PEM fuel cell in China</p> <p align="center">Chair: Prof. Stefano Campanari; Participants: Prof. Stefano Campanari, Dr. Pan Mu, Dr. Jorg Jorg Coolegem, Dr. Jan H. ten Have, Mr. Bing Xu, Prof. Umberto Desideri</p>		
12:00-13:00	<p align="center">LUNCH</p>		
13:00-13:40	<p align="center">POSTER SESSION II</p>		
Room: 201#B			
Session Name: Biomass Pyrolysis and Gasification (V)			
Session Chair: Khanh-Quang Tran, Matthäus Bäbler			
Time	Paper ID	Author	Paper Title
13:40-14:00	605	Alessandro Manni, Stefano Cordiner, Vincenzo Mulone, Vittorio Rocco, Fabio Codignole Luz	Analysis of residual biomass fast pyrolysis at laboratory scale: experimental and numerical evaluation of spent coffee powders energy content
14:00-14:20	665	Chaudhary Awais Salman, Sebastian Schwede, Eva Thorin, Jinyue Yan	Predictive modelling and simulation of integrated pyrolysis and anaerobic digestion process
14:20-14:40	670	Tiejun wang	Bio-gasoline production by coupling of biomass catalytic pyrolysis and oligomerization process
14:40-15:00	707	Matthaus Babler, Aekjuthon Phounglamcheik, Pawel Donaj, Marko Amovic, Rolf Ljunggren, Klas Engvall	Pyrolysis of wood in a rotary kiln pyrolyzer: Modeling and pilot plant trials
15:00-15:20	529	Marco Baratieri, Eleonora Cordioli, Francesco Patuzzi	Experimental and modelling analysis of char decomposition: experiences with real scale gasification systems

Room: 201#C			
Session Name: Pyrolysis and gasification (IV)			
Session Chair: Kunio Yoshikawa, Hongtao Wang			
Time	Paper ID	Author	Paper Title
13:40-14:00	566	Jesus Zambrano, Emma Nehrenheim	Optimizing the operation of a photo-bioreactor
14:00-14:20	721	Yiji Lu, Tony Roskilly, Yao Dong Wang	Study of a novel dual-source chemisorption power generation systme using scroll expander
14:20-14:40	773	Panagiotis Evangelopoulos, Weihong Yang, Efthymios Kantarelis	Experimental investigation of pyrolysis of printed circuit boards for energy and materials recovery under nitrogen and steam atmosphere
14:40-15:00	894	SieTing Tan, Haslenda Hashim, Jeng Shiun Lim, Wai Shin Ho	Potential of biomass to resource as an action to mitigate transboundary haze in ASEAN country
15:00-15:20	921	Tongcai Wang, Shan-Tung Tu, Weiling Luan, Jerry Yan, Tongjun Liu	Performance improvement of high-temperature silicone oil based thermoelectric generator
Room: 201#D			
Session Name: Energy efficiency in buidings (I)			
Session Chair: Guangcai Gong, Ward De Paepe			
Time	Paper ID	Author	Paper Title
13:40-14:00	51	Jiayu Chen, Gongsheng Huang, Xiaowei Luo, Yujie Lu	HVAC energy saving in IPS-enabled large space: An occupancy distribution based demand-driven control approach
14:00-14:20	141	Yi Chen	Energy saving potential of hybrid liquid desiccant and evaporative cooling air-conditioning system in Hong Kong
14:20-14:40	158	Evan Wanjiru, Xiaohua Xia, Sam. M Sichilalu	Optimal operation of integrated heat pump-instant water heaters with renewable energy
14:40-15:00	246	Sayanthan Ramakrishnan	Experimental and numerical study on energy performance of buildings integrated with phase change materials
15:00-15:20	356	Junqi Wang, Gongsheng Huang, Pei Zhou	Event-driven optimal control of complex HVAC systems based on COP-mins
Room: 203#A			
Session Name: Electric Vehicle (IV)			
Session Chair: Ottorino Veneri, Marco Antonelli			
Time	Paper ID	Author	Paper Title
13:40-14:00	548	Ottorino Veneri, Clemente Capasso	Integration between super-capacitors and ZEBRA batteries as high performance hybrid storage system for electric vehicles
14:00-14:20	606	Hong Zhang, Jiajian Song, QiangQiang Yang, Lin Fu	Study and realization on power energy distribution control for auxiliary power unit
14:20-14:40	635	Wenyu Zhou, Ming Lv, Ying Yang, Lijie Liang, Yao Lu	Energy management strategy of a plug-in parallel hybrid electric vehicle using fuzzy control
14:40-15:00	758	Zeyu Chen, Wenyu Zhou, Ke Xu, Rui Xiong	Driving cycle development for electric vehicle application using principal component analysis (pca) and k-means clustering method: with the case of Shenyang, China
15:00-15:20	922	Zhongbao Wei, Binyu Xiong, Dongxu Ji, King Jet Tseng	Online state of charge and capacity dual estimation with a multi-timescale estimator for lithium-ion battery

Room: 203#B**Session Name: Combustion****Session Chair: Rebei Bel Fdhila, Antonio Pantaleo**

Time	Paper ID	Author	Paper Title
13:40-14:00	219	Zhengqian Zha	Experimental investigation on the combustion characteristics of premixed CH ₄ /O ₂ flame in a micro plate channel.
14:00-14:20	456	siyuan hu, Xue-Song Bai, cheng gong	Dual fuel combustion of n-heptane/methanol/air/EGR mixtures
14:20-14:40	337	Xinyan Li, Xiao Jin, Zhiguo Zhang, Guoneng Li, Nuomin Han	Nonlinear dynamic measurement of self-sustained thermoacoustic oscillations in a swirling combustor with a heat exchanger
14:40-15:00	512	Siyuan Hu, Xue-Song Bai	Numerical and experimental study on laminar methane/air premixed flames at varying pressure
15:00-15:20	909	Tariq Shamim, Technology, A. Raouf Tajik, Technology, Rashid Al-Rub, Technology, Mouna Zaidani, Technology	A simplified two dimensional CFD modelling of the Flue-Wall in anode baking furnace for the aluminum production

Room: 203#C**Session Name: Energy efficiency****Session Chair: Reinhard Madlener, Ronald Wennersten**

Time	Paper ID	Author	Paper Title
13:40-14:00	575	Chenghua Zhang, Jianzhong Wu, Chao Long	Review of existing peer-to-peer energy trading projects
14:00-14:20	943	Ziyi Wang, Qie Sun, Ronald Wennersten	Energy efficiency for power generation systems
14:20-14:40	21	Stephen Jia Wang, Patrick Moriarty	Can electric vehicles deliver on energy and carbon reductions?
14:40-15:00	47	Nan Li, Wen-ying Chen	Provincial energy consumption and emission projection-Shanxi case study
15:00-15:20	98	Ivan Postnikov	A methodology for optimization of component reliability of heat supply systems

Room: Convention Hall 4 (1st floor) - A**Session Name: Energy economics****Session Chair: Xingping Zhang, Juan C Gonzalez Palencia**

Time	Paper ID	Author	Paper Title
13:40-14:00	796	Victor Nian, Hari Malamakkavu Padinjare Variam	Incentivizing the adoption of nuclear and renewable energy in Southeast Asia
14:00-14:20	60	Xiangtao Zhuan, Wei Li, Fei Yang	Optimal operation scheduling of a pumping station in east route of South-to-North water diversion project
14:20-14:40	853	Reinhard Madlener, Alexander Kirmas	Economic viability of second use electric vehicle batteries for energy storage in residential applications
14:40-15:00	933	Qinxing Wang, Nianzhi Huang, Haiyang Lin, Hailong Li, Ronald Wennersten, Qie Sun	Potential of energy saving in a data center – application of an agent-based modelling
15:00-15:20	908	Haiyang Lin, Qinxing Wang, Qie Sun, Ronald Wennersten	Agent based modeling for estimating energy-saving potential of offices under different pricing mechanisms

Room: Convention Hall 4 (1st floor) - B**Session Name: Heat pump and solar system****Session Chair: Chii-Dong Ho, Hui Hong**

Time	Paper ID	Author	Paper Title
13:40-14:00	645	Diana SNM Nasir, Ben R Hughes, John K Calautit, Angelo I Accuino, Salome Shahzad	Effect of urban street canyon aspect ratio on thermal performance of road pavement solar collectors (RPSC)
14:00-14:20	850	Marco Binotti, Marco Astolfi, Stefano Campanari, Paolo Silva, Giampaolo Manzolini	Preliminary assessment of sCO ₂ power cycles for application to CSP Solar Tower plants
14:20-14:40	860	Guoqing He, Tianji Liu, Zhiyuan Li	Experiments of a heat pump water heating system using stored solar energy to defrost
14:40-15:00	872	Huide Fu, Tao Zhang	Performance analysis of an integrated solar-assisted heat pump system with heat pipe PV/T collectors operating under different weather conditions
15:00-15:20	953	Hong Li, Liangliang Sun	Performance evaluation of hybrid ground-coupled heat pump indirect heating systems

Room: Convention Hall 4 (1st floor) - C**Session Name: Advanced cycles****Session Chair: Shuai Deng, Hailong Li**

Time	Paper ID	Author	Paper Title
13:40-14:00	500	Oyenyi Oyewunmi, Steven Lecompte, Christos Markides, Martijn van den Broek, Michel De Paepe	Preliminary experimental results of an 11 kWe organic Rankine cycle
14:00-14:20	561	Guoqiang Xu, Liang Li, Yunting Ge, Savvas Tassou	Modelling of plate heat exchangers and their associated CO ₂ transcritical power generation system
14:20-14:40	562	Yunting Ge, Liang Li, Savvas Tassou	Experimental study on a small-scale R245fa organic Rankine cycle system for low-grade thermal energy recovery
14:40-15:00	629	Oyenyi Oyewunmi, Steven Lecompte, Christos Markides, Martijn van den Broek, Michel De Paepe	An assessment of subcritical and supercritical organic Rankine cycles for waste-heat recovery
15:00-15:20	755	Bosheng Su, Wei Han	A novel liquid desiccant dehumidification system driven by low-temperature heat for industrial application

Room: Convention Hall 4 (1st floor) - D**Session Name: Cogeneration and polygeneration (II)****Session Chair: Anders Avelin, Chuan Wang**

Time	Paper ID	Author	Paper Title
13:40-14:00	73	Marina Montero Carrero, Ward De Paepe, Svend Bram, Francesco Contino	Thermodynamic analysis of water injection in a micro gas turbine: Sankey and Grassmann diagrams
14:00-14:20	103	Wei Wu	Design and control of stand-alone combined heat and power systems using CO ₂ /CH ₄
14:20-14:40	202	Guohong Tian, Jun Li	A case study of a CHP system and its energy use mapping
14:40-15:00	428	Massimiliano Renzi, Camilla Riolfi, Marco Baratieri	Influence of the syngas feed on the combustion process and performance of a micro gas turbine with steam injection
15:00-15:20	438	Martina Caliano, Nicola Bianco, Giorgio Graditi, Luigi Mongibello	Analysis of a biomass-fired CCHP system considering different design configurations

Room: Convention Hall 4 (1st floor) - E

Session Name: Urban energy: system & design (II?)

Session Chair: Geoffrey Hammond, Guochang Fang

Time	Paper ID	Author	Paper Title
13:40-14:00	737	Yiming Wei, Bin Wang, Meimei Xue, Biying Yu, Ye Ma	Evaluating the environmental benefits of ride-sharing: a case of Beijing
14:00-14:20	947	Anqi Gao, Zhenyu Tian, Ziyi Wang, Qie Sun	Comparison between the technologies for food waste treatment
14:20-14:40	763	Shibao Lu	Research on synergistic development of urbanization and energy consumption
14:40-15:00	586	Wei Fang, Haizhong An, Huajiao Li, Xiangyun Gao, Xiaoqi Sun	Urban economy development and ecological carrying capacity: Taking Beijing city as the case
15:00-15:20	179	Kaiyan Luo, Xingping Zhang, Qinliang Tan	A game theory analysis of China's agri-biomass-based power generation supply chain: a co-opetition strategy

Room: Convention Hall 4 (1st floor) - F

Session Name: Solar photovoltaic system (II)

Session Chair: Lin Lu, Wei Han

Time	Paper ID	Author	Paper Title
13:40-14:00	689	Kosmas Kavadias, Dimitris Zafirakis, Athanasios Paliatsos	Application of typical meteorological years for sizing building integrated pv systems under zero load rejections
14:00-14:20	19	Siyang Hu, Dennis Y.C. Leung	Effect of divergent chimneys on the performance of a solar chimney power plant
14:20-14:40	46	Chii-Dong Ho	Investigation of device performance for recycling double-pass V-corrugated solar air collectors
14:40-15:00	686	Zhang Heng, Ye Chentao, Chen Haiping, Li Mingjie, Huang Jiguang	Experimental study of constant temperature operation and constant flow operation in concentrating PV / T system
15:00-15:20	8	Xingxing Zhang, Jingchun Shen, Tong Yang, Llewellyn Tang, Yupeng Wu, Song Pan, Jinshun Wu, Peng Xu	Design strategy of a compact unglazed solar thermal facade (STF) for building integration based on BIM concept

Room: 201#A

PANEL SESSION: Energy resilient urban systems

Chair: Prof. Perry Yang, Prof. Yoshiki Yamagata; Participants: Prof. Jinyue Yan, Prof. Erik Dhalquist, Prof. Jiang Wu, Prof. Catherine Ross, Prof. Ben Stuart, Prof. Ronald Wennersten, Prof. Wowo Ding.

15:20-15:50

TEA/COFFEE BREAK

Room: 201#B

Session Name: Biomass combustion

Session Chair: Wei-Hsin Chen, Khanh-Quang Tran

Time	Paper ID	Author	Paper Title
15:50-16:10	818	Xi Jiang, Angelo Greco, Daniel Mira	Effects of fuel composition on biogas combustion in premixed laminar flames
16:10-16:30	969	Liang Wang	Release of potassium during devolatilization of spruce bark
16:30-16:50	472	Morten Seljeskog	Variables affecting emission measurements from domestic wood combustion
16:50-17:10	792	Morten Seljeskog, Franziska Goile, Øyvind Skreiberg	Recommended revisions of Norwegian emission factors for wood stoves
17:10-17:30	342	Lin Chen, Shuzhong Wang, Haiyu Meng, Zhiqiang Wu, Jun Zhao	Study on gas products distributions during fast co-pyrolysis of Paulownia wood and PET at high temperature

Room: 201#C			
Session Name: Solar integrated energy systems			
Session Chair: Yong Hao, Roland Span			
Time	Paper ID	Author	Paper Title
15:50-16:10	167	Jiyun Qin	The impact of solar radiation on the annual net solar to power efficiency of a Solar Aided Power Generation plant with twelve possible "configuration-operation" combinations
16:10-16:30	226	Yinfeng Wang, Xiaoyuan Wang, Haijun Chen, Yuezhao Zhu, Robert Taylor, Hongtu Fan	CFD simulation of an intermediate temperature, two-phase loop thermosiphon for use as a linear focus solar receiver
16:30-16:50	320	Massimiliano Renzi, Lorenzo Egidi, Luca Cioccolanti, Gabriele Comodi	Performance simulation of a small scale heliostat CSP system: case studies in Italy
16:50-17:10	359	Qinyuan Yuan, Jianfeng Lu, Jing Ding	Transient thermochemical storage performance of methane reforming in semi-cavity reactor heated by solar dish system
17:10-17:30	391	Qibin Liu, Xiaohe Wang	Thermodynamic analysis of the cascaded supercritical CO ₂ cycle integrated with solar and biomass energy
Room: 201#D			
Session Name: Hybrid energy systems			
Session Chair: Clemente Capasso, Erik Dahlquist			
Time	Paper ID	Author	Paper Title
15:50-16:10	157	Charles Kagiri, Xiaohua Xia	Optimal control of a hybrid battery/supercapacitor storage for neighborhood electric vehicles
16:10-16:30	298	Zihao Jiao, Lun Ran, Jing Chen, Hui Meng, Chong Li	Data-driven approach to operation and location considering range anxiety of one-way electric vehicles sharing system: the Beijing case
16:30-16:50	301	Ancona M. A., Bianchi M., Branchini L., De Pascale A., Melino F., Peretto A	Experimental investigation on A solar/hydrogen-based Microgrid
16:50-17:10	37	Mengqi Hu, Dong Yang, Yanqing Kuang, Rui Dai	A collaborative decision model for electric vehicle to building integration
17:10-17:30	593	Sathsara Abeyasinghe, Jianzhong Wu, Mahesh Sooriyabandara	A statistical assessment tool for electricity distribution networks
Room: 203#A			
Session Name: Electric Vehicles (IV)			
Session Chair: Chun Wang, Rui Xiong			
Time	Paper ID	Author	Paper Title
15:50-16:10	866	Xiaofeng Ding, Hong Guo, Si Guo	Efficiency enhancement of traction system based on loss models and golden section search in electric vehicle
16:10-16:30	678	Nana Zhou, Hongwen He, Chao Sun	Efficiency decrease estimation of a permanent magnet synchronous machine with demagnetization faults
16:30-16:50	679	Linlin Fang, Li Junqiu, Wentong Shi	Design and implementation of the state monitoring and balancing management of vehicle power battery
16:50-17:10	705	Mingchun Liu, Juhua Huang, Ming Chao	Multi-states combination nonlinear control of in-wheel-motor-drive vehicle dynamics stability
17:10-17:30	715	Teng Wang, Hui Liu, Lijin Han	Dynamic matching of dual-mode electro-mechanical transmission (EMT) based on the optimal motor efficiency

Room: 203#B**Session Name: Heat transfer and heat exchangers (I)****Session Chair: Changqing Tian, Steffes Beckert**

Time	Paper ID	Author	Paper Title
15:50-16:10	329	Sayanthan Ramakrishnan	Heat transfer performance enhancement of paraffin/expanded perlite phase change composites with graphene nano-platelets
16:10-16:30	341	Pham Quang Vu, Jong-Taek Oh, Choi Kwang-Il, Cho Honggi, Kim Taehun	Flow condensing heat transfer of R410A inside a micro-fin tube
16:30-16:50	470	Peng Liu	Theoretical prediction of longitudinal heat conduction effects on the efficiency of the heat wheel used for ventilation in powerhouse building "Kjørbo" in Norway
16:50-17:10	484	Yuefen Gao, Yongzhao Cheng, Shanshan Nan	Heat transfer performance of the underground CO ₂ pipe in the direct expansion ground source heat pump
17:10-17:30	556	Wei Chen, Wenxing Shi, Baolong Wang, Sheng Shang, Xianting Li	A deep heat recovery device between flue gas and supply air of gas-fired boiler by using non-contact total heat exchanger

Room: 203#C**Session Name: Energy processes and analysis(I)****Session Chair: Stephen Wang, Geoffrey Hammond**

Time	Paper ID	Author	Paper Title
15:50-16:10	116	Nicolas Maslov, Christophe Claramunt, Tianzhen Wang, Tianhao Tang	Evaluating the visual impact of an offshore wind farm
16:10-16:30	152	EKATERINA MEDNIKOVA, Ivan Postnikov, Valery Stennikov	Heat supply systems development: the influence of external factors and reliability
16:30-16:50	214	Yuecheng Li, Jiankun Peng, Hongwen He, Shanshan Xie	The Study on multi-scale prediction of future driving cycle based on Markov chain
16:50-17:10	615	Can Wang, Wenjia Cai, Jingxuan Hui	Achieving China's INDC: biomass development and competition for land
17:10-17:30	314	Xueqin Yang, Zhen Wang, Hailong Li, Fredrik Wallin	Impacts of emission reduction target and external costs on provincial natural gas distribution in China

Room: Convention Hall 4 (1st floor) - A**Session Name: Energy economics and management****Session Chair: Haizhong An, Kwang Jing Yii**

Time	Paper ID	Author	Paper Title
15:50-16:10	841	Yue-Jun Zhang	Forecasting crude oil prices with the Google Index
16:10-16:30	847	Alexander Sandberg	An analyze of long-term hourly district heat demand forecasting of a commercial building using neural networks
16:30-16:50	875	Khulood Rambo, David Warsinger, Santosh Shanbhogue, John Lienhard, Ahmed Ghoniem	Water-energy nexus in Saudi Arabia
16:50-17:10	783	Wei Zhong, Cristian López, Menglian Zheng	Short-term electric load forecasting based on wavelet neural network, particle swarm optimization and ensemble empirical mode decomposition
17:10-17:30	883	Qi Zhang	Study on the oil import/export quota allocation mechanism in China by using a dynamic game-theoretic model

Room: Convention Hall 4 (1st floor) - B**Session Name: Heating and cooling (I)****Session Chair: Bin Chen, Yanping Cai**

Time	Paper ID	Author	Paper Title
15:50-16:10	687	Guodong Cui, Shaoran Ren, Liang Zhang	Assessment of heat mining rate for geothermal exploitation from depleted high-temperature gas reservoirs via recycling supercritical CO ₂
16:10-16:30	740	Fabrizio Leonforte, Niccolò Aste, Claudio Del Pero, Rajendra Adhikari, Federico Butera, Alessandra Zanelli	Wet curtain wall: a novel passive radiant system for hot and dry climates
16:30-16:50	777	Ninoslav Holjevac, Tomislav Capuder, Igor Kuzle	Defining key parameters of economic and environmentally efficient residential microgrid operation
16:50-17:10	798	Chayadit Pumaneratkul, Haruhiko Yamasaki, Hiroshi Yamaguchi, Shinichi Kitamura	Supercritical CO ₂ Rankine cycle system with low-temperature geothermal heat pipe
17:10-17:30	817	Kwangbok Jeong, Taehoon Hong, Myeongsoo Chae, Changyoon Ji	Framework for the analysis of the potential of ground source heat pump system in Elementary School Facility

Room: Convention Hall 4 (1st floor) - C**Session Name: Fuel Cell****Session Chair: Dennis Leung, Jarek Milewski**

Time	Paper ID	Author	Paper Title
15:50-16:10	540	Natthika Chingthamai, Yossapong Laoonual, Korakot Sombatmankhong	Experimental investigation of electrospray coating technique for electrode fabrication in PEMFCs
16:10-16:30	632	Tariq Shamim, Technology, Agus Sasmito, Asif Soopee, Technology	Water dynamics in the flow channel of a dead-end anode polymer electrolyte membrane fuel cell
16:30-16:50	681	Pierpaolo Polverino, Marco Sorrentino, Cesare Pianese	Improved fault isolability for solid oxide fuel cell diagnosis through sub-system analysis
16:50-17:10	706	Marco Sorrentino, Marco Gallo, Dario Marra, Cesare Pianese, Siu Fai Au	Development of a dynamic model for diagnosis and control of an integrated stack module based on solid oxide fuel cells
17:10-17:30	775	Yutong Mu, Wenquan Tao	Numerical study of the gas purging process of a proton exchange membrane fuel cell

Room: Convention Hall 4 (1st floor) - D**Session Name: Cogeneration and polygeneration (III)****Session Chair: Wei Wu, Yaodong Wang**

Time	Paper ID	Author	Paper Title
15:50-16:10	465	Alessandro Parente, Ward De Paepe, Marina Montero Carrero, Svend Bram, Francesco Contino	Advanced humidified gas turbine cycle concepts applied to micro gas turbine applications for optimal waste heat recovery
16:10-16:30	648	Luo Xiaojun, Fong Kwong Fai	Control optimization of combined cooling and power system with prime mover of solid oxide fuel cell-gas turbine for building application
16:30-16:50	675&676	Baris Burak Kanbur, Liming Xiang, Swapnil Dubey, Choo Fook Hoong, Fei Duan	Micro cogeneration system with LNG cold utilization-Part 1: Energetic, economic and environmental analysis
16:50-17:10	208	Maxime Pochet, Sebastian Verhelst, Véronique Dias, Hervé Jeanmart, Francesco Contino	Multifuel CHP HCCI engine towards flexible power-to-fuel: numerical study of operating range
17:10-17:30	692	Yulong Zhao, Shixue Wang, Yanzhe Li	Thermoelectric power generation using LNG cold energy and flue-gas heat

Room: Convention Hall 4 (1st floor) - E

Session Name: Energy storage system

Session Chair: Rebei Bel-Fdhila, Jer-Huan Jang

Time	Paper ID	Author	Paper Title
15:50-16:10	3	Pascal Maas	CFD Simulation of a 100 MWth lithium combustion slag tap furnace as a basis for an energy storage proces
16:10-16:30	79	Ye Huang, Xinjng Zhang	Techno-economic modelling of large scale compressed air energy storage systems
16:30-16:50	114	Sai Chu, Lei Zhang, Chen Hongbing, Danming Luan, Qiang Li	Selection and property study of phase change slurry for solar heat collection
16:50-17:10	132	Fang Liu	Experimental study of a dual-mode CO ₂ heat pump system with thermal storage
17:10-17:30	293	Agus Sasmito, Ali Ghoreishi	A conjugate natural convection model for large scale seasonal thermal energy storage units: application in mine ventilation

Room: Convention Hall 4 (1st floor) - F

Session Name: Heating and cooling (II)

Session Chair: Taehoon Hong, Eva Thorin

Time	Paper ID	Author	Paper Title
15:50-16:10	299	Mengjie Song, Ying Chen, Liyuan Liao, Shiming Deng	Experimental investigation on the reverse cycle defrosting termination temperature for an air source heat pump unit with a multi-circuit outdoor coil
16:10-16:30	885	Tao Ma, Hongxing Yang, Lin Lu, Ronghui Qib	Feasibility study of developing a zero-carbon-emission Green Deck in Hong Kong
16:30-16:50	390	Eleonora Ciarrocchi, Alessia Arteconi, Fabio Polonara, Ru Zhu Wang, Xu Zheng	Assessment of the energy performance of an air source heat pump by response surface methodology
16:50-17:10	418	Nneka Onubogu, Kok-Keong Chong	High acceptance angle optical fiber based daylighting system using two-stage reflective non-imaging dish concentrator
17:10-17:30	564	antonio pantaleo, Sergio Camporeale, Christos Markides, Nilay Shah	Energy performance and thermo-economic assessment of a dual fuel gas-biomass microturbine for trigeneration

Room: 201#A

PANEL SESSION: The future of 'Design + Energy'

Chair: Prof. Stephen Wang; Participants: Prof. David Chiaramonti, Prof. Xin Cui, Prof. Agus Sasmito, Prof. Nadia Maizi, Ms. Anna Frost, Mr. Pili Roberto

18:00-22:00

CONFERENCE BANQUET

Day 3

Oral Presentations

Room: 201#B

Session Name: Algal fuels and environmental sustainability

Session Chair: Jesus Zambrano, Eva Thorin

Time	Paper ID	Author	Paper Title
08:10-08:30	97	Rasaq Lamidi, Tony Roskilly, Yaodong Wang, Pankaj B. Pathare	Evaluation of CHP for electricity and drying of agricultural products in a Nigerian rural community
08:30-08:50	102	Andrew Zealand, Tony Roskilly, David Graham	The effect of feeding frequency and organic loading rate on the anaerobic digestion of chinese rice straw
08:50-09:10	129	Flabianus Hardi, Mikko Mäkelä, Kunio Yoshikawa	Non-catalytic hydrothermal liquefaction of biomass: an experimental design approach
09:10-09:30	153	Mingming Zhu, Pengfei Liu, Yee-Kwong Leong, Yang Zhang, Zhezi Zhang, Dongke Zhang	An experimental study of the rheological properties and stability characteristics of biochar-algae-water slurry fuels
09:30-09:50	258	Arif Darmawan, Muhammad Aziz, Koji Tokimatsu, Dwika Budianto	Hydrothermally-treated empty fruit bunch cofiring in coal power plants: modeling and simulation of heat and mass flow using Aspen Plus

Room: 201#C

Session Name: Solar receivers

Session Chair: Jing Ding, Massimiliano Renzi

Time	Paper ID	Author	Paper Title
08:10-08:30	395	Shen Du, Ya-Ling He, Peiwen Li	Numerical study on the optical and radiative properties of the gradually-varied volumetric solar receiver
08:30-08:50	407	Valentina Colla, Vincenzo Iannino, Stefano Dettori, Annamaria Signorini	A fuzzy logic-based tuning approaches of PID control for steam turbines for solar applications
08:50-09:10	574	Wanjun Qu, Ruilin Wang, Jie Sun, Hui Hong, Hongguang Jin	Prototype testing of a 300kWth solar parabolic-trough collector with rotatable axis tracking
09:10-09:30	739	Yabin Jin, Jiabin Fang, Jinjia Wei	Effect of Air-Al ₂ O ₃ particle mixture on uniformity of heat flux inside a solar cavity receiver
09:30-09:50	778	Jiayin Zhu, Bin Chen	A mathematic model of a color-changed passive solar house

Room: 201#D

Session Name: Wind power generation (I)

Session Chair: Wen Tong Chong, Xiong Liu

Time	Paper ID	Author	Paper Title
08:10-08:30	99	Maciej Dylak, Krzysztof Badyda	Analysis of the impact of wind on electricity prices based on selected European countries
08:30-08:50	151	Nuomin Han, Xinyan Li	Study of static and dynamic performances of miniature Savonius-type wind energy harvesters
08:50-09:10	832	Nugroho Agung Pambudi, Danur Lambang Pristiandaru, Basori, Danar Susilo Wijayanto, Husin Bugis, Bambang Dwi Wahyudi	Experimental investigation of wind turbine using nozzle-lens at low wind speed condition
09:10-09:30	264	Mei Sun, Anna Gao, Chunyu Shen, Yiqing Li	An optimization model for China's emission reduction resulting from the shift to wind power
09:30-09:50	324	Xiong Liu, Cheng Lu, Gangqiang Li, Ajit Godbole, Yan Chen	Tower load analysis of offshore wind turbines and the effects of aerodynamic damping

Session Name: Battery storage Session Chair: Jarek Milewski, Erik Dahlquist			
Time	Paper ID	Author	Paper Title
08:10-08:30	738	Yu Quanqing, Rui Xiong	Online estimation of state-of-charge based on the H infinity and unscented Kalman filters for lithium ion batteries
08:30-08:50	750	Cao Yu	Straight running stability control based on optimal torque distribution for a four in-wheel motor drive electric vehicle
08:50-09:10	646	Shanshan Xie, Jiankun Peng, Hongwen He	Plug-in hybrid electric bus energy management based on stochastic model predictive control
09:10-09:30	766	Jun Xu, Shiyong Li, Binggang Cao	A novel current disturbance estimation method for battery management systems in electric vehicle
09:30-09:50	785	Rui Xiong, Zeyu Chen, Jiahuan Lu, Jiangman Bi	Comparison study on external short circuits of lithium battery in different temperature conditions
Room: 203#B Session Name: Heat exchanger Session Chair: Jong-Taek Oh, Ward De Paepe			
Time	Paper ID	Author	Paper Title
08:10-08:30	671	Mrinal Jagirdar, Poh Seng Lee, Ghim Wei Ho	Feasibility study of a parallel plate desiccant coated heat and mass regenerator for dehumidification
08:30-08:50	863	YingWen Liu, Geyu Zhong, Renjie Wu	Deriving correlations of thermal-hydraulic characteristics of H-type finned tube using the response surface methodology
08:50-09:10	869	Liping Xue	Experimental study of frost growth characteristics on surface of fin-tube heat exchanger
09:10-09:30	380	Xiaoqin Sun	Experimental research of a thermoelectric cooling system integrated with gravity assistant heat pipe for cooling electronic devices
09:30-09:50	927	Limin Ma	Experimental performance of a two-phase closed thermosyphon charged with hydrocarbons and Freon refrigerants for renewable energy applications
Room: 203#C Session Name: Energy processes and analysis (II) Session Chair: Ramesh Bansal, Khulood Rambo			
Time	Paper ID	Author	Paper Title
08:10-08:30	667	Jianfei Cao, Jiankun Peng, Hongwen He	Research on model prediction energy management strategy with variable horizon
08:30-08:50	250	Hongye Guo, Qixin Chen, Gang Chen, En Lu, Kaiwen Zeng, Chao Dong, Shizhao Hu	Electricity market Nash-Cournot equilibrium analysis with high proportion of gas-fired generators
08:50-09:10	328	Koji Tokimatsu, Shinsuke Murakami, Benjamin McLellan, Mikael Höök, Eriko Yasuoka, Masahiro Nishio	Global energy-mineral nexus by systems analysis approaches
09:10-09:30	387	Qingru Sun	Research on stability evolution of international oil trade relationships
09:30-09:50	420	Qun Ding, Wenjia Cai, Can Wang	Impact of household consumption activities on energy consumption in China—evidence from the lifestyle perspective and input-output analysis

Room: Convention Hall 4 (1st floor) - A**Session Name: Combustion (II)****.Session Chair: Xuesong Bai, Haitao Zhao**

Time	Paper ID	Author	Paper Title
08:10-08:30	333	Jianbo Li, Mingming Zhu, Zhezi Zhang, Kai Zhang, Guoqing Shen, Dongke Zhang	Stratification and chemistry evolution of ash deposits during combustion of Zhundong lignite in a drop tube furnace
08:30-08:50	40	Debo Li, Qiang Lv, Yongxin Feng, Chang'an Wang, Xuan Liu, Kai Chen, Kai Xu, Jun Zhong, Defu Che	Effects of coal blending and operating conditions on combustion and NOx emission characteristics in a tangentially-fired utility boiler
08:50-09:10	544	Qingzhao Chu, Baolu Shi, Zhiqiang Zhu, Bo Li, Ningfei Wang	An experimental investigation on oxy-fuel combustion of methane from low to ultrahigh oxygen mole fractions
09:10-09:30	938	Lan Zhang	The influence of CaO on the pyrolysis behavior and kinetic characteristics of low rank coal

Room: Convention Hall 4 (1st floor) - B**Session Name: Energy processes and analysis (III)****Session Chair: Can Wang, Taegyu Kim**

Time	Paper ID	Author	Paper Title
08:10-08:30	932	Shengchun Liu, Zheng Li, Baomin Dai	Energy, economic and environmental analyses of the CO ₂ heat pump system compared with boiler heating system in China
08:30-08:50	856	Reinhard Madlener, Stefan Franzen	Optimal expansion of a hydrogen storage system for wind power (H ₂ -WESS): a real options analysis
08:50-09:10	50	Xinxin Liang, Yaodong Wang, Tony Roskilly, Huan Guo	Analysis and optimization on energy performance of a rural house in northern China using passive retrofitting
09:10-09:30	108	Gloria Puglia, Gabriele Comodi, Mauro Moroni, Remo Fagnani	A design approach of off-grid hybrid electric microgrids in isolated villages: a case study in Uganda
09:30-09:50	206	Muhammad Kunta Biddinika, Raden Muhammad Ali, Fumitake Takahashi, Raden Ibnu Rosyadi, Ahmad Muhammad Diponegoro, Koji Tokimatsu	Challenges on the adoption of rapid appraisal method for assessment of online information on biomass energy

Room: Convention Hall 4 (1st floor) - C**Session Name: District heating and cooling****Session Chair: Ramesh Bansal, Ruyin Long**

Time	Paper ID	Author	Paper Title
08:10-08:30	528	Ayotunde Dawodu, Ali Cheshmehzangi	Impact of floor area ratio (FAR) on energy consumption at meso scale in China: case study of Ningbo
08:30-08:50	371	Zhou Wu, Xiaohua Xia, Han Xu	Interactive dynamics in building maintenance and retrofit
08:50-09:10	265	Chuan Zhang, Ming Pan, Alessandro Romagnoli, Li Zhou, Markus Kraft	Towards intelligent thermal energy management of eco-industrial park through ontology-based approach
09:10-09:30	805	Yu Liang	Numerical simulation of energy utilization coefficient influenced by desktop personalized ventilation modes
09:30-09:50	967	Jingjing Song, Hailong Li, Fredrik Wallin	Cost comparison between district heating and alternatives during the price model restructuring process

Room: Convention Hall 4 (1st floor) - D Session Name: Combined cooling, heating and power generation Session Chair: Ander Avelin, Shixue Wang			
Time	Paper ID	Author	Paper Title
08:10-08:30	799	Lijun Zhang, Xiaohua Xia, Michael Chennells	Economic dispatch of a grid-connected cogeneration ferrochrome plant
08:30-08:50	870	Sourav Mitra	Modeling and simulation of mass recovery process in adsorption system for cooling and desalination
08:50-09:10	375	Lang Wang, Weilong Wang, Jianfeng Lu, Jing Ding	Feasibility analysis of CCHP system with thermal energy storage driven by micro turbine
09:10-09:30	92	Moa Swing Gustafsson	Mapping of heat and electricity consumption in a medium size municipality in Sweden
09:30-09:50	201	Cheng Yang, Zeliang Yang, Xusheng Wang, Chi Zhang	Control strategies of steam-injected gas turbine in CCHP system
Room: Convention Hall 4 (1st floor) - E Session Name: Thermal storage (I) Session Chair: Christoph Hilgers, Agus Sasmito			
Time	Paper ID	Author	Paper Title
08:10-08:30	294	Agus Sasmito, Jundika Kurnia	Investigation of heat transfer on a rotating latent heat energy storage
08:30-08:50	306	Lichan Du, Heqing Tian, Ming Song, Weilong Wang, Jing Ding, Xiaolan Wei	Thermal stability of the eutectic composition in NaCl-CaCl ₂ -MgCl ₂ ternary system used for thermal energy storage applications
08:50-09:10	309	Joshua McTigue, Alexander White	A comparison of radial-flow and axial-flow packed beds for thermal energy storage
09:10-09:30	404	Xiaohu Yang, Xiangzhao Meng, Zhenni Wang, Liwen Jin, Qunli Zhang, Qiancheng Zhang, Tian Jian Lu	Direct numerical simulation on melting phase change behavior in open-cell metal foam
09:30-09:50	413	Marialaura Di Somma, Luigi Mongibello, Giorgio Graditi, Nicola Bianco	Experimental validation of a tool for the numerical simulation of a commercial hot water storage tank
Room: Convention Hall 4 (1st floor) - F Session Name: District heating and CCHP Session Chair: Yuejun Zhang, Yanping Cai			
Time	Paper ID	Author	Paper Title
08:10-08:30	479	Tina Lidberg, Jonn Are Myhren	Comparing different building energy efficiency refurbishment packages performed within different district heating systems
08:30-08:50	531	Mirko Morini, Michele Rossi, Agostino Gambarotta, Matteo Stonfer	A library for the simulation of smart energy systems: the case of the campus of the University of Parma
08:50-09:10	764	Nathan Zimmerman, Konstantinos Kyprianidis, Erik Dahlquist	Towards on-line fault detection and diagnostics in district heating networks
09:10-09:30	448	Zelin Li, Qingsong An, Jun Zhao, Shuai Deng, Ligai Kang, Yongzhen Wang	Analysis of design and operation optimization of CCHP system with different feed-in tariff policies
09:30-09:50	906	Sourav Mitra	Modeling the effect of heat source temperature on the performance of two-stage air cooled silica gel + water adsorption system
08:10-09:50	Room: 201#A PANEL SESSION: Applied Energy summer school: open-source modelling tools Chair: Dr. Pietro Elia Campana; Participants: Prof. Jinyue Yan, Prof. Bin Chen, Mr. Yang Zhang		
09:50 – 10:20	TEA/COFFEE BREAK		

Room: 201#B			
Session Name: Engine and emission reduction			
Session Chair: Mehdi Jangi, Tariq Shamim			
Time	Paper ID	Author	Paper Title
10:20-10:40	520	Subir Bhaduri, Francesco Contino, Hervé Jeanmart	Tar tolerant HCCI engine fuelled with biomass syngas: combustion control through EGR
10:40-11:00	524	Ocktaeck Lim	Effects of structural parameters on operating characteristics of a solenoid injector
11:00-11:20	535	Nattakit Tongdee, Chalothorn Thumthae	Thermodynamics analysis for optimal parameters of Gamma-configuration Stirling engine with geothermal in Thailand
11:20-11:40	536	Ocktaeck Lim	Study on characteristics of auto-ignition in gasoline-biodiesel blend fuel with a rapid compression expansion machine
11:40-12:00	243	Puyan Xu, Changwei Ji, Shuofeng Wang	The characteristics in adsorption and desorption of an adsorption-desorption system for HC emissions within the gasoline engines during cold start
Room: 201#C			
Session Name: Solar collector systems			
Session Chair: Hongxing Yang			
Time	Paper ID	Author	Paper Title
10:20-10:40	690	Hongbo Liang	Analysis of Annual Performance for Parabolic Trough Solar Collectors
10:40-11:00	730	Li Zhang, Jiabin Fang, Jinjia Wei	Numerical study on the thermal performance of molten salt cavity receiver with different geometries
11:00-11:20	415	Ruilin Wang, Wanjun Qu, Hui Hong, Jie Sun	An on-site test method for optical efficiency of large-size parabolic trough collectors
11:20-11:40	433	Valentina Colla, Stefano Dettori, Giuseppe Salerno, Annamaria Signorini	Steam turbine models for monitoring purposes
11:40-12:00	819	Jian Jin, Yunyi Ling, Yong Hao	A new method to analyze the characteristics of parabolic trough solar collector systems
Room: 201#D			
Session Name: Wind power			
Session Chair: Xiong Liu, Youmin Zhang			
Time	Paper ID	Author	Paper Title
10:20-10:40	471	Ramesh Bansal, Gulshan Sharma, Ibraheem Nasiruddin	DFIG based AGC of power system using robust methodology
10:40-11:00	545	Angelo Aquino, John Kaiser Calautit, Ben Richard Hughes	Urban integration of aeroelastic belt for low-energy wind harvesting
11:00-11:20	557	Lai Sai Hin, Xiao Hang Wang, Wen Tong Chong, Wong Kok Hoe, Poh Sin Chew, Lip Huat Saw, Wang Chin-tsan	The design, simulation and testing of V-shape roof guide vane integrated with an eco-roof system
11:20-11:40	595	Faisal Mahmuddin	Airfoil lift and drag extrapolation with viterna and montgomerie methods
11:40-12:00	760	Wen Tong Chong, Wong Kok Hoe, Chin tsan Wang, Mohammed Gwani, Yung-Jeh Chu, Wei-Chin Chia, Poh Sin Chew	Cross-Axis-Wind-Turbine: A complementary design to push the limit of wind turbine technology

Room: 203#A			
Session Name: Battery in electric vehicle			
Session Chair: Xiaofeng Ding, Aihua Tang			
Time	Paper ID	Author	Paper Title
10:20-10:40	28	Xiaopeng Tang, Boyang Liu, Furong Gao	State of charge estimation of LiFePO ₄ battery based on a gain-classifier observer
10:40-11:00	142	Jianan Zhang, Zhenpo Wang, Fengchun Sun	Heating character of a LiMn ₂ O ₄ battery pack at low temperature based on PTC and metallic resistance material
11:00-11:20	912	Yin Ding	A short review on layered LiNi _{0.8} Co _{0.1} Mn _{0.1} O ₂ positive electrode material for lithium-ion batteries
11:20-11:40	654	Shanshan Xie, Rui Xiong, Yongzhi Zhang, Hongwen He	The estimation of state of charge for power battery packs used in hybrid electric vehicle
11:40-12:00	659	Dongsheng Ren, Languang Lu, Minggao Ouyang, Xuning Feng, Jianqiu Li, Xuebing Han	Degradation identification of individual components in the Li _y Ni _{1/3} Co _{1/3} Mn _{1/3} O ₂ -Li _y Mn ₂ O ₄ blended cathode for large format lithium ion battery
Room: 203#B			
Session Name: Heat transfer and heat exchangers (II)			
Session Chair: Rebei Bel-Fdhila, Jing Ding			
Time	Paper ID	Author	Paper Title
10:20-10:40	58	Normah Mohd-Ghazali, Yushazariah Mohd Yunos, Agus Sunjarianto Pamitran, Sentot Novianto	Analysis of two correlations for the heat transfer coefficient of propane in a small channel
10:40-11:00	68	Simin Huang	Conjugate transport data in flat plate membrane channels employed for air humidification
11:00-11:20	128	Gang Jiang, Hong-wei Lu, Xing Jin	Numerical analysis of the thermal performance of energy pile with U-tube
11:20-11:40	86	Tao Han, Changan Wang, Qi Cao, Wufeng Chen, Defu Che	Investigation on heat transfer characteristics of the H-type finned tube in flue gas with high content of ash
11:40-12:00	104	Lan Xiao, Shuang-Ying Wu, Quan-Wei Chu, Hai-Yan Wu	Parametric analysis of condensation heat transfer characteristics of AMTEC wick condenser
Room: 203#C			
Session Name: Strategic studies of national energy systems			
Session Chair: Koji Tokimatsu, Neha Sehgal			
Time	Paper ID	Author	Paper Title
10:20-10:40	469	Zhijia Chen, Haizhong An	Dynamic modeling of China's natural gas inventory plan and corresponding import strategy
10:40-11:00	813	Neha Sehgal, Krishan Pandey	Striking an energy balance for India through shale gas
11:00-11:20	559	Rina Haiges, Yao Dong Wang, Tony Roskilly, Atanu Ghoshray	Forecasting electricity generation capacity in Malaysia: An ARIMA approach
11:20-11:40	582	Yang Bai, Carol Dahl	A survey on the economy efficiency of the United States' strategic petroleum reserve
11:40-12:00	882	Qi Zhang	Study on the impacts of the LNG market reform in China using a SVM based rolling horizon stochastic game analysis

Room: Convention Hall 4 (1st floor) - A**Session Name: Distributed energy system (I)****Session Chair: Yunfei Mu, Bin Ye**

Time	Paper ID	Author	Paper Title
10:20-10:40	165	Shuai Deng	Flexible distributed energy system: concept, typical technologies and case study
10:40-11:00	269	Chao Long, Jianzhong Wu, Chenghua Zhang	Feasibility of peer-to-peer energy trading in low voltage electrical distribution networks
11:00-11:20	275	Li Zhou, Markus Kraft, Ming Pan, Janusz Sikorski, Sushant Garud, Martin Kleinelanghorst, Iftekhar Karimi	System development for eco-industrial parks using ontological innovation
11:20-11:40	343	Weiliang Wang, Dan Wang, Hongjie Jia, Zhaoyu Chen, Jia Tang	A decomposed solution of multi-energy flow in regional integrated energy systems considering operational constraints
11:40-12:00	409	Marialaura Di Somma, Bing Yan, Nicola Bianco, Giorgio Graditi, Peter B. Luh, Luigi Mongibello, Vincenzo Naso	Design optimization of a distributed energy system through cost and exergy assessments

Room: Convention Hall 4 (1st floor) - B**Session Name: Catalytic enhanced biofuels****Session Chair: Agustin Valera-Medina, Motern Seljeskog**

Time	Paper ID	Author	Paper Title
10:20-10:40	980	Janka Dibdiakova, Liang Wang, Hailong Li	Heating value and ash content of downy birch forest biomass
10:40-11:00	85	Changan Wang, Tao Han, Qi Cao, Wufeng Chen, Defu Che	Experimental study on cohesiveness characteristics of raw cement ash at moderate temperature
11:00-11:20	70	Hesam Fatehi, Florian M. Schmidt, Xue-Song Bai, Zhechao Qu	Effect of volatile reactions on the thermochemical conversion of biomass particles
11:20-11:40	210	Khanh-Quang Tran, Wennan Zhang	Fast hydrothermal liquefaction of native and torrefied wood
11:40-12:00	937	Lan Zhang	Co-pyrolysis behaviors of MSW and coal in the radiant pyrolyzing furnace and the tube furnace

Room: Convention Hall 4 (1st floor) - C**Session Name: LCA of energy systems (II)****Session Chair: Reinhard Madlener, Victor Nian**

Time	Paper ID	Author	Paper Title
10:20-10:40	61	Holger Schlör, Jan Christian Koj, Petra Zapp, Andrea Schreiber, Jürgen-Friedrich Hake	The social footprint of hydrogen production - A social life cycle assessment (S-LCA) of alkaline water electrolysis
10:40-11:00	83	Wei Wu	An economic and environmental assessment for microalgal energy systems
11:00-11:20	133	Hassan Hamdan, Brian Kinsella	Using a VSC based HVDC application to energize offshore platforms from onshore – A life-cycle economic appraisal
11:20-11:40	389	Zhenni Wang, Lianying Zhang, Xiaohu Yang, Liwen Jin, Wenju Hu, Qunli Zhang	Thermo-economic analysis for directly-buried pipes insulation of district heating piping systems
11:40-12:00	461	Holger Schlör, Petra Zapp, Jürgen-Friedrich Hake, Jan Christian Koj, Andrea Schreiber	Towards a life cycle sustainability assessment of alkaline water electrolysis

Room: Convention Hall 4 (1st floor) - D Session Name: Industrial energy processes Session Chair: Fredrik Wallin, Weilong Wang			
Time	Paper ID	Author	Paper Title
10:20-10:40	973	Limin Ma	Energy consumption optimization of high sulfur natural gas purification plant based on back propagation neural network and genetic algorithms
10:40-11:00	729	Francesca Marchiori, Valentina Colla, Andrea Belloni, Michele Benini, Silvia Cateni, G Nastasi, Antonella Vignali, Marco Lupinelli, Alexander Ebel, Marcus Neuer, Zelong Lei, Costanzo Pietrosanti	Integrated dynamic energy management for steel production
11:00-11:20	403	Xi Jiang, Didi Li	Numerical investigation of the effects of impurity on CO ₂ sequestration in stratified formation
11:20-11:40	560	Paul Griffin, Jonathan Norman, Geoffrey Hammond	Opportunities for energy demand and carbon emissions reduction in the chemicals sector
11:40-12:00	836	Le Cao Nhien, Nguyen Van Duc Long, Moonyong Lee	Process design of hybrid extraction and distillation processes through a systematic solvent selection for furfural production
Room: Convention Hall 4 (1st floor) - E Session Name: Thermal storage (II) Session Chair: Christoph Hilgers, Steffen Beckert			
Time	Paper ID	Author	Paper Title
10:20-10:40	203	Guohong Tian, Jun Li	Investigation of an HD engine thermal storage system
10:40-11:00	620	Heqing Tian	Enhanced specific heat of chloride salt with Mg particles for high-temperature thermal energy storage
11:00-11:20	984	Changjiang Wang, Qie Sun	Evaluation on performance of cold storage house based on phase change materials
11:20-11:40	538	Shuo Lv, Gui-Hua Zhu, Yang Xu, Ya-Ling He, Bo Shan	Al/Al ₂ O ₃ form-stable phase change material for high temperature thermal energy storage
11:40-12:00	542	Thomas Nagel, Steffen Beckert	A comparison of heat storage densities of zeolite granulates predicted by the Dubinin-Polanyi theory to experimental measurements
Room: Convention Hall 4 (1st floor) - F Session Name: Biomass to energy Session Chair: Erik Dahlquist, Kunio Yoshikawa			
Time	Paper ID	Author	Paper Title
10:20-10:40	518	Zoltán Sebestyén, Norbert Miskolczi, Eszter Barta-Rajnai, Emma Jakab, Zsuzsanna Czegeny	Thermocatalytic studies on municipal solid waste
10:40-11:00	570	Roland Span	Oxyfuel combustion – experimental investigation of sorption effects on coal char
11:00-11:20	874	Liang Wang	Impact of torrefaction on woody biomass properties
11:20-11:40	477	Baskoro Lokahita, Kunio Yoshikawa, Fumitake Takahashi	Hydrothermal treatment of postconsumer aseptic packaging material: solid fuel production and aluminum recovery
11:40-12:00	940	Lan Zhang	Pyrolysis characteristics of municipal solid waste in oxygen-free circumstance
12:00-13:00	LUNCH		

Room: 201#B			
Session Name: Algal fuels and environmental sustainability			
Session Chair: Lida Simasatitkul, Raza Naqvi			
Time	Paper ID	Author	Paper Title
13:00-13:20	331	Mingming Zhu, Nimas Mayang Sabrina Sunyoto, Zhezi Zhang, Dongke Zhang	Effect of biochar addition and initial ph on hydrogen production from the first phase of two-phase anaerobic digestion of carbohydrates food waste
13:20-13:40	460	Piera Patrizio, Haslenda Hashim, Poh Ying Hoo, Florian Kraxner, SieTing Tan, Wai Shin Ho, Sylvain Leduc	Optimal biomethane injection into natural gas grid - biogas from palm oil mill effluent (POME) in Malaysia
13:40-14:00	647	Mandy Gerber, Sebastian Schwede, Eva Thorin, Florian Bruchmann	Biological syngas methanation via immobilized methanogenic archaea on biochar
14:00-14:20	696	Maria Westerholm	Microbial community ability to adapt to altered temperature conditions influences operating stability in anaerobic digestion
14:20-14:40	752	Anbarasan Anbalagan	Continuous CO ₂ and volatile organic compound (VOC) removal in a tubular photo-bioreactor
14:40-15:00	801	Eva Thorin, Jesper Olsson, Sebastian Schwede, Emma Nehrenheim	Biogas from co-digestion of sewage sludge and microalgae
Room: 201#C			
Session Name: Heat pumps and refrigeration systems			
Session Chair: Xianting Li, Bin Chen			
Time	Paper ID	Author	Paper Title
13:00-13:20	378	Cai Yang, Liu Di	Optimization of thermoelectric cooler system for application in CPU cooler
13:20-13:40	434	Xiaoran Zhang, Shaopeng Guo, Xiaoran Zhang	Evaluation and analysis of thermal short-circuiting in borehole heat exchangers
13:40-14:00	441	Shuangquan Shao, Weijia Zhang, Changqing Tian, Hainan Zhang	Numerical Investigation on three-fluid heat exchanger for hybrid Energy source heat pumps
14:00-14:20	493	Jingyuan Xu, Jianying Hu, Limin Zhang, Ercang Luo, Wei Dai	Numerical investigation on a looped thermoacoustically-driven cryocooler for natural gas liquefaction
14:20-14:40	710	L.W. Wang	The feasibility of a type of sorption chiller for electric vehicles
14:40-15:00	43	Normah Mohd-Ghazali, Nor Atiqah Zolpakar, Robiah Ahmad, Thierry Mare	Performance of a 3D-printed stack in a standing wave thermoacoustic refrigerator
Room: 201#D			
Session Name: Solar photovoltaic system (III)			
Session Chair: Hongxing Yang, Xingxing Zhang			
Time	Paper ID	Author	Paper Title
13:00-13:20	273	Weilong Zhang, Xi Chen	Performance evaluation of vacuum photovoltaic insulated glass unit
13:20-13:40	398	Yi-Peng Zhou, Ya-Ling He, Yu Qiu, Tao Xie	Multi-scale investigation on the optical performance of a concentrated photovoltaic thermoelectric hybrid system by a MC-FDTD coupled method
13:40-14:00	429	ZhongBing Liu	Investigation on a photovoltaic thermoelectric ventilator
14:00-14:20	508	Ying Wen Liu, Lisha An, Liu Liu	Improvement of performance of gas flow channel in a polysilicon CVD reactor with field synergy principle
14:20-14:40	607	Hongyang Zou, Huibin Du	Techno-economic evaluation of China's PV power generation: Is the achievement of grid parity possible?
14:40-15:00	480	Ramesh Bansal, T Adefarati	Impacts of PV-wind-diesel-electric storage hybrid system on the reliability of a power system

Room: 203#A			
Session Name: Energy efficiency in buidings (II)			
Session Chair: Fredrik Wallin, Jia Michelle Cui			
Time	Paper ID	Author	Paper Title
13:00-13:20	745	Fabrizio Leonforte, Niccolò Aste, Rajendra Adhikari, Claudio Del Pero	Multi-functional integrated system for energy retrofit of existing buildings: a solution towards nZEB standards
13:20-13:40	426	Haoxin Xu, Jia Yin Sze, Alessandro Romagnoli, Xavier Py	Selection of phase change material for thermal energy storage in solar air conditioning systems
13:40-14:00	396	Yazeed Ghadi, Mohammad Rasul, Masud Khan	The integration of day light with advance fuzzy based controllers for institutional buildings in the region of central Queensland, Australia
14:00-14:20	769	Yazeed Ghadi, Mohammad Rasul, Masud Khan	Energy savings by fuzzy base control of occupancy concentration in institutional buildings
14:20-14:40	191	Siwei Lou, Ernest K.W. Tsang, Danny H W Li, Eric W.M. Lee, Joseph C Lam	Towards net zero energy school building designs in Hong Kong
Room: 203#B			
Session Name: Battery modeling and simulation			
Session Chair: Lijun Zhang, Dan Wang			
Time	Paper ID	Author	Paper Title
13:00-13:20	338	Jiayi Luo, Hongwen He, Jingda Wu, Jiankun Peng	Parameter matching and simulation analysis of electromechanical coupling device for hybrid electric vehicle
13:20-13:40	346	Jun Xu, Qingxia Yang, Binggang Cao, Bin Wang, Xiuqing Li	State-of-health estimation of lithium-ion battery based on interval capacity
13:40-14:00	347	Jianfei Cao, Hongwen He, Jiankun Peng	Online prediction with variable horizon for vehicle future driving-cycle
14:00-14:20	350	Jiahuan Lu, Zeyu Chen, Rui Xiong	Online estimation of state of power for lithium-ion battery considering the battery aging
14:20-14:40	351	Zhenyu Sun, Peng Liu, Zhenpo Wang	Real-time fault diagnosis method of battery system based on Shannon entropy
14:40-15:00	466	Yang Liu, Cheng Lin, Zhifeng Xu, Shan Wang	Sliding mode observers designed to improve observation accuracy of electric vehicle state information
Room: 203#C			
Session Name: Micro and nano energy technologies			
Session Chair: Erik Dahlquist, Zhixin Yu			
Time	Paper ID	Author	Paper Title
13:00-13:20	100	Binbin Chen, Jin Xuan, Huizhi Wang, Dennis Y.C. Leung	Microfluidic aluminum-air cell with methanol-based anolyte
13:20-13:40	274	Xingyu Xu, Lin Lu, Yuanhao Wang, Shujun Wang	Antimony doped tin oxide/multi-walled carbon nanotubes: highly near-infrared blocking coating used for heat conservation windows
13:40-14:00	295	Mai Li, Dajun Wu, Lianwei Wang, Hongxing Yang, Yuanhao Wang	Hierarchical grass like NiCo ₂ O ₄ nanoflakes on 3-dimensional microporous electrically conductive network with superior electrochemical performance
14:00-14:20	762	Zihao Yao, Weiling Luan	A novel way of real-time crack monitoring based on quantum dots
14:20-14:40	789	Bohao Wu, Lanlan Jiang, Yu Liu, Pengfei Lv, Dayong Wang, Yongchen Song	Pore-scale mass transfer experiments in porous media by X-ray CT scanning
14:40-15:00	75	Yiji Lu, Yao Dong Wang, Tony Roskilly	Experimental exploration of a novel chemisorption composite of SrCl ₂ -NEG adding with Carbon coated Ni

Room: Convention Hall 4 (1st floor) - A**Session Name: Strategic studies of national energy systems (II)****Session Chair: Yang Bai, Yuejun Zhang**

Time	Paper ID	Author	Paper Title
13:00-13:20	367	Shihui Zhang, Can Wang, Wenjia Cai	How shale gas will shape China's future? An evaluation based on dynamic Energy-CGE model
13:20-13:40	759	Konstantinos Chalvatzis, Dimitrios Pappas	Energy and industrial growth in India: the next emissions superpower?
13:40-14:00	986	Haifang Liu	Research on Chinese solar photovoltaic development based on green-trading mechanisms in power system by using a system dynamics model
14:00-14:20	862	Wenhuan Wang, Qiming Li, Yiping Lou, Xiaoguang Yang	China energy-air quality nexus: assessing the air quality-improving synergy effects of energy-saving during the 12th Five Year Period
14:20-14:40	156	Ekaterina Mednikova	Search for a market equilibrium in the oligopoly heat market
14:40-15:00	915	Zhang Jie, Campana Pietro Elia, Zhang Yang, Lundblad Anders, Yan Jinyue	Combating agricultural drought with irrigation: a water-foodenergy optimization approach

Room: Convention Hall 4 (1st floor) - B**Session Name: Industrial energy systems (I)****Session Chair: Dawei Wu, Dan Zhao**

Time	Paper ID	Author	Paper Title
13:00-13:20	11	Mehdi Jangi, Xue-Song Bai	Modelling of methanol combustion in a direct injection compression ignition engine using an accelerated stochastic fields method
13:20-13:40	72	Muhammad Ikram Mohd Rashid	ADVISOR simulation and performance test of split plug-in hybrid electric vehicle conversion
13:40-14:00	543	Amin Al-Habaibeh	An innovative and integrated approach for using energy from the flooded coal mines for pre-warming of a gas engine in standby mode using GSHP
14:00-14:20	549	Ocktaeck Lim	Spray simulation of n-heptane in a constant volume combustion vessel over a wide range of ambient gas density and fuel temperature
14:20-14:40	188	Thomas Arink, Mohamed Hassan Ali	Metal scrap preheating using flue gas waste heat
14:40-15:00	241	Lei Shi, Changwei Ji, Shuofeng Wang	The combustion characteristic and performance of a dimethyl ether-blended gasoline engine under idle and stoichiometric conditions

Room: Convention Hall 4 (1st floor) - C**Session Name: Fuel cell (II)****Session Chair: Horng-Wen Wu, Taegyu Kim**

Time	Paper ID	Author	Paper Title
13:00-13:20	14	Mayken Espinoza, Martin Andersson, Bengt Sundén	Modeling of a gradient porosity SOFC anode using the Lattice Boltzmann method
13:20-13:40	41	Horng-Wen Wu, Duo-Yao Kang, Shiang-Wuu Perng	Effect of rectangular ribs in the flow channels of HTPEM fuel cell
13:40-14:00	107	Yifei Wang, Dennis Y.C. Leung	Optimization of cathode flooding in scaled-up microfluidic fuel cells
14:00-14:20	200	Shan Jia, Hongtan Liu	Numerical modeling with electrochemical active area (ECA) distribution in the lateral direction in a PEM fuel cell
14:20-14:40	263	Michael K.H. Leung, Li Li, Wenguang Fan, Jin Xuan, Yiyi She, Keqing Zheng	Design principles of current collectors in microfluidic fuel cell with flow-through porous electrodes
14:40-15:00	510	Rajesh S Kempegowda, Øyvind Skreiberg, Khanh-Quang Tran, Pannirselvam Pagandai V	Techno-economic assessment of thermal co-pretreatment and co-digestion of food wastes and sewage sludge for heat, power and biochar production

Room: Convention Hall 4 (1st floor) - D**Session Name: Biofuels-biodiesel****Session Chair: Weixiong Chen, Umberto Desideri**

Time	Paper ID	Author	Paper Title
13:00-13:20	54	Kun Lin Tay, Wenming Yang, Siaw Kiang Chou, Dezhi Zhou, Jing Li, Yu Wenbin, Feiyang Zhao, Balaji Mohan	Effects of injection timing and pilot fuel on the combustion of a kerosene-diesel/ammonia dual fuel engine: A numerical study
13:20-13:40	519	Ocktaeck Lim	Influence of Injection Strategy on a Compression Ignition Engine Fueled with Gasoline
13:40-14:00	33	Agustin Valera-Medina, Hesham Baej, Nicholas Syred, Cheng Tung Chong, Phil Bowen	Coherent structure impacts on blowoff using various syngases
14:00-14:20	318	Natarajan Shanmugam, Meenakshi Sundareswaran A.U, Abhinav Shankar	Early injected PCCI engine fuelled with bio ethanol and diesel blends-an experimental investigation
14:20-14:40	164	Yang Zhang, Mingming Zhu, Zhezi Zhang, Dongke Zhang	Combustion and emission characteristics of a spark ignition engine fuelled with biogas from two-phase anaerobic digestion (T-PAD)
14:40-15:00	310	Natarajan Shanmugam, Meenakshi Sundareswaran A.U, Akshay Kumar Madhu	Computational analysis of an early direct injected HCCI engine fuelled with bio ethanol and diesel blends

Room: Convention Hall 4 (1st floor) - E**Session Name: Organic Rankine cycles (III)****Session Chair: Tony Roskily**

Time	Paper ID	Author	Paper Title
13:00-13:20	268	Xiaoya Li	Dynamic modeling of CO ₂ transcritical power cycle for waste heat recovery of gasoline engines
13:20-13:40	63	Roberto Pili, Alessandro Romagnoli, Christoph Wieland, Hartmut Spliethoff	Economic feasibility of organic Rankine cycles (ORC) in different transportation sectors
13:40-14:00	321	Weixiong Chen, Junjie Yan, Xiaoqu Han, Sotirios Karellas, Ming Liu, Konstantinos Braimakis, Emmanuel Kakaras	Integration of organic rankine cycle with lignite flue gas pre-drying for waste heat and water recovery from dryer exhaust gas: thermodynamic and economic analysis
14:00-14:20	362	Mingru Zhao, Gequn Shu, Hua Tian, Nanhua Yan	Analysis of an alternative method to optimize the combined model of engine and organic Rankine cycle
14:20-14:40	458	Arnaud Landelle, Nicolas Tauveron, Remi Revellin, Philippe Haberschill, Stephane Colasson	Performance evaluation and comparison of experimental organic Rankine cycle prototypes from published data
14:40-15:00	335	Yongzhen Wang, Jun Zhao, Chao Luo, Shuai Deng, Qingsong An	A critical analysis on performance of ORC through a modified thermodynamic model based on fluid property
15:00-15:30	TEA/COFFEE BREAK		

Room: 201#B			
Session Name: Wind power generation (II)			
Session Chair: Nuomin Han, Junjun Deng			
Time	Paper ID	Author	Paper Title
15:30-15:50	857	Faisal Mahmuddin	Rotor blade performance analysis with blade element momentum theory
15:50-16:10	926	Toohid Bagherpoor, Li Xuemin	Structural optimization design of 2MW composite wind turbine blade
16:10-16:30	858	Wei You	Improving wind environment of residential neighborhoods by understanding the relationship between building layouts and ventilation efficiency
16:30-16:50	934	Youmin Zhang, Hamed Badihi	Passive fault-tolerant cooperative control in an offshore wind farm
16:50-17:10	990	Shiyu Ji, Bin Chen	LCA-based energy-water-land nexus of a typical wind farm in China
17:10-17:30	879	Marco Antonelli, Marco Francesconi, Andrea Baccioli, Gianluca Caposciutti	Experimental results of a Wankel-type expander fuelled by compressed air and saturated steam
Room: 201#C			
Session Name: Modeling and analysis of energy systems			
Session Chair: Sheng Li, Masud Khan			
Time	Paper ID	Author	Paper Title
15:30-15:50	698	Yanzhe Li, Shixue Wang, Yulong Zhao	Experimental study on the influence of the core flow heat transfer enhancement on the performance of thermoelectric generator
15:50-16:10	417	Qing Zeng, Baohua Zhang, Jiakun Fang, Zhe Chen	Coordinated operation of the electricity and natural gas systems with bi-directional energy conversion
16:10-16:30	476	Wenjia Li, Yong Hao, Yunyi Ling	Performance analysis of a PV-thermochemical hybrid system
16:30-16:50	592	Ruan Haijun	A reduced wide-temperature-range electro-thermal model and thermal parameters determination for lithium-ion batteries
16:50-17:10	366	Xingtian Zhang, Hongye Pan, Yanping Yuan, Zutao Zhang, Xinlong Liu, Guangdi Hu	A renewable energy harvesting system based on mechanical vibration rectifier (MVR) for applications in railroads
17:10-17:30	77	Xiao Jin, He Zhao, Li Shen	Experimental and numerical study of passive control of self-sustained thermoacoustic oscillations using an electrical heater
Room: 201#D			
Session Name: Modeling and analysis of energy systems			
Session Chair: Pietro Elia Campana			
Time	Paper ID	Author	Paper Title
15:30-15:50	795	Xiaoqiang Zhang, Jixuan Liu, Huiming Zou, Changqing Tian, Xuelai Zhang	Influence of heat exchanger tube layout on performance of heat pump system for electric cars
15:50-16:10	822	Wen Hui Liu, Wai Shin Ho, Jeng Shiun Lim, Haslenda Hashim, Sharifah Rafidah Wan Alwi, Zarina Abdul Muis, Jiri J. Klemes, Nor Erniza M. Rozali	Optimal design and operation of integrated centralized and decentralized energy systems
16:10-16:30	977	Ming Yang Lee, Haslenda Hashim, Wen Hui Liu, Wai Shin Ho	Extended electric system cascade analysis (ESCA) for a carbon constraint energy generation system
16:30-16:50	374	Fei Qin, Huiming Zou, Changqing Tian	Experimental study on a dual- parallel-evaporator heat pump system for thermal management of electric vehicles
16:50-17:10	402	Jixuan Liu, Huiming Zou, Guiying Zhang, Xiaoqiang Zhang, Changqing Tian	Analysis of maximum return air ratio on no-fogging condition by in-cabin climate simulation for EV
17:10-17:30	666	Longcan Zhang, Mingke Hu, Gang Pei, Jie Ji	PV packing factor: a key parameter in the comprehensive performance evaluation of a photovoltaic/thermal system

Room: 203#A			
Session Name: Regional and household energy systems			
Session Chair: Alessandro Fonti			
Time	Paper ID	Author	Paper Title
15:30-15:50	609	Tungadio Diambomba Hyacinthe	Active power reserve estimation of two interconnected microgrids
15:50-16:10	554	Jia Michelle Cui	To identify appropriate retrofit approaches in reaching a near Passivhaus standard in an EU-funded urban regeneration project
16:10-16:30	339	Xiong Mei, Guangcai Gong	Influence of indoor air stability on dispersion and deposition of suspended particles
16:30-16:50	722	Maomao Hu, Fu Xiao	Investigation of the demand response potentials of residential air conditioner using grey-box room thermal model
16:50-17:10	815	Kui Weng	Performance of UK dwellings in projected future climates
17:10-17:30	925	Jie Ji, Cui He	Experimental study for a micro smart grid to meet the energy demand of a household
Room: 203#B			
Session Name: Emission reduction			
Session Chair: Haizhong An, Can Wang			
Time	Paper ID	Author	Paper Title
15:30-15:50	281	Bo Wang, Xiaohua Xia	A preliminary study on the robustness of grouping based maintenance plan optimization in building retrofitting
15:50-16:10	640	Alice Didelota, Nadia Maizi, Vincent Mazauricb, Edi Assoumou, Sandrine Selosse	Balancing energy efficiency and fossil fuel : the role of carbon pricing
16:10-16:30	669	Xiaoling Zhang, and Huan Li	Rural energy poverty and rural sustainability: a missing chapter?
16:30-16:50	918	Jin Xiangfeng, Chen Weidong, Geng Shuai, Xu Chongqing, Yan Guihuan	The decision framework of carbon emission reduction plan based on multi-undertakers
16:50-17:10	985	Chi Zhang, Pietro Campana, Jin Yang, Jingyu Zhang, Jinyue Yan	Can solar energy support milk production? ---a case study of solar energy and alfalfa integration for milk production in China
17:10-17:30	96	Nugroho Agung Pambudi, Kenshi Itaoka, Atsushi Kurosawa, Natsuki Yamakawa	Impact of hydrogen fuel for CO ₂ emission reduction in power generation sector in Japan
Room: 203#C			
Session Name: Heat pipe			
Session Chair: Shandong Tu, Hassan Ali			
Time	Paper ID	Author	Paper Title
15:30-15:50	155	How-Ming Lee, Meng-Chang Tsai, Hsin-Liang Chen, Heng-Yi Li	Stainless steel heat pipe fabrication, performance testing and modeling
15:50-16:10	168	Bernard Saw	Numerical analyses on open cell aluminum foams heat sink for lithium-ion batteries
16:10-16:30	184	Junjie Yan, Daotong Chong, Dan Zhang, Yu Wang, Qingzhong Yang	Experimental study on heat transfer characteristics of static flash evaporation process
16:30-16:50	186	Jingyu Wang, Qing Guo, Jian Yang, Yan Liu, Qiuwang Wang	Experimental study of convective heat transfer in grille-sphere composite structured packed bed
16:50-17:10	252	Fei Xin, Qiuwang Wang, Ting Ma	Spray etching rate development of stainless steel in the etchant for printed circuit heat exchanger channels

Room: Convention Hall 4 (1st floor) - A Session Name: Modeling of energy processes Session Chair: Ronald Wennersten, Zeyu Chen			
Time	Paper ID	Author	Paper Title
15:30-15:50	327	Wentao Fan	Simulation of temperature field of lithium battery pack based on computational fluid dynamics
15:50-16:10	405	Mouhamadou diop, Mohamed Hassan Ali, Chen Xiaomeng	Billets heat treatment using flue gas for energy efficiency and batching cycle time reduction
16:10-16:30	702	Zhe Liu	Effect of stratum ventilation on thermal comfort and energy utilization efficiency of numerical simulation
16:30-16:50	193	Guangzhao Li, Li Zhai, Huiyuan Feng	Optimization method of decoupling capacitor in PCB hardware of electric vehicle controller
16:50-17:10	44	Normah Mohd-Ghazali, Jong-Taek Oh, Robiah Ahmad, Agus Sunjarianto Pamitran, Sentot Novianto	Investigation of compatibility of the heat transfer coefficient correlations for macro and mini channels
17:10-17:30	688	Jie Ji, Huan Guo	Simulation study of an ORC system driven by the waste heat recovered from a trigeneration system
Room: Convention Hall 4 (1st floor) - B Session Name: Industrial energy systems (II) Session Chair: Koji Tokimatsu, Yinguang Chen			
Time	Paper ID	Author	Paper Title
15:30-15:50	369	Changhong Wang	Enhancement of performance of thermoelectric generators with superconducting substrates
15:50-16:10	497	Meng Zhao, Minshan Wei, Panpan Song, Zhen Liu, Zhixing Wang	Effects of the ORC Operating Conditions on the Engine Performances for an Engine-ORC Combined System
16:10-16:30	959	Yinguang Chen	Using mixed sludge-derived short-chain fatty acids enhances power generation of microbial fuel cells
16:30-16:50	838	Salmahaminati, Jumina	Synthesis propyl propanoic from propanoic acid by esterification reaction
16:50-17:10	988	Siyuan Yang, Bin Chen	Socioeconomic drivers of energy-related particulate matter emissions in China
17:10-17:30	457	Salman Raza Naqvi	Catalytic consequences of micropore topology on biomass pyrolysis vapors over shape selective zeolites
Room: Convention Hall 4 (1st floor) - C Session Name: Distributed energy system (II) Session Chair: Victor Nian, Lixin Tian			
Time	Paper ID	Author	Paper Title
15:30-15:50	911	Anna Kaja Lewandowska-Bernat, Umberto Desideri	Opportunities of power-to-gas technology
15:50-16:10	236	Qingsong An, Hao Li, Ligai Kang, Shuai Deng, Jun Zhao, Yan Wang	Strategy analysis of demand side management on distributed heating driven by wind power
16:10-16:30	490	Yuefen Gao, Yongzhao Cheng, Shanshan Nan	Study on the cooling heating and power load prediction method in community building energy planning
16:30-16:50	616	Benachir Medjdoub, Allan Hawas, Amin Al-Habaibeh	Innovative design of an educational physical simulation tool for investigating energy consumption in buildings for enhancing public engagement
16:50-17:10	895	Yang Zhang, Pietro Elia Campana, Anders Lundblad, Lei Wang, Jinyue Yan	The influence of photovoltaic models and battery models in system simulation and optimization
17:10-17:30	147	Xin Wang, Fei Teng, Xi Yang, Rongqiang Wei	Assessing the role of electricity storage in China's high renewable energy penetration future

Room: Convention Hall 4 (1st floor) - D**Session Name: Thermal storage (III)****Session Chair: Zsuzsanna Czegeny, Eva Thorin**

Time	Paper ID	Author	Paper Title
15:30-15:50	587	Kathrin Korhammer, Karsten Neumann, Wolfgang K.L. Ruck, Oliver Opel	Micro-scale thermodynamic and kinetic analysis of a calcium chloride methanol system for process cooling
15:50-16:10	602	Pan Gechuanqi, Jing Ding, Jianfeng Lu, Xiaolan Wei, Weilong Wang	Molecular simulations of the thermal and transport properties of molten alkali carbonates
16:10-16:30	614	Shiquan He	Numerical evaluation on a direct-contact thermal energy storage system
16:30-16:50	514	Enrico Munari, Mirko Morini, Michele Pinelli, Pier Ruggero Spina	Experimental investigation and modeling of surge in a multistage compressor
16:50-17:10	718	Emiliano Borri, Gabriele Comodi, Alessandro Romagnoli, Alessio Tafone, Yongliang Li	Techno-economic analysis of a liquid air energy storage (LAES) for cooling application in hot climates
17:10-17:30	319	K.D. Eleftheriou, T. Efstathiadis, A.I. Kalfas	Stator blade design of an axial turbine using non-ideal gases with low real-flow effects

Room: Convention Hall 4 (1st floor) - E**Session Name: Advanced engines****Session Chair: Francesco Contino, Hui Liu**

Time	Paper ID	Author	Paper Title
15:30-15:50	804	S. Natarajan, K. Akash Trasy, N. Srihari, S. Raja	Effects of injection timing on ci engine performance fuelled with algae oil blend using taguchi analysis
15:50-16:10	278	Dezhi Zhou, Wenming Yang, Jing Li, Kun Lin Tay, Siaw Kiang Chou, Markus Kraft	Efficient combustion modelling in RCCI engine with detailed chemistry
16:10-16:30	513	Ocktaeck Lim, Yanuandri Putrasari	Performance and emission of gasoline compression ignition engine fueled with gasoline-biodiesel blends 5 and 20 % under single injection strategy
16:30-16:50	814	Dawei Wu	A coupled model of the Linear Joule Engine with embedded tubular permanent magnet linear alternator
16:50-17:10	261	Baiman Chen	The development of a two-stage traveling wave thermoacoustic engine