

ICOPE-2019 Programme

Kunming, China, October 21-25, 2019

Dianchi Garden Resort Hotel & Spa

Organizer and Sponsor: The Chinese Society of Power Engineering (CSPE)

Co-Organizer and Co-Sponsor: The Japan Society of Mechanical Engineers (JSME)

The American Society of Mechanical Engineers (ASME)

Local Organizer: Kunming University of Science and Technology (KUST)

Zhejiang University (ZJU)

Conference Chairman: Prof. Mingjiang Ni (CSPE, ZJU)

Prof. Hua Wang (KUST/Dali University)

Co-Chairman: Dr. Jun Inumaru (JSME), Mr. Frank Michelle (ASME), Prof. Wenhui Ma (KUST)



Organizer and Sponsor



中国动力工程学会
CHINESE SOCIETY OF POWER ENGINEERING

Brief Introduction of Local Organizer at Kunming

✧ Faculty of Metallurgical and Energy Engineering at KUST



昆明理工大学
KUNMING UNIVERSITY OF SCIENCE AND TECHNOLOGY

冶金与能源工程学院

炼世间所需之金
开天下可用之能

The Faculty of Metallurgical and Energy Engineering is the faculty with the best staffing, the highest level of education, and the most outstanding schooling characteristics at Kunming University of Science and Technology (KUST). After years of construction, the two disciplines of Metallurgy and Energy have become an important base for high-level personnel training, scientific research and social services in China, and have made important contributions to national and local economic development, scientific research and personnel training. In the framework of the Faculty, Metallurgical Engineering is a national and provincial key specialty. A large number of outstanding scientists represented by academicians Zuyao Xu, Zhiwen Yin, Guocheng Zhang, Yongnian Dai and Jinhui Peng have emerged, as well as provincial and municipal leaders and entrepreneurs. Thermal Energy and Power Engineering is a provincial key major. It has a solid research foundation and a relatively complete talent training system in the fields of energy conversion, thermal power, hydropower and thermal automation.

At present, the faculty has formed distinctive disciplines such as Vacuum Metallurgy, Unconventional Metallurgy, Metallurgical Solution Physical Chemistry, Heavy Non-ferrous Metal Smelting, Metallurgical Process Strengthening, Energy Saving and Emission Reduction, and New Energy Preparation. The faculty has 1 national and provincial key discipline, 1 provincial key institution, 2 postdoctoral mobile station, first-level doctoral and master's degree conferring, 1 national engineering center. There are a number of scientific research institutions, such as Key Laboratory and the Engineering Research Center authorized by the Ministry of Education of the People's Republic of China, and teaching platform for national and provincial undergraduate experimental teaching demonstration centers. The staff includes academicians of the Chinese Academy of Engineering, experts awarded with special allowances from the State Council, and the National New Century Talents Group and other academic and technical talents. The faculty harvests a large number of scientific researches, teaching achievements and patented technology with the help of national and provincial-level teaching and research projects. Well-known commercialized technologies include the "continuous spiral crystallizer" invented by Professor Menggeng Li, referred to as "one of the greatest inventions of tin metallurgy in the 20th century", and the "internal heating multi-stage continuous distillation vacuum furnace" and "horizontal vacuum furnace" invented by Academician Yongnian Dai ". It has been promoted and applied at home and abroad, creating values of more than 2 billion RMB Yuan.

There are 168 faculty members, including 53 professors, 62 associate professors. Among them, there are 2 academicians of the Chinese Academy of Engineering, 1 Yangtze River Scholar, 1 laureate of China National Funds for Outstanding Young Scientists, and 10 laureates of the New Century National Hundred, Thousand and Ten Thousand Talent Project. 59 of them are doctoral supervisors and 96 master supervisors. The faculty has undertaken a large number of national, provincial and ministerial-level scientific research projects such as the National "973" Plan, the "863" Plan, the National Natural Science Foundation Key Project, and the National Science and Technology Support Project. Honors have included the second prize of the National Award for Science and Technology Progress, the second prize of the National Award for Technological Invention, and the awards for science and technology and teaching achievements at provincial and ministerial level.

More detailed information: <http://yn.kmust.edu.cn/>

Programme Overview

October 21

09:00-18:00	Registration (Conference Hotel: Dianchi Garden Resort Hotel & Spa)
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October 22

08:30-09:00	Opening Ceremony (International Conference Center, 2nd floor, Building 10)					
09:00-12:00	Session 1 , Plenary Keynote Speeches (International Conference Center, 2nd floor, Building 10) Prof. Dr. Wenhui Ma, Dr. Jun Inumaru, Mr. Frank Michell, Prof. Dr. Qiuwang Wang, Prof. Dr. Jinliang Xu, Prof. Dr. Qunxing Huang					
12:00-14:00	Lunch (Swan Lake Restaurant)					
Time	Room A	Room B	Room C	Room D	Room E	Room F
14:00-14:25	Keynote: Jilin LEI	Keynote: Qibin LIU	Keynote: Masao ITOH	Keynote: Yoichi TAKEDA	Keynote: Hideki MURAKAWA	Keynote: Qulan ZHOU
14:25-18:00	Session 2-3 , Heat Transfer, Fluid Flow, and Nano Materials (I) & (II)	Keynote: Paul Liu Wen Session 4-5 , Fuel Utilization & Chemical Looping (I) & (II)	Session 6-7 , Boilers (I) & (II)	Session 8-9 , Turbines (I) & (II)	Session 10-11 , Alternative Energy (I) & (II)	Keynote: Pengfei LI Session 12-13 , Environmental Protection (I) & (II)
18:30-20:30	Banquet (International Conference Center, 2nd floor, Building 10)					
20:30-21:30	International Advisory Committee Meeting (Meeting Room 2, 1st floor, Building 11)					

October 23

Time	Room A	Room B	Room C	Room D	Room E	Room F
09:00-09:25	Keynote: Bin ZHAO	Keynote: Fang HE	Keynote: Peigao DUAN	Keynote: Haochun ZHANG	Keynote: Guofeng YUAN	Keynote: Zhaosheng YU
09:25-12:00	Session 14-15 , Advanced Energy Systems (I) & (II)	Keynote: Liang ZENG Session 16-17 , Fuel Utilization & Chemical Looping (III) & (IV)	Session 18-19 , Boilers (III) & Boilers (IV)	Session 20-21 , Turbines (III) & (IV)	Session 22-23 , Alternative Energy (III) & (IV)	Session 24-25 , Environmental Protection (III) & (IV)
12:00-14:00	Lunch (Swan Lake Restaurant)					
14:00-14:25	Keynote: Kuan SUN	Keynote: Takeyuki AMI	Keynote: Zhouhang LI	Keynote: Huan QI	Keynote: Yan LI (Qingdao)	Keynote: Jianhang HU
14:00-18:00	Session 26 & 27 , Advanced Energy Systems (III) & (IV)	Keynote: Zhifeng ZHENG Session 28 & 29 , Numerical Simulation, Modeling and CFD (I) & (II)	Session 30, 31 Boilers (V) Energy Conservation, Co-generation, Heat Pump (I)	Session 32 & 33 , Turbines (V) & (VI)	Keynote: Guirong BAO Session 34 & 35 , Alternative Energy (V) & (VI)	Keynote: Fang LIU Session 36 & 37 Environmental Protection (V) & Energy Conservation (II)
18:00-19:30	Buffet dinner (Swan Lake Restaurant)					

October 24

Time	Room A	Room B	Room C	Room D	Room E	Room F
09:00-09:25		Keynote: Shiliang YANG			Keynote: Jing QIAN	Keynote: Yulin ZHAI
09:25-12:00	Session 38 & 39, New Materials for Energy Systems (I) & (II)	Session 40 & 41, Numerical Simulation, Modeling and CFD (III) & (IV)	Session 42 & 43, Others (Power-related Topics) (I) & (II)	Session 44 & 45, Turbines (VII) & (VIII)	Session 46, Components, Equipment and Auxiliaries (I)	Session 47, 48 & 49 Advanced Energy Systems (V) & Economics (I) & New Materials for Energy Systems (III)
12:00-14:00	Lunch (Swan Lake Restaurant)					
14:00-15:40				Session 50, Turbines (IX)	Session 51, Components, Equipment and Auxiliaries (II)	Session 52 Numerical Simulation, Modeling and CFD (V)
18:00-19:30	Buffet (Swan Lake Restaurant)					

October 25

08:30-12:00	Technical Tours, Hongyunhonghe Group Kunming Cigarette Factory / Kunming Yunnei Power Co., Ltd.
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Notes: During the presentation, photos and video footage are not allowed without specific permission.

Locations of all the rooms:

1. Plenary Keynote Speeches: Building 10, 2nd floor, International Conference Center
2. Room A: Building 12, 2nd floor, Western Hills Breeze Muti-Function Hall
3. Room B: Building 1, 4th floor, Business Club
4. Room C: Building 11, 1st floor, Meeting room 2
5. Room D: Building 11, 1st floor, Meeting room 3
6. Room E: Building 11, 1st floor, Meeting room 4
7. Room F: Building 11, 1st floor, Meeting room 5

All Rooms will be relabeled by “International Conference Center”, “Room A”, “Room B”, “Room C”, “Room D”, “Room E” and “Room F” in Dianchi Garden Resort Hotel & Spa.

Programme

October 22, AM International Conference Center

08:30-09:00	Opening Ceremony (International Conference Center, 2nd floor, Building 10) Chair: Prof. Hua Wang (Kunming University of Science and Technology / Dali University, China)
	Opening Remark Prof. Mingjiang Ni, Chair / ICOPE-2019 Welcome Address Chinese Society of Power Engineering, Japan Society of Mechanical Engineers, American Society of Mechanical Engineers Congratulatory Speech Kunming University of Science and Technology, China
09:00-12:00	Session 1 Plenary Keynote Speeches (International Conference Center, 2nd floor, Building 10) Chair: Prof. Hitoshi Asano (Kobe University, Japan), Prof. Wenhui Ma (Kunming University of Science and Technology, China)
	09:00-09:30, Oct. 22 Progress of Solar Grade Silicon Preparation Prof. Dr. Wenhui Ma (Kunming University of Science and Technology, China)
	09:30-10:00, Oct. 22 Development of Innovative Thermal Power Generation Technologies for the Decarbonized Society Dr. Jun Inumaru (CRIEPI/JSME, Japan)
	10:00-10:30, Oct. 22 North America Energy Market – Transitioning to Clean/Renewable Energy Sources Mr. Frank Michell (ASME, USA)
	10:30-11:00, Oct. 22 Heat Transfer Enhancement Technologies for Waste Heat Recovery and Utilization Prof. Dr. Qiuwang Wang (Xi'an Jiaotong University, China)
	11:00-11:30, Oct. 22 Supercritical CO₂ Power Cycle Prof. Dr. Jinliang Xu (North China Electric Power University, China)
	11:30-12:00, Oct. 22 Municipal Solid Waste to Clean Energy Prof. Dr. Qunxing Huang (Zhejiang University, China)
12:00-14:00	Lunch (Swan Lake Restaurant)

October 22, PM Room A-C

Time	Room A	Room B	Room C
14:00-15:45	Session 2 Heat Transfer, Fluid Flow & Nano Materials (I) Chair: Shijie ZHU , Fukuoka Institute of Technology, Japan Di ZHANG , Xi'an Jiaotong University, China	Session 4 Fuel Utilization & Chemical Looping (I) Chair: Weijuan YANG , Zhejiang University, China Guoqiang WEI , Guangzhou Institute of Energy Conversion, CAS, China	Session 6 Boilers (I) Chair: Yimin LI , China University of Mining and Technology Masao ITOH , Toshiba Energy Systems & Solutions Corporation, Japan
14:00-14:25	Keynote: Oscillating Flow and Heat Transfer Characteristics of the Cooling Gallery Inside Pistons of an Internal Combustion Engine Jilin LEI <i>Kunming University of Science and Technology, China</i>	Keynote: Solar Driven Thermochemical Conversion Systems for Power Generation and Fuel Production Qibin LIU <i>Institute of Engineering Thermophysics, CAS, China</i>	Keynote: Supercritical Pressurized Combustor Testing Results for 50MWt sCO₂ Turbine Pilot Demonstration Plant on Allam Cycle Masao ITO <i>Toshiba Energy Systems & Solutions Corporation, Japan</i>
14:25-14:45	Effect of Magnetic Field on Heat Transfer of Natural Convection in a Horizontal Open Rectangular Container of a Magnetic Fluid Yanrong LI Toshiya KUBOI, Terumi INAGAKI <i>Ibaraki University, Japan</i>	Experimental Investigation for Co-Combustion Characteristics of Semi-Coke and Bituminous Coal in a 3MWth Tangential Combustion Facility Jingyu GUAN, Qiang YU, Rui SUN, Tao SHEN, Xin SONG, Yanfei YAN, Qilin ZHENG <i>Harbin Boiler Company Limited, China</i>	Investigation on Oxidation Behavior of Super 304H and HR3C Steel in High Temperature Steam from a 1000MW Ultra-supercritical Coal-fired Boiler Haidong MA, Yungang WANG, Min XUE, Qinxin ZHAO <i>Xi'an Jiaotong University, China</i>
14:45-15:05	Metal Particle Dispersion Structure Improves Absorption Rate of Thin Film Solar Cells Qunzhi ZHU, Liang XIAO <i>Shanghai University of Electric Power, China</i>	Experimental Study on Ash Melting Behavior of Xinjiang High-alkali Coal in a Cyclone Fired Furnace Hui LI, Xiaojiang WU, Xinglei HU, Hao ZHOU <i>Zhejiang University, China</i>	Bed Temperature Prediction Model of Circulating Fluidized Bed Boiler Based on BP Neural Network Jinqi ZHU, Xianbin XIAO <i>North China Electric Power University, China</i>
15:05-15:25	Investigation and Evaluation of Thermophysical Properties of Al₂O₃-CuO/EG-water Hybrid Nanofluids Mingyan MA, Yuling ZHAI <i>Kunming University of Science and Technology, China</i>	Experimental Study on Fuel Spray Impingement Process Against Metal Surface with Different Wettabilities Liang GUO, Jianyi WEI, Kai FANG, Wanchen SUN, Deigang LI, Peng CHENG, Gaofei CHEN <i>Jilin University, China</i>	Improvement and Optimization Design of DHC Type Hot Water Boiler Economizer Yan ZHAO, Yanxing YUE, Yang LIU, Haijiang SONG <i>Heilongjiang Polytechnic, China</i> Fuqiang ZHANG <i>Harbin Hongguang Boiler Group Co., Ltd., China</i>
15:25-15:45	The Characteristics of Flow Boiling Heat Transfer of R410A Heated Unequally between two Parallel Mini-channels Shohei SAKAI, Kizuku KUROSE, Wataru NOBORITATE, Kazushi MIYATA, Yoshinori HAMAMOTO <i>Kyushu University, Japan</i>	Effect of Moisture Content on Mesostructure and Mechanical Properties During Coal Block Crushing Process Yufei ZHANG, Song HU, Lianying SHAN, Qiangqiang REN, Huini LOENG, Jun XIANG, Sheng SU, Yi WANG <i>Huazhong University of Science and Technology, China</i>	Effects of Applied Stresses on the Sulfuric Acid Dewpoint Corrosion of 09CrCuSb and 09CuPCrNi Zhiyuan NING, Qulan ZHOU, Na LI <i>Xi'an Jiaotong University, China</i>
15:45-16:00	Coffee Break		

October 22 16:00-18:00	Session 3 Heat Transfer, Fluid Flow & Nano Materials (II) Chair: Shuichi UMEZAWA , Tokyo Electric Power Company Holdings, Inc., Japan YuTao, HUO , China University of Mining and Technology, China	Session 5 Fuel Utilization & Chemical Looping (II) Chair: Guoqiang WEI , Guangzhou Institute of Energy Conversion, CAS, China Ming XIAO , Jiangsu University of Science and Technology, China	Session 7 Boilers (II) Chair: Chen YANG , Chongqing University, China Mizuki NISHIMURA , IHI Corporation, Japan
16:00-16:20	Forced Convection Heat Transfer for Helium Gas Flowing in a Narrow Channel Feng XU, Qiusheng LIU, Satoshi KAWAGUCHI, Makoto SHIBAHARA <i>Kobe University, Japan</i>	Keynote (16:00-16:25): Tailoring Redox Properties of Oxygen Carriers for Chemical Looping Applications in Carbon Capture Paul Liu Wen <i>Nanyang Technological University, Singapore</i>	Experimental Investigations on Spontaneous Combustion of Pulverized Coal in the Oxyfuel Combustion System Mizuki NISHIMURA, Akihiro KOMAKI, Takashi KIGA, Wonyoung CHOI <i>IHI Corporation, Japan</i>
16:20-16:40	Dynamic Simulation of Hybrid Power Micro Gas Turbine Systems Gang XIAO, Jinli CHEN, Dong NI, Kefa CEN, Mingjiang NI <i>Zhejiang University, China</i>	O₂/CO₂-Blown gasification Characteristics Using 3t/day Coal Gasifier -Effect of Coal Feeding Ration on Gasification Performance Kazuhiro KIDOGUCHI, Shiro KAJITANI, Satoshi UMEMOTO, Yuso OKI, <i>Central Research Institute of Electric Power Industry, Japan</i>	Experimental Study on Deformation of Water Wall of Opposed Firing Boiler Lin WEI, Qulan ZHOU, Na LI, Jiapeng FU <i>Xi'an Jiaotong University, China</i>
16:40-17:00	Research on the Elasticity of Distributed Energy Demand Response Based on Incentives Jialun YAN, Guangyao YING, Qichao YE, Deren SHENG <i>Zhejiang University, China</i>	Reducing NO_x Emission from a Coal-Fired Boiler by Surplus Primary Air Acting as High-Speed OFA Weijuan YANG, Jiaqi XU, Qunyang XIANG, Lichun QIU, Rongzhen YOU, Jianzhong LIU, Junhu ZHOU <i>Zhejiang University, China</i>	Cold-State Experimental Study on Influences of Bed Material on CFB's Fluidization Characteristics Chen LIN, Juan YU, Yao ZHANG, Fan FENG, Zhongxiao ZHANG <i>Shanghai Jiao Tong University, China</i>
17:00-17:20	Cooling and Condensation Heat Transfer of a Refrigerant at High Pressures in a Chevron-type Plate Heat Exchanger Yuki YAMASAKI, Naoto WATANABE, Kazushi MIYATA, Hideo MORI, Yoshinori HAMAMOTO, Shuichi UMEZAWA, Katsuhiko SUGITA <i>Kyushu University, Japan</i>	Research on Reduced Method of Chemical Reaction Mechanism Based on Direct Relation Graph and Its Derivatives Methods Min XIAO, Yuping LIU, Shouguang YAO, Xiaofei SUN <i>Jiangsu University of Science and Technology, China</i>	Experimental Research on Thermal Deviation of High Temperature Reheater in the Single Tangential Π Type Boiler Based on Radiation Spectroscopy Analysis Jianwen XIE, Shenhua Guohua <i>(Beijing) Electric Power Research Institute Co. Ltd., China,</i>
17:20-17:40	Effect of Anode—Combustor Recirculation on the Performance of a Biogas-fueled SOFC-GT Hybrid System Xusheng WANG, Xiaojing LV, Yiwu WENG <i>Shanghai Jiao Tong University, China</i>	Study on the Morphological Development of Fuel Droplets Impacting on Metal Surfaces with Different Wettability Liang GUO, Gaofei CHEN, Kai FANG, Wanchen SUN, Degang LI, Peng CHENG, Jianyi WEI, <i>Jilin University, China</i>	Field Test and Research on Flue Gas Dew Point of Biomass Boiler Xiaolei LYU, Fengzhong SUN <i>Shandong University, China</i>
17:40-18:00	Boiling Heat Transfer Characteristics in Horizontal In-line Tube Bundle with Partially Inserted Heat Transfer Enhanced Tube by Thermal Spray Coating Hideki ZENZAI, Ryoma AKAZAWA, Katsumi SUGIMOTO, Hideki MURAKAWA, Hitoshi ASANO, Maki TAKUBO, Ichiro MYOGAN, <i>Kobe University, Japan</i>	Study on Applicability of Burning High Alkali Coal in Liquid Slag Boiler Shaopei LIU, Haitao JIANG, Xihao SUN, Hua NENG <i>Beijing Thermal Power Co., Ltd, China</i>	Effects of Thermal Load on Performance of Large-scale Wall-fired Lignite Boiler Zixiang LI, Zhengqing MIAO <i>Shanghai Jiao Tong University, China</i>
18:30-20:30	Banquet, International Conference Center		

Time	Room D	Room E	Room F
14:00-15:45	Session 8 Turbines (I) Chair: Yoichi TAKEDA , Tohoku University, Japan Yonghui XIE , Xi'an Jiaotong University, China	Session 10 Alternative Energy (I) Chair: Fei WANG , Zhejiang University, China Guoyi PENG , Nihon University, Japan	Session 12 Environmental Protection (I) Chair: Ping LU , Nanjing Normal University, China Ryohei YOKOYAMA , Osaka Prefecture University, Japan
14:00-14:25	Keynote: Comparison of Fatigue Crack Growth Rate of Aged CrMo Steel in Superheated Steam and Air Environments Yoichi TAKEDA <i>Tohoku University, Japan</i>	Keynote: Effects of Water Distribution on the Electrical of Polymer Electrolyte Fuel Cell Hideki MURAKAWA <i>Kobe University, Japan</i>	Keynote: Selectivity Catalytic Reduction of NO by CO over Fe-Cu Oxides Supported on Rice Hull Ash (RHA) Qulan ZHOU <i>Xi'an Jiaotong University, China</i>
14:25-14:45	Total Life Calculation for High Pressure Inner Cylinder of Steam Turbines and Verification Jinyuan SHI, Jiamin XU <i>Shanghai Power Equipment Research Institute Co., Ltd., China</i>	Influence of Operation Parameters on Hydrothermal Carbonization Characteristics of Agroforestry Biomass Yiwei ZHANG, Yi XIE, Ping LU <i>Nanjing Normal University, China</i>	Effects of Additives on Major Heavy Metals Stabilizing of Municipal Solid Waste Incineration Fly Ash by Microwave-Assisted Hydrothermal Treatment Zhiwen XU, Zhiyuan LIANG, Qinxin ZHAO, Junqi SHANG, Yungang WANG <i>Xi'an Jiaotong University, China</i>
14:45-15:05	Influence of Blade Surface Heating on Wet Steam Condensation Characteristics in Steam Turbine Xu HAN, Wei ZENG, Zhonghe HAN <i>North China Electric Power University, China</i>	Construction and Evaluation of Platform for Superheated Gasification Power Generation System using Waste Biomass Masaomi TANAKA, Quiles ALVARO, Atsushi SAITO, Eriko MATSUMURA, Jiro SENDA <i>Doshisha University, Japan</i>	Chemical Looping Co-splitting of H₂O-CO₂ for Efficient Generation of Syngas Xing ZHU, Yanpeng CHEN, Kongzhai LI, Yonggang WEI, Yane ZHENG, Hua WANG <i>Kunming University of Science and Technology, China</i>
15:05-15:25	Research on Improving Load Response Capability of High-Power Unit Considering Low Pressure Heater Bypass Jiawen LI ¹ , Bo CHEN ² , Ning DING ² , Huanyu LI ¹ , Wei LI ¹ , Jianhong CHEN ¹ , Deren SHENG ¹ 1. Zhejiang University, China 2. Electric Power Research Institute of State Grid Zhejiang Electric Power Company, China	Experimental Study on Photocatalytic Reduction of Carbon Dioxide to Methanol Wenfei ZHANG, Yang CAO, Qulan ZHOU, Na LI <i>Xi'an Jiaotong University, China</i>	Synthesis and Performance Evaluation of MgAl₂O₄-stabilized CaO for CO₂ Capture Xiaolei QI ^{1,2} , Yichao TONG ² , Kaifeng CHANG ² , Cong LUO ¹ , Baowen WANG ² 1. North China University of Water Resources and Electric Power, China 2. Huazhong University of Science and Technology, China
15:25-15:45	The Control Mode of the Extraction Control Valve of the Intermediate Pressure Industry in Heating Unit Changcai JING <i>Shenhua Guohua Electric Power Research Institute Co., Ltd., China</i>	PLIF Analysis of Laminar Premixed Flame of Methyl Palmitate and Its Ester Bican WANG, Zihao NI, Fashe Li, Wenchao WANG, Yu CHEN <i>Kunming University of Science and Technology, China</i>	Energy Conversion and Carbon Sequestration System Using Magnesium as Carrier Kaiyun ZHENG <i>Shanghai Power Equipment Research Institute Co., Ltd., China</i>
15:45-16:00	Coffee Break		

October 22 16:00-18:00	Session 9 Turbines (II) Chair: Yiwu WENG , Shanghai Jiao Tong University, China Koichi YONEZAWA , Central Research Institute of Electric Power Industry, Japan	Session 11 Alternative Energy (II) Chair: Hideki MURAKAWA , Kobe University, Japan Fashe LI , Kunming University of Science and Technology, China	Session 13 Environmental Protection (II) Chair: ZhaoSheng YU , South China University of Technology, China Qulan ZHOU , Xi'an Jiaotong University, China
16:00-16:20	A Numerical Study of Flow Pattern in a Deteriorated Gas Turbine Under Real Operating Condition Koichi YONEZAWA, <i>Central Research Institute of Electric Power Industry, Japan</i> ; Masahiro TAKAYASU, Kazuyasu SUGIYAMA, <i>Osaka University, Japan</i> ; Katsuhiko SUGITA, Shuichi, UMEZAWA, Shuichi OMORI <i>Tokyo Electric Power Company Holdings, Inc., Japan</i>	Experimental Study on Sludge Co-Combustion in a Coal-fired Power Plant Sheng ZHANG, Fei WANG <i>Zhejiang University, China</i>	Keynote (16:00-16:25): New Dependence of NO Emissions on Equivalence Ratio and Ultra-Low Emission MILD Combustion Technology Pengfei LI <i>Huazhong University of Science and Technology, China</i>
16:20-16:40	Research on the Fault Diagnosis Method of Steam Turbine Based on Spectral-Clustering-KNN Model Yifan WU, Wei LI, Deren SHENG, Jianhong CHEN, Zitao YU, <i>Zhejiang University, China</i>	Steam Reforming of Liquor using Cu/ZnO/Al₂O₃ Catalyst Shunya MOMOSAKI, Tuyoshi MAEDA, Toshio SHINOKI, Takashi NOGUCHI, Katsuya HIRATA <i>Doshisha University, Japan</i>	Theoretical Studies of Hydrocarbon Functional Groups on Elemental Mercury Adsorption on Carbonaceous Surface Huang QIN, Ping HE, Yi ZHANG, Xinyi ZHAO <i>Shanghai University of Electric Power, China</i>
16:40-17:00	Real-time dynamic stress analysis method for blades based on Tip-Timing test technology Lu LUO <i>Shanghai Electric Power Generation Equipment Co., LTD., China</i>	Current Situation, Problems and Economic Analysis of Wind Power Generation Tianqi HE, Ao CHEN, Jiahao TIAN, Xuedong WANG <i>Harbin Engineering University, China</i>	Effect of Cerium on the Catalytic Performance of Mn-Fe/Al Nano catalyst for NO Oxidation and Fast SCR Reaction Yan GAO, Tao LUAN, Penghao XU, Wenchen FENG <i>Shandong University, China</i>
17:00-17:20	Research on Stability of Steam Turbine High Speed Rotor Lin PENG, Gang YIN, Xiaoping FAN, Weihong DONG <i>Dongfang Turbine Co., Ltd., China</i>	A Study of Air-lift Pump for Circulating of Refrigerant in Shallow Geothermal Collecting System Guoyi PENG, Takuma SUZUKI, Yasuyuki OGUMA, Hui QUAN <i>Nihon University, Japan</i>	Experiment Research on Convective Heat Transfer of Wide Screening Particles in Moving Bed During Energy Saving from Furnace Slag Zhiqiang WU, Chen MA, Zhaoyu XIAO, Meiquan LI, Jun ZHAO, Shuzhong WANG <i>Xi'an Jiaotong University, China</i>
17:20-17:40	Research on Key Technology of Over 50% Efficiency 630 °C Coal Fired Unit Xuan ZHAI, Xiaodong ZHANG, Yu FANG, Qi SUN <i>Dongfang Electric Corporation Dongfang Turbine Co., LTD, China</i>	Potential Recovery of Phosphorus during the Fluidized Bed Incineration of Sewage Sludge Wenchao TENG <i>Shenyang Aerospace University, China</i>	Effect of Sulfation on NaBr Modified Calcium-Based Sorbent Cheng SHEN, Cong LUO, Shaolong LIU, Jiaxin XU, Tong LUO, Liqi ZHANG, <i>Huazhong University of Science and Technology, China</i>
17:40-18:00	Optimization of Startup Process of Turbine in Combined Cycle Unit Shenglong LIU ¹ , Xiaorong WANG ² , Qiangfeng CHEN ² , Wenjian WU ³ , Jianhong CHEN ¹ , Deren SHENG ¹ , <i>1 Zhejiang University, China; 2 Xiaoshan Power Plant, China; 3 Zhejiang Electric Power Research Institute, China</i>	Kinetic Analysis of Branched Esters of Palmitic Acid and Distribution of their Cold Flow Properties Li ZHOU, Fashe LI, Zihao NI <i>Kunming University of Science and Technology, China</i>	Effects of CaO/CaCl₂ on the Phosphorus Transformation during the Pyrolysis of Different Sludge Yani ZHANG, Song HU, Hengda HAN, Sheng SU, Limo HE, Huini LIANG, Yi WANG, Jun XIANG <i>Huazhong University of Science and Technology, China</i>
18:30-20:30	Banquet, International Conference Center		

October 23, AM Room A-C

Time	Room A	Room B	Room C
09:00-10:25	Session 14 Advanced Energy Systems (I) Chair: Takao NAKAGAKI , Waseda University, Japan Yunlin ZHAI , Kunming University of Science and Technology	Session 16 Fuel Utilization & Chemical Looping (III) Chair: Yuso OKI , Central Research Institute of Electric Power Industry, Japan Liang ZENG , Tianjin University, China	Session 18 Boilers (III) Chair: Min XIAO , Jiangsu University of Science and Technology, China Jianwen XIE , Shenhua Guohua (Beijing) Electric Power Research Institute Co., Ltd., China
09:00-09:25	Keynote: Innovation and Practice of Solar Heating System in Tibet Bin ZHAO <i>North China University of Science and Technology, China;</i> Feng GAO <i>Tibet Autonomous Region Energy Research Demonstration Center</i>	Keynote: Chemical Looping Applications for Reforming and Oxidative Dehydrogenation Fang HE <i>Guilin University of Technology, China</i>	Keynote: Deep Hydro-upgrading of Algal Bio-oil for Production of Transportation Liquid Fuel PeiGao DUAN <i>Xi'an Jiaotong University, China</i>
09:25-09:45	Thermomechanical Fatigue Behavior of Thermal Barrier Coating on Cylindrical Superalloy Tube Shijie ZHU, Zhubing CHEN <i>Fukuoka Institute of Technology, Japan</i>	Dynamic Structure Reconstruction and Oxygen Mobility Modulation of Iron-based Perovskite Oxides for Enhanced Solar-driven Syngas Production Chuande HUANG <i>Dalian Institute of Chemical Physics, CAS, China</i>	Characteristics of Small Capacity Subcritical Pressure Ultra-High Temperature Blast Furnace Gas Boiler Liangwei XIA, Baojun SONG, Fei GUO, Shenglong MU <i>Harbin Boiler Company Limited, China</i>
09:45-10:05	Study on the Influence of Scavenging Port Structure on the Performance of Low Speed Dual Fuel Engine Jiahao TIAN <i>Harbin Engineering University, China</i>	Development of Chemical Looping Oxygen Carriers and Reactors at Huazhong University of Science & Technology Haibo ZHAO, Xin TIAN, Jinchun MA Mingze SU, Baowen WANG, Daofeng MEI <i>Huazhong University of Science & Technology, China</i>	Accuracy Improvement of a Flowmeter for Steam and Air to be Attached to the Outside of a Tube Utilizing a Circumferential Heater Shuichi UMEZAWA, Makoto ONODERA, Katsuhiko SUGITA <i>Tokyo Electric Power Company Holdings, Japan</i>
10:05-10:25	Effects of Some Key Parameters on the Overall Performance of Gas Turbine Pengfei SU <i>Dongfang Turbine Co., Ltd., China</i>	Chemical Looping Combustion of Coal Using Iron Ore Decorated by Foreign Ions as an Oxygen Carrier Yan LIN <i>Guangzhou Institute of Energy Conversion, CAS, China</i>	Application of CO₂-based integrated energy system in building energy supply Qing WEI, Ningling WANG, Shutan GAO, Chenxi SENG, Zhiping YANG, Chengzhou LI <i>North China Electric Power University, China</i>
10:25-10:40	Coffee Break		

October 23 10:40-12:00	Session 15 Advanced Energy Systems (II) Chair: Shijie ZHU , Fukuoka Institute of Technology, Japan Xuedong WANG , Harbin Engineering University, China	Session 17 Fuel Utilization & Chemical Looping (IV) Chair: Fang HE , Guilin University of Technology, China Chuande HUANG , Dalian Institute of Chemical Physics, CAS, China	Session 19 Boilers (IV) Chair: Tong ZHU , Tongji University, China Jianquan LIU , Shanghai University of Electric Power, China
10:40-11:00	Novel Heating Design Using Multiple Stages of Low-Pressure Extraction Steam in Coal-Fired Combined Heat and Power Unit Yunyun WU, Heng CHEN, Juan LI, Gang XU, Wenyi LIU, Peiyuan PAN <i>North China Electric Power University, China</i>	Keynote (10:40-11:05): Material and Process Development for Chemical Looping Partial Oxidation Liang ZENG <i>Tianjin University, China</i>	Experimental Study on Safe Operation State of W-shaped Flame Boiler Du WEN, Yashu YAO, Lian LI, Qulan ZHOU, Na LI <i>Xi'an Jiaotong University, China</i> Yoshihiro DEGUCHI <i>Tokushima University, Japan</i>
11:00-11:20	A Novel Waste to Energy Approach Coupling with Coal-fired Power Production Meiyan ZHANG, Heng CHEN, Jinhui ZHAO, Gang XU, Tong LIU, Zepeng WANG <i>North China Electric Power University, China</i>	Development of Chemical Looping Technology in Kunming University of Science and Technology Kongzhai LI <i>Kunming University of Science and Technology, China</i>	Experimental Study of Pressure Oscillation in Gas Boilers of Ultra-low NO_x Combustion Han GAO, Rongjun ZHU, Deng PAN, Pengpeng LU, Tong ZHU <i>Tongji University, China</i>
11:20-11:40	Analysis of the Influence of Piston Ring on Gas Leakage in Combustion Chamber Yuedi HU <i>Shenyang Institute of Engineering, China</i>	Syngas Production from Sewage Sludge by Chemical Looping Gasification with Copper Slag as Oxygen Carrier Guoqiang WEI <i>Guangzhou Institute of Energy Conversion, CAS, China</i>	Reducing NO_x Emission from a Coal Fired Boiler by Surplus Primary Air Acting as High-Speed OFA Weijuan YANG, Jiaqi XU, Rongzhen YOU, Jianzhong LIU, Junhu ZHOU <i>Zhejiang University, China</i> Qunyang XIANG, Lichun QIU <i>Zhejiang Energy Group Research Institute, China</i>
11:40-12:00	Flame Burning Characteristics and Stability Evaluation of Linear Esters of Palmitic Acid Based on OH-PLIF Technology Ao CHEN <i>Harbin Engineering University, China</i>	Chemical Looping Conversion of Solid Fuel: From Combustion to Chemicals Yongzhuo LIU <i>Qingdao University of Science and Technology, China</i>	Experimental Study on Preparation of Amorphous SiO₂ by Fluidized Bed Combustion of Rice Husk Yashu YAO, Heng XU, Jingkao TAN, Zhengtao HU, Qulan ZHOU, Na LI <i>Xi'an Jiaotong University, China</i>
12:00-14:00	Lunch (Swan Lake Restaurant)		

October 23, AM Room D-F

Time	Room D	Room E	Room F
09:00-10:25	Session 20 Turbines (III) Chair: Haochun Zhang , Harbin Institute of Technology, China Satoru YAMAMOTO , Tohoku University, Japan	Session 22 Alternative Energy (III) Chair: Tomomi KANEKO , Hokkaido University of Science Junior College, Japan Qiang CHENG , Huazhong University of Science and Technology, China	Session 24 Environmental Protection (III) Chair: Liang ZHANG , Chongqing University, China Shuichi UMEZAWA , Tokyo Electric Power Company Holdings, Japan
09:00-09:25	Keynote: Thermal Control Structure Design and Regulation Mechanism of Metamaterials Haochun ZHANG <i>Harbin Institute of Technology, China</i>	Keynote: Research of Solar District Heating Technology Guofeng YUAN <i>Institute of Electrical Engineering, CAS, China</i>	Keynote: Energy Utilization of Combustible Solid Waste ZhaoSheng YU <i>South China University of Technology, China</i>
09:25-09:45	Simulation of Unsteady Flows through Three-stage Middle Pressure Steam Turbine in Operation Akihiro UEMURA, Hironori MIYAZAWA, Takashi FURUSAWA, Satoru YAMAMOTO, Koichi YONEZAWA, Shuichi UMEZAWA, Shuichi OHMORI <i>Tohoku University, Japan</i>	Estimation of Kinematic Viscosity of Biodiesel Fuels from its Fatty Acid Methyl Ester Composition and Temperature Yundi HUANG, Fashe LI, Zuowen LIU, Wenchao WANG, Guirong BAO <i>Kunming University of Science and Technology, China</i>	Theoretical Study of Hydrocarbon Functional Groups on Elemental Mercury Adsorption on Carbonaceous Surface Huang QIN, Ping HE, Yi ZHANG, Xinyi ZHAO <i>Shanghai University of Electric Power, China</i>
09:45-10:05	Multistrategy Optimization of a Typical Annular Exhaust Diffuser Jibing LAN, Hao YUAN, Peng CHU, Yongfeng SUI, Jianqiang KONG <i>Hangzhou Turbine & Power Group Co., Ltd., China</i>	Analysis of Factors Affecting Biodiesel Esterification by the Fitting Coefficient Constant Regression Method Meng SUI, Fashe LI, Wenchao WANG, Shuang WANG, Jiaxu SHEN <i>Kunming University of Science and Technology, China</i>	Experimental Research on Effective Thermal Conductivity of Ash Particles in Coal-fired Boiler Lu YAN, Fengzhong SUN <i>Shandong University</i> Dengke LIANG <i>Zhoushan Power Plant of China Huadian, China</i>
10:05-10:25	Optimal Configuration and Operation of Small-scale Distributed Energy System Driven by Gas Turbine Yiwu WENG, Jin GUAN, Xiaoqing LV <i>Shanghai Jiao Tong University, China</i>	Development of Solid Oxide Fuel Cell Systems for Utilization of Ammonia Masashi KISHIMOTO, Hiroki MUROYAMA, Shinsuke SUZUKI, Masaki SAITO, Takeshi KOIDE, Yosuke TAKAHASHI, Toshitaka HORIUCHI, Hayahide YAMASAKI, Shohei MATSUMOTO, Hidehito KUBO, Naoya TAKAHASHI, Akinori OKABE, Satoshi UMEGUCHI, Munsuk JUN, Tomoya MURAMOTO, Hiroaki OHARA, Takahiro MATSUO, Toshiaki MATSUI, Hiroshi IWAI, Hideo YOSHIDA, Koichi EGUCHI <i>Kyoto University, Japan</i>	Experimental Study on the effects of freeze and thaw conditioning and drying temperature on the Dewatering performance of Digested Sludge Renzhi HAN, Wei ZHAO, Liwen ZHOU, Hongyu LI, Zhaoyi HUO, Lili LI, Yingjie LIU <i>The University of Science and Technology Liaoning, China</i>
10:25-10:40	Coffee Break		

October 23 10:40-12:00	Session 21 Turbines (IV) Chair: Hideo YODA , Mitsubishi Hitachi Power Systems, Ltd., Japan Jing Qian , Kunming University of Science and Technology, China	Session 23 Alternative Energy (IV) Chair: Masashi KISHIMOTO , Kyoto University, Japan Zixue Luo , Huazhong University of Science and Technology, China	Session 25 Environmental Protection (IV) Chair: Ping HE , Shanghai University of Electric Power, China Tetsuaki TAKEDA , University of Yamanashi, Japan
10:40-11:00	Application to Steam Turbine 50-inch and 60-inch Titanium Blades for Large Capacity Plants Hideo YODA, Koji OGATA, Yutaka YAMASHITA <i>Mitsubishi Hitachi Power Systems, Ltd., Japan</i>	Co-firing Characteristics and Kinetic Analysis of Distillers' Grains/Coal for Power Plant Danxia XU, Xiteng WU, Lun MA, Qiang CHENG, Zixue LUO <i>Huazhong University of Science and Technology, China</i>	NO Reduction by Methane Reburning Under Oxy-fuel Conditions: Experiments and Modeling Wenhao LI, Pengfei LI <i>Huazhong university of science and technology, China</i>
11:00-11:20	Numerical Calculation and Analysis of Low Flow Rate of 600MW Generator Steam Turbine Low-Pressure Cylinder Jiamin XU, Yu YANG, Zhicheng DENG, Jun JIANG <i>Shanghai Power Equipment Research Institute Co., Ltd., China</i>	Theoretical Dynamics of Methyl Butyrate and its Impact of Flame Speed Yu CHEN, Fashe LI, Zihao NI, Bican WANG, Wenchao WANG <i>Kunming University of Science and Technology, China</i>	Study on Influencing Factors of NO_x Reduction by Pyrolysis Gas in Fluidized Combustion Yao ZHANG <i>Shanghai Jiao Tong University, China</i>
11:20-11:40	Theoretical Prediction and Electromechanical Experiments of Dielectric Elastomer Generators with Equi-biaxial Loading Hengtong CHENG, Zhenqiang SONG, Shijie ZHU, Kazuhiro OHYAMA <i>Fukuoka Institute of Technology, Japan</i>	Preparation of Nanostructured Powder Activated Coke by One-step Rapid Pyrolysis and Activation of Pulverized Pine Pood Jiapeng FU, Binxuan ZHOU, Jingru ZHANG, Yanping ZHANG, Tao WANG, Chunyuan MA <i>Shandong University, China</i>	Selectivity Catalytic Reduction of NO by CO over Fe-Cu Oxides Supported on Rice Hull Ash (RHA) Zhaohui TENG, Liang FU, Na LI, Qulan ZHOU <i>Xi'an Jiaotong University, China</i>
11:40-12:00	The Influence of Shaft Seal Steam Supply Papemeters on Holding Shaft Phenomenon Ming KANG ^{1,2} , Shifang WU ^{1,2} , Yongzhao CHEN ² , Qianghua HUANG ² <i>1 Shanghai Jiao Tong University, China</i> <i>2 Shanghai Turbine Plant, Shanghai Electric Power Generation Equipment Co., LTD., China</i>	Characteristics of Sodium Hydroxide Solution with Water Electrolysis Tomomi KANEKO, Akihiro KIDO <i>Hokkaido University of Science Junior College, Japan</i>	Study on Kinetic Model of NH₃-denitration Overall Reaction Juan YU, Fan FENG <i>Shanghai Jiao Tong University, China</i>
12:00-14:00	Lunch (Swan Lake Restaurant)		

October 23, PM Room A-C

Time	Room A	Room B	Room C
14:00-15:45	Session 26 Advanced Energy Systems (III) Chair: Takayuki SUTO , Mitsubishi Hitachi Power Systems, Ltd, Japan Bin ZHAO , North China University of Science and Technology, China	Session 28 Numerical Simulation, Modeling and CFD (I) Chair: Zhifeng ZHENG , Xiamen University, China Takeyuki AMI , Kansai University, Japan	Session 30 Boilers (V) Chair: Zhouhang LI , Kunming University of Science and Technology, China Shohei MATSUNARI , IHI Corporation, Japan
14:00-14:25	Keynote: Design and Performance Enhancement of Energy Conversion Materials and Devices Kuan SUN <i>Chongqing University</i> <i>China</i>	Keynote: Application of Discrete-Bubble-Model to Downward Two-phase Flow Takeyuki AMI, Hisashi UMEKAWA, Mamoru OZAWA <i>Kansai University</i> <i>Japan</i>	Keynote: Heat Transfer to Supercritical Fluid Flow through Smooth and Rifled Tubes in Power Plants Zhouhang LI <i>Kunming University of Science and Technology,</i> <i>China</i>
14:25-14:45	Thermodynamic Analysis of Chemical Looping Reforming of Methane using Magnetite Concentrate as Oxygen Carrier for Hydrogen Production Chunqiang LU, Xing ZHU, Liangpeng ZENG, Min ZHENG, Kongzhai LI <i>Kunming University of Science and Technology</i> <i>China</i>	Statistical Design of the Meridian Surface of the Pump Based on the Medial Axial Transform Approach Yeming LU, Xi YU, Zhonghe LI, Xiaofang WANG, Lei LIU, Shaohui CHANG <i>Dalian University of Technology</i> <i>China</i>	Studies on High Temperature Corrosion Behavior of Water Wall Materials Under Cyclic Temperature Zhuhan LIU, Zhengyu WU, Na LI, Qulan ZHOU <i>Xi'an Jiaotong University</i> <i>China</i>
14:45-15:05	Study on Carbothermal Interaction of Cu-Based Oxygen Carrier with Minerals in Chemical-looping Gasification Danyan CHENG, Junying ZHANG <i>Huazhong University of Science and Technology</i> <i>China</i>	Numerical Simulation of Commercial-Scale Two Stage Entrained Flow Gasifier with Steam Enriched Conditions Hiroki UMETSU, Kenji TANNO, Shiro KAJITANI, Satoshi UMEMOTO <i>Central Research Institute of Electric Power Industry</i> <i>Japan</i>	Sampling Method for Woody Biomass Particles Conveyed by Air in the Fuel Pipe of a Pulverized Coal Firing Boiler Shohei MATSUNARI, Kazuhiro WATANABE, Emi OONO, Makoto ECHIZENYA <i>IHI Corporation</i> <i>Japan</i>
15:05-15:25	Power Generation of Dielectric Elastomer Generator with Diaphragm Configuration Under Triangular Harvesting Cycle ZhenQiang SONG, Hengtong CHENG, Kazuhiro OHYAMA, Shijie ZHU <i>Fukuoka Institute of Technology</i> <i>Japan</i>	A New Design Method of Swirl Distortion Generator Based on S-shaped Inlet Jiale WANG, Bangqin CHENG, Luning FENG, Peiqi LIU, Jun LI <i>Air Force Engineering University</i> <i>China</i>	Study of Experiment and Calculation Formulas of Flue Gas Acid Dew Point of Coal-Fired Boiler Based on Sulfur Dioxide Concentration Jiahu LI, Xiaotao WANG, Shuo GAO, Kaizhong YANG, Yingbai XIE, <i>North China Electric Power University, China</i> Meng ZHANG, <i>Datong Corporation Science and Technology Research Institute China, China</i>
15:25-15:45	Update of Project to Develop High Efficiency oxy-fuel IGCC System Yuso OKI, Makoto KOBAYASHI, Isao YURI, Kazuhiro KIDOGUCHI <i>Central Research Institute of Electric Power Industry, Japan</i>	Thermal-mechanical Coupled Analysis of High-Pressure Circular Gas Bearing Jian LIU <i>China Chang Jiang Energy Corporation</i> <i>China</i>	Experimental Investigation of Heat Transfer Characteristics of Supercritical Water in the Entrance Region of a Vertical Upward Tube Xiangfei KONG, Qian ZHANG, Kaikai GUO, Yuan FENG, Xianliang LEI, Huixiong LI <i>Xi'an Jiaotong University</i> <i>China</i>
15:45-16:00	Coffee Break		

October 23 16:00-18:00	Session 27 Advanced Energy Systems (IV) Chair: Kuan SUN, ChongQing University, China Bangqin CHENG , Air Force Engineering University, China	Session 29 Numerical Simulation, Modeling & CFD (II) Chair: Hiroki Umetsu, Central Research Institute of Electric Power Industry, Japan Yan LI , Ocean University of China, China	Session 31 Energy Conservation, Co-generation, Heat pump (I) Chair: Peigao DUAN, Xi'an Jiaotong University, China Wenhuan WANG , Shanghai University of Electric Power, China
16:00-16:20	Crack Path and Oxidation Behavior During Crack Growth of Alloy 617 in Steam Environment at 750 °C Kosuke ARAKI, Masumi YOSHIDA, Yuji OZAWA, Yoichi TAKEDA, Susumu NAKANO, <i>Tohoku University, Japan</i>	Keynote (16:00-16:25): Aromatic Hydrocarbon-Rich Fuel Production by Catalytic Upgrading of Biomass Pyrolysis Vapor Zhifeng ZHENG <i>Xiamen University, China</i>	Application Research of Multi-stage Water Source Heat Pump Series Coupling System in Circulating Water Waste Heat of Thermal Power Plant Chuang MA, Jianxing REN, Fangqin LI, Xin HOU, Haijun FENG, Xiaotong ZHANG, Mengqi LI, Libin MA, Linjian ZHANG, <i>Shanghai University of Electric Power, China</i>
16:20-16:40	Progress Update of MHPS IGCC and Gasification Technology K. SAKAMOTO, T. FUJII, M. AMAMOTO, T. SUTO, Y. SHIBATA, K. KOSAKA, Y. KOYAMA, R. TAKASHIMA <i>Mitsubishi Hitachi Power Systems, Ltd, Japan</i>	Dynamic Modeling of an Air-cooling Supercritical Power Plant Under Temporal Variant Ambient Conditions Wenchen YAN, Xiaoqu HAN, Nana CHEN, Wenxiang WU, Yan ZHOU <i>Xi'an Jiaotong University, China</i>	Configuration and Operation of Small-scale Distributed Energy System Driven by Gas Turbine Jin GUAN, Yiwu WENG, Xiaojing LV <i>Shanghai Jiao Tong University, China</i>
16:40-17:00	Kinetic Analysis of Branched Esters of Palmitic Acid and Distribution of their Cold Flow Properties Li ZHOU, Fashe LI, Zihao NI. <i>Kunming University of Science and Technology, China</i>	Numerical Study on the Thermal Performance of a Novel Spray Tower with Upward Spraying and Downward Gas Flow Qunzhi ZHU, Shengkui ZHU <i>Shanghai University of Electric Power, China</i>	Concept Study of a Biomass-fired CHP System Based on Supercritical Carbon Dioxide Cycle Kaiyun ZHENG <i>Shanghai Power Equipment Research Institute Co., Ltd., China</i>
17:00-17:20	Optimization of Off-grid Wind-solar Hybrid Power Generation System Based on Real-time Meteorological Data Qunzhi ZHU, Chen LI <i>Shanghai University of Electric Power, China</i>	Numerical Simulation of Combustion and Emission Characteristics of Low Heat Rejection Diesel Engine Yan LI, Qian XU, Han YUAN <i>Ocean University of China, China</i>	Gas-liquid Two-phase Distribution Visualization and Mixing Time Quantification in Top-blown Gas Agitation Mixing Process Kai YANG, Qingtai XIAO, Zihao NI, Qin WANG, Jianxin XU, Hua WANG <i>Kunming University of Science and Technology, China</i>
17:20-17:40	Study of Experiment and Calculation Formulas of Flue Gas Acid Dew Point of Coal-Fired Boiler Based on Sulfur Dioxide Concentration Jiahui LI*, Xiaotao WANG, Shuo GAO, Meng ZHANG**, Kaizhong YANG, Yingbai XIE; *North China Electric Power University, China; **China Datang Corporation Science and Technology Research Institute, China	Numerical Study on Drop-on-demand Droplet Formation Dynamics Maoguo ZHU, Dongtong CHONG, Quanbin ZHAO, Weixiong CHEN, Junjie YAN <i>Xi'an Jiaotong University, China</i>	Deep Learning Algorithm for Dynamic Modeling of the Thermal Nonlinear Process Peng WANG, Fengqi SI <i>Southeast University, China</i>
17:40-18:00			
18:30-20:30	Buffet (Swan Lake Restaurant)		

Time	Room D	Room E	Room F
14:00-15:45	Session 32 Turbines (V) Chair: Huan QI , Zhejiang University of Technology, China Tsuneaki ISHIMA , Gunma University, Japan	Session 34 Alternative Energy (V) Chair: Hideki MURAKAWA , Kobe University, Japan Di ZHANG , Xi'an Jiaotong University, China	Session 36 Environmental Protection (V) Chair: Guirong BAO , Kunming University of Science and Technology, China Yan ZHAO , Heilongjiang Polytechnic, China
14:00-14:25	Keynote: Abrasive Flow Machining Technology for Precision Engineering Huan QI <i>Zhejiang University of Technology, China</i>	Keynote: Seawater Desalination and Refrigeration Combined System Based on Ocean Thermal Energy, Solar Energy and Waste Heat Yan LI <i>Ocean University of China, China</i>	Keynote: Effects of Temperature and Low-Concentration Oxygen on Pine Wood Sawdust Briquettes Pyrolysis Jianhang HU <i>Kunming University of Science and Technology, China</i>
14:25-14:45	Water Spray Spatial Distribution by Novel Optical Measurement for Cooling Suction Air of Gas Turbine and Its Influence on Cooling Performance Tsuneaki ISHIMA ¹ , Asuka TAKATSUKI ¹ , Takahiro MIYAOKA ¹ , Katsuhiko SUGITA ² , Shuichi OMORI ² , Shuichi UMEZAWA ² Hisanobu KAWASHIMA ¹ <i>1 Gunma University, Japan</i> <i>2 Tokyo Electric Power Company Holdings, Inc., Japan</i>	On Basic Study for Simple Windmill and Waterwheel with a Cross Streamwise Axis Atsushi NAKAJIMA, Hironobu SATO, Hiroaki MIHARA, Takashi NOGUCHI, Katsuya HIRATA <i>Doshisha University, Japan</i>	Experimental Research on CO₂ Membrane Separation Characteristics of Flue Gas From Coal-fired Power Plants Zhongxiao ZHANG, Yanchi JIANG, Boyang LI, Juan LI <i>Shanghai Jiao Tong University, China</i>
14:45-15:05	The Application of Neural Networks Soft-Measurement Technology in the HC Exhaust Emission of the Gasoline Engine Huanchun GONG <i>Yanching Institute of Technology, China</i>	Current Situation, Problems and Economic Analysis of PV Power Generation Tianqi HE, Ao CHEN, Jiahao TIAN, Xuedong WANG <i>Harbin Engineering University, China</i>	Test Study of Water Quantity Loss of Cooling Tower on U - Type Liquidometer Baohong SONG <i>Guizhou Colorful Sunshine Water Co., Ltd, China</i>
15:05-15:25	CFD Analysis of "Hump Zone" Flow Field of Water Turbine Tianqi HE, Ao CHEN, Jiahao TIAN, Xuedong WANG <i>Harbin Engineering University, China</i>	Development and Application on Monitoring Thickness of Thrust Bearing Oil Film for Large-Capacity Hydropower Unit Dengfeng CAO, Luoping PAN, Ye ZHOU <i>China Institute of Water Resources and Hydropower Research, China</i>	Evaluation of Design Alternatives for a Cogeneration System Based on Multiobjective K-Best Solutions Ryohei YOKOYAMA, Yuji SHINANO, Tetsuya WAKUI <i>Osaka Prefecture University, Japan</i>
15:25-15:45	Synergy Analysis of Flow Characteristics and Loss Mechanism in a Radial-inflow Turbine with Shrouded Impeller Ziyi SHAO, Wen LI and Haisheng CHEN <i>Chinese Academy of Sciences University of Chinese Academy of Sciences, China</i>	Biosorption investigation of nickel (II) from aqueous solution using low-cost biomass adsorbent modified by KMnO₄ Peng WU, Shanxue LI, Sheng SU, Song HU, Yi WANG, Jun XIANG, Jihua QIU, Limo HE <i>Huazhong University of Science and Technology, China</i>	Kinetic Model of SCR Catalyst-based De-NO_x Reactions Including Surface Oxidation by NO₂ for Natural Gas-fired Combined Cycle Power Plants Kotaro NAKAMURA ¹ , Takehiko MURAMATSU ² , Taka OGAWA ² , Takao NAKAGAKI ¹ ; <i>1 Waseda University, Japan; 2 Toshiba Energy Systems & Solutions Corporation, Japan</i>
15:45-16:00	Coffee Break		

October 23 16:00-18:00	Session 33 Turbines (VI) Chair: Motoki YOSHIMURA , Kawasaki Heavy Industries, Ltd., Japan Qiang GUO , Shanghai Electric Gas Turbine Co., Ltd., China	Session 35 Alternative Energy (VI) Chair: Jianquan LIU , Shanghai University of Electric Power, China Takashi NOGUCHI , Doshisha University, Japan	Session 37 Energy Conservation, Co-generation, Heat Pump (II) Chair: Jianxin XU , Kunming University of Science and Technology, China Kongzhai LI , Kunming University of Science and Technology, China
16:00-16:25	First Field Operating Experience of High-Efficiency 5MW Class Gas Turbine KAWASAKI M5A. Motoki YOSHIMURA, Koji TERAUCHI, Daisuke UEMURA, Masanori RYU <i>Kawasaki Heavy Industries, Ltd., Japan</i>	Keynote: Catalytic Transfer Hydrogenolysis of Lignocellulosic in Supercritical Methanol Guirong BAO <i>Kunming University of Science and Technology, China</i>	Keynote: Chemical Looping Methane Thermo-Catalytic Decomposition for Continuous High Purity Hydrogen Production with Activated Carbon Carrier Fang LIU <i>China University of Mining and Technology, China</i>
16:25-16:45	The Fork Type Blade Root Strength Analysis Of 15MW Condensing Steam Turbine Bo PENG, Yifang LIU, Xiaozhong FU, Limin HU, Xianhao JIANG <i>China Changjiang Energy Group Co., China</i>	International Liquefied Hydrogen Supply Chain Hiromasa SUZUKI, Takashi YOSHIYAMA, Kenjiro SHINDO, Motohiko NISHIMURA <i>Kawasaki Heavy Industries, Ltd., Japan</i>	Energy Harvesting of a Semi-active Flapping Hydrofoil in Shear Flow Qunfeng ZOU, Lin DING, Lin YANG, Chunmei WU, Li ZHANG, Haoyu HE <i>Chongqing University, China</i>
16:45-17:05	Biomimetic Improvement of Wavy Leading Edge in Nuclear Steam Turbine High-pressure Last Stage Fan WU, Danmei XIE, Jing ZHANG, Wei CHEN, An HAN, Changzhu YANG <i>Wuhan University, China</i> <i>Dongfang Turbine Co., Ltd. China</i>	Thermodynamic Simulation and Kinetic Analysis on Chemical Looping with Oxygen Uncoupling (CLOU) of Lignocellulosic Biomass Main Compound: Cellulose Zhiqiang WU, Bo ZHANG, Jun ZHAO, Bolun YANG <i>Xi'an Jiaotong University, China</i>	Statistical Measures for Uniformity Qualification of Bubbles Movement in a Direct Contact Heat Exchanger Qingtai XIAO <i>Kunming University of Science and Technology, China</i>
17:05-17:25	Research on Stability of Steam Turbine High Speed Rotor Lin PENG, Gang YIN, Xiaoping FAN, Weihong DONG <i>Dongfang Turbine Co., Ltd., China</i>	The Effect of Particle Size Distribution on Biomass Gasification in Bubbling Fluidized Gasifier Tao ZHOU, Shiliang YANG <i>Kunming University of Science and Technology, China</i>	Effect of Energy Conservation of Ground Source Heat Pump Applied as Agricultural House Air Conditioning System Tetsuaki TAKEDA and Ryosuke OKAZAWA <i>University of Yamanashi, Japan</i>
17:25-17:45	Study on Nozzle Guide Vane Subject to Thermal Shock Using the Multi-field Coupling Method Peng GUAN ¹ , Yanting AI ² <i>1 Northwestern Polytechnical University, China</i> <i>2 Shenyang Aerospace University, China</i>	Waste Cooking Oil Cracking at High Temperature and Its Application in Copper Slag Cleaning Yonggang WEI, Shiwei ZHOU, Bo LI, Jianhang HU <i>Kunming University of Science and Technology, China</i>	The Fate of Sulfur Trioxide Through Air Pollution Control Devices in Actual Power Plants Burning High-sulfur Coal Zhengda YANG, Jiang YE, Linri YI, China <i>University of Petroleum (East China); Chenghang ZHENG, Xiang GAO, Zhejiang University, China</i>
17:45-18:05	Aerodynamic Optimization of the Last Stage Turbine Blade for an Industrial Gas Turbine Peng CHU, Yongfeng SUI, Jibing LAN, Hao YUAN, Hongchao WU, Xiaopeng XIN, Jian XIE <i>Hangzhou Steam Turbine & Power Group Co., China</i>	Application and Analysis of Rapid Determination of Oxidative Degradation of Biodiesel by Surface Tension and UV Absorbance Wenchao WANG, Fashe LI, Ying LI <i>Kunming University of Science and Technology, China</i>	Pressurized MILD and Oxy-fuel Combustion in Counter-flow Configuration: Emissions of NO and CO Kai WANG, Pengfei LI, Fan HU, Zhaohui LIU, Huazhong University of Science and Technology, China; Jianpeng ZHANG, The Chinese University of Hong Kong, China
18:30-20:30	Buffet (Swan Lake Restaurant)		

October 24, AM Room A-C

Time	Room A	Room B	Room C
09:00-10:25	Session 38 New Materials for Energy Systems (I) Chair: Guofeng YUAN , Institute of electrical engineering Chinese Academy of Sciences, China Pengfei SU , Dongfang Turbine Co., Ltd., China	Session 40 Numerical Simulation, Modeling & CFD (III) Chair: Fengqi SI , Southeast University, China Yutaka ODA , Kansai University, Japan	Session 42 Others (Power-related topics) (I) Jianlin CHEN , Dongfang Electric Dongfang Boiler Co. Ltd., China Zelei WANG , Shanghai Electric Power Generation Group, China
09:00-09:25	The Direct Contact Heat Transfer: Vaporization of a Single Droplet Junwei HUANG <i>Yunnan Agricultural University, China</i>	Keynote (09:00-09:25): Eulerian-Lagrangian Simulation of the Multi-scale Flow Characteristics in the Bubbling Fluidized Bed Gasifier Shiliang YANG <i>Kunming University of Science and Technology, China</i>	Study on an Intelligent System of 1000MW Class Nuclear Power Generator Core Stacking, Zelei WANG, Juan LIANG, Yigong ZHOU <i>Shanghai Electric Power Generation Group, China</i>
09:25-09:45	Effect of Aging Treatment on Toughness of 22Cr-15Ni-4Cu Austenitic Heat Resistant Steel Yan LIU, Pengcheng CHE, Yi CHENG, Shuping TAN <i>Harbin Boiler Company Limited, China</i>	Study on Diesel Spray Effective Injection Velocity under Varying Injection Rate Weinan JIA, Long LIU, Qihao MEI <i>Harbin Engineering University, China</i>	Study on the Effect of Particle Flow State on the Stability of LIBS Carbon Content Detection Signal Yuqing PAN ¹ , Zhengtao HU ¹ , Heng XU ¹ , Qulan ZHOU ¹ , Na LI ¹ , Yoshihiro Deguchi ² <i>1 Xi'an Jiaotong University, China</i> <i>2 Osaka University, Japan</i>
09:45-10:05	Phase Transformation Behavior and Precipitating Phase of a New High Nitrogen Martensite/Ferrite Heat Resistant Cast Steel Weixiong KONG, Zhizhong DONG <i>Tianjin University of Technology, China</i>	A Two-Phase Eulerian CFD Model for Predicting Gas-liquid Reactive Jet Xiao ZONG, Jun LU, Hongwei LI, Yuke GAO, Xinbo HAN, Bo PENG, Chengshi YANG <i>The 705 Research Institute, China Shipbuilding Industry Corporation, China</i>	Wind Tunnel Experimental Study on Shape Factor of Heliostat and Heliostat Group in Photothermal Power Plant Jianling CHEN, Linqing CHEN, Ju CHEN <i>DOGNFANG ELECTRIC DONGFANG BOILER CO. LTD. Zhejiang University, China</i>
10:05-10:25	Preparation of Silica Nanoparticle/Binary nitrate/Expanded Graphite as High-temperature Thermal Energy Storage Materials Qiang YU <i>Beijing university of technology, China</i>	Simulation of Combustion Instability of a Premixed Model Combustor with Heat Exchanger in the Combustion Chamber Rongjun ZHU, Chao ZONG, Han GAO, Tong ZHU <i>Tongji university, China</i>	Heat Transfer Performance of Supercritical Pressure CO₂ in a Non-uniform Heated Horizontal Tube Haiyan ZHANG, Jiangfeng GUO, Xiulan HUAI <i>University of Chinese Academy of Sciences, China</i>
10:25-10:40	Coffee Break		

October 24 10:40-12:00	Session 39 New Materials for Energy Systems (II) Chair: Jinyang HUANG Xi'an Thermal Power Research Institute Co., China Xiao ZONG , The 705 Research Institute, China Shipbuilding Industry Corporation, China	Session 41 Numerical Simulation, Modeling and CFD (IV) Chair: Tong ZHU , Tongji University, China Yoshiaki TANZAWA , Nippon Institute of Technology, Japan	Session 43 Others (Power-related topics) (II) Chair: Zhongzhu QIU , Shanghai University of Electric Power, China Fang LIU , China University of Mining and Technology, China
10:40-11:00	Research on Microstructure Stability of Austenite Heat Resistant steels Tempaloy AA-1 and Tempaloy A-3 After Aging treatment Shuo WANG, Limin WEI, Yi CHENG <i>Harbin Boiler Company Limited, China</i>	Study on Flow Field and Dispersion Characteristics of Top-blowing Lance Based on Large Eddy Simulation of Gas-liquid Two-phase Flow Sijia YAN, Jianhang HU, Shiliang YANG, Hua WANG <i>Kunming University of Science and Technology, China</i>	Research of Statistics Model Characteristics for Operation Status Evaluation of Hydropower Unit Ye ZHOU, Luoping PAN, Dengfeng CAO <i>China Institute of Water Resources and Hydropower Research, China</i>
11:00-11:20	Characteristics Comparative Analysis of 3D Woven and Four Axial Composite Blade Ke ZHAO <i>Inner Mongolia University of Technology, China</i>	Numerical Simulation and Combustion Analysis of Biomass gas and Coal Co-firing Jiahu LI, Xiaotao WANG, Shuo GAO <i>North China Electric Power University, China</i>	Effect of Incident Angle on Ultrasonic Transmission in Steam Flow for Use with Clamp-on Ultrasonic Flowmeter Shuhe ICHIMURA, Masaki SHIMADA, Hideki MURAKAWA, Katsumi SUGIMOTO, Hitoshi ASANO, Shuichi UMEZAWA, Katsuhiko SUGITA <i>Kobe University, Japan</i>
11:20-11:40	The role of Pulverized Coal Temperature in Fly Ash Carbon Content and Slagging of a Tangentially coal-fired Boiler Zhongzhu QIU, Xin LIAO, Qi ZHANG, Wenhui YANG, Ruitang GUO, Jianquan LIU, Fangqin LI, Yan LI <i>Shanghai University of Electric Power, China</i>	Numerical Investigation of Heat Transfer Characteristics of Supercritical Water Flowing in a Rifled Tube under Axial Non-uniform Heating Yajuan JIN, Zhouhang LI <i>State Key Laboratory of Complex Nonferrous Metal Resources Clean Utilization, China</i>	Study on Very High Cycle Fatigue Properties of Centrifugal Compressor Impeller Blades Kepeng SUN, Qingchao SUN, Bowen SHI, Qingyuan LIN <i>Dalian University of Technology, China</i>
11:40-12:00	Effect of Tank Diameter on Flow and Heat Transfer Characteristics in Stratified Thermocline Water Storage Tanks: A Numerical Study Xiaoxia JIANG, Liang YAO, Yuwei ZHAO, Kewei LIU <i>Harbin Electric Corporation, China</i>	Simulation and Efficiency Study on Supercritical Carbon Dioxide Brayton Cycle Based on Solar Power Generation system Lei CAO <i>Dongfang Turbine Co., Ltd., China</i>	Dynamic Analysis of Peaking Economy of Air-cooled Units Xiaoyan HE, Zhiping YANG, Chengzhou LI, Ningling WANG <i>North China Electric Power University, China</i>
12:00-14:00	Lunch (Swan Lake Restaurant)		
	Close		
18:30-20:30	Buffet (Swan Lake Restaurant)		

Time	Room D	Room E	Room F
09:00-10:25	Session 44 Turbines (VII) Chair: Kenta TANIGUCHI , Mitsubishi Hitachi Power Systems, Ltd., Japan Yueru LI , Shanghai Electric Gas Turbine Co., Ltd., China	Session 46 Components, Equipment and Auxiliaries (I) Chair: Qingsen ZHAO , Xi'an Thermal Power Research Institute Co., Ltd. China Kyungjung KWON , Sejong University, South Korea	Session 47 Session 48 Advanced Energy Systems (V) Economics (I) Chair: Qingchao Sun , Dalian University of Technology, China JianHang HU , Kunming University of Science and Technology, China
09:00-09:25	(09:00-09:20) Current Status and Future Perspective of MHPS Gas Turbine Development for Power Generation Kenta TANIGUCHI, Norihiko MOTOYAMA, Shinya HASHIMOTO, Masanori YURI, Masahito KATAOKA, Hidetaka OGUMA, Masahiko MEGA, Koichi ISHIZAKA <i>Mitsubishi Hitachi Power Systems, Ltd, Japan</i>	Keynote: Prospect of Hydraulic Machinery State Detection Jing QIAN <i>Kunming University of Science and Technology, China</i>	Keynote: Thermal Performance Analysis of Microchannels Yuling ZHAI <i>Kunming University of Science and Technology, China</i>
09:25-09:45	Aerodynamic Damping Calculation of Steam Turbine Last Stage Moving Blades Based on Harmonic Balance Method Tong LIN ¹ , Ping HU ² , Rui YANG ¹ , Xiaocheng ZHU ² , Zhaohui DU ² <i>1 Shanghai Turbine Works Company Ltd., China</i> <i>2 Shanghai Jiaotong University, China</i>	Application of BP Neural Network Based on Genetic Algorithm Optimization in Thermal Conductivity of Nanofluids Jiang WANG, Yuling ZHAI <i>Kunming university of science and technology, China</i>	A Thermally Regenerative Ammonia-based Battery with Copper Foam Electrodes for Low-Temperature Waste Heat Recovery: Effect of Reactor and Electrode Design Yongsheng ZHANG, Liang ZHANG, Jun LI, Xun ZHU, Qian FU, Qiang LIAO, Yu SHI <i>Chongqing University, China</i>
09:45-10:05	Development of Aeration System by Simple Centrifugal Pump Driven by Vertical Axis Wind Turbine Yoshiaki TANZAWA <i>Nippon Institute of Technology, Japan</i>	Performance Evaluation and Operation Optimization of Condenser Kaili XU, Kun ZHANG, Chang GAO <i>China Nuclear Power Operation Technology Corporation LTD, Wuhan, China</i>	Steam System of Corrugated Paperboard Production and Temperature-rise Test Xuedong WANG <i>Harbin Engineering University, China</i>
10:05-10:25	Influence of Splitter Blade Geometric Parameters on the Intake Duct Hydrodynamic Performance of Water-jet Propulsion System Xi YU ¹ , Ye ZHANG ¹ , Wei ZHAO ² , Xiaocui WU ² , Zhonghe LI ¹ , Yeming LU ¹ , Xiaofang WANG ^{3*} <i>1. Dalian University of Technology, China</i> <i>2. Beijing Institute of Power Machinery, China</i> <i>3. Kunming University of Science and Technology, China</i>	Design of Two-stage Supercharging System for Low speed Diesel Engine Ao CHEN <i>Harbin Engineering University, China</i>	Experimental and Numerical Study on Fuel-NO_x Formation under High CO₂ Concentration in a Jet Stirred Reactor Kai WANG, Pengfei LI, Wenhao LI, Fan HU, Zhaohui LIU <i>Huazhong University of Science and Technology, China</i>
10:25-10:40	Coffee Break		

October 24, 10:40-12:00	Session 45 Turbines (VIII) Chair: Kenichiro TAKEISHI , Tokushima Bunri University, Japan Takashi NOGUCHI , Doshisha University, Japan	Session 46 Components, Equipment & Auxiliaries (I) Chair: Jing QIAN , Kunming University of Science and Technology, China Kaili XU , China Nuclear Power Operation Technology Corporation LTD, Wuhan, China	Session 38 & Session 48 New Materials for Energy Systems (III) Economics (I) Chair: Bangqin CHENG , Air Force Engineering University, China Chengxiong PAN , Shanghai Electric Gas Turbine Co., Ltd., China
10:40-11:00	Study on the Effect of Main Stream Turbulence for the Film Cooling Effectiveness of a Circular and a Fan-shaped Film Cooling Hole Kenichiro TAKEISHI, Yutaka ODA, Syohei MORI <i>Tokushima Bunri University, Japan</i>	Research on Braking Technology of Brake Cam Engine Jiahao TIAN, Ao CHEN, Jiabao NIU, Tianqi HE <i>Harbin Engineering University, China</i>	Energy Hub-based Optimal Configuration Planning for Region-level Integrated Energy System with Consideration of Dynamic Characteristics of Energy Devices Chengzhou LI, Ningling WANG, Qing WEI, Zhiping YANG, Yongping YANG <i>North China Electric Power University, China</i>
11:00-11:20	Analysis on Thermoelectric Coupling and Peak Load Regulation of F-class Combined Cycle Cogeneration Unit Ke XU, Wei LI, Deren SHENG, Jianhong CHEN, Wei ZHONG <i>Institute of Thermal Science and Power System, Zhejiang University, China</i>	Exploration Study on Thermodynamic Analysis of Thermal Management System applied in Lunar Base Kai ZHANG, Yiwu WENG <i>Shanghai Jiao Tong University, China</i>	Simulated Fireside Corrosion Behavior of a Solid Solution Strengthening Ni-Cr-Fe-W-based Superalloy at 700 °C Jinyang HUANG, Jintao LU, Zheng YANG, Zhen YANG, Yongli ZHOU, Yong YUAN <i>Xi'an Thermal Power Research Institute Co. China</i>
11:20-11:40	Numerical Investigation of Impingement Cooling Effectiveness on Four Flat Plates with Different Dimple Structure Wei CHEN, Danmei XIE, Haifen DU, Jing ZHANG <i>Wuhan University, China</i>	The Research of Steam Generator Thermal Performance Degradation in Ningde Nuclear Power Plant Qingsen ZHAO, Yuchun TAO, Wei LUO, Yingjie CHU, Weidi PENG, Weirang WU <i>Suzhou Nuclear Power Research Institute, China</i>	Research on Primary Frequency Control Strategy of Combined Cycle Unit Based on Source-network Coupling Model Lin CHEN, Qiangfeng CHEN, Zhiwei MAO, Wenjian WU, Zhenghao GU, Bao ZHANG, Jianhong CHEN <i>Electric power research institute of state grid Zhejiang electric power company, China</i>
11:40-12:00	A Thermal Buckling Analysis Method Based on Sub-model Fan ZHANG*, Baoting GUO, Yinli FENG, Wenting JIANG, Jinhai GAO <i>Institute of Engineering Thermophysics, China Faculty of Engineering Sciences, University of Chinese Academy of Sciences, China</i>	Influence of Flow Arrangement Pattern on Thermal Performance of Tri-sector Rotary Regenerative Air Pre-heater and Deposition Rule for Ammonium Bisulfate Xun CHEN, Yi YANG, Limin WANG, Gang CHENG <i>State Grid Hunan Electric Power Co., Ltd. Research Institute, China</i>	Design and Experimental Study of Organic Rankine Cycle System for Temperature-Regulated Water of Urea Plant Tan WU, Xinli WEI, Xinling MA <i>Zhengzhou University, China</i>
12:00-14:00	Lunch (Swan Lake Restaurant)		

October 24, PM Room D-F

Time	Room D	Room E	Room F
14:00-16:00	Session 50 Turbines (IX) Chair: Qingchao SUN , Dalian University of Technology, China	Session 51 Components, Equipment and Auxiliaries (II) Chair: Zhongzhu QIU , Shanghai University of Electric Power, China	Session 52 Numerical Simulation, Modeling and CFD (V) Chair: Ping HE , Shanghai University of Electric Power, China
14:00-14:20	Sealing Performance and Loss Analysis in Turbine Axial Rim Seals. Ruonan WANG, Qiang DU, Guang LIU, Zengyan LIAN, Lei XIE <i>Institute for Engineering Thermophysics, CAS, China</i>	Analysis and Calculation of Rolling Support for Drum Yanchun ZHANG, Lihong WANG, Wei ZHANG, Minli ZHANG <i>MHPS Dongfang Boiler Co., Ltd. China</i>	Numerical Analysis of the Effect of Crucible Type on Vacuum Directional Solidification Purification Process for Multi-crystalline Silicon Xiufeng LI, Kuixian WEI, Tao LUO, Guoqiang LV, Wenhui MA <i>Kunming University of Science and Technology, China</i>
14:20-14:40	Film-Cooling Effects Evaluation for Different Shaped-holes Under Real Gas Turbine Vane Working Conditions Yueru LI, Chengxiong PAN <i>Shanghai Electric Gas Turbine CO., LTD., China</i>	Research on the Performance of Natural Draft Counter-Flow Wet Cooling Towers with Cross-wall in the Rain Zone under Crosswind Haodong SONG, Fengzhong SUN, Hongguo WANG <i>Shandong University, China</i>	Performance Prediction of a Centrifugal Compressor with Cooling Structure Chuanlei YANG, Yang Li, Yinyan WANG, Jing WANG <i>Harbin Engineering University, China</i>
14:40-15:00	Research on Low Noise Technology Based on a Gas Turbine Air Intake System Qiang GUO, Yin LIN <i>Shanghai Electric Gas Turbine Co., Ltd., China</i>	Structural Optimization of Microchannels Based on Multi-objective Genetic Algorithm Peitao YAO, Yuling ZHAI <i>Kunming University of Science and Technology, China</i>	Study on a High Subsonic Centrifugal Compressor with Water Injection Lanxin SUN, Xu ZHENG, Nan HU, <i>Harbin Engineering University, China</i>
15:00-15:20	Numerical Study on the Heat Transfer Characteristics of Carbon Dioxide at Supercritical Pressure in Discrete Double Inclined Internal Ribbed Pipe Nan YUAN, Zhouhang LI <i>Kunming University of Science and Technology, China</i>	DMD as a Tool for Investigation of the Dynamic Characteristics of the Supersonic Wake Qing LI <i>National University of Defense Technology, China</i>	Numerical Simulation and Experimental Research on Oil Mist Overflowing for Giant Hydropower Generator Huilong LUO <i>Kunming University of Science and Technology, China</i> Jiquan TAO, Chengjun ZHANG, Guxiong ZHANG, Jicheng SU, Zhaotong, Yangbing DENG <i>China Yangtze Power Co., Ltd, China</i>
15:20-15:40	Study on Dry Centrifugal Granulation Characteristics of Blast Furnace Slag Zhaoyu XIAO Shuzhong WANG, Meiquan LI, Chen MA, Zhiqiang WU, Jun naowen ZHAO, Xi ZHANG <i>Xi'an Jiaotong University, China</i>	The Cooling Performance of Natural Draft Wet Cooling Tower with the Chip Muffler Xin LI, Fengzhong SUN <i>Shandong University, China</i>	Study on Operating Characteristics of Cylinder Liners of a Turbocharged Diesel Engine Yuhua Bi, Peng Wang, Rong Xiang, Jun Wen, Jilin Lei, Lizhong Shen, Qianfan Xin <i>Kunming University of Science and Technology</i>
Close			
18:30-20:30	Buffet (Swan Lake Restaurant)		

October 25 AM

08:30-12:00	Technical Tours, Kunming Yunnei Power Co., Ltd / Hongyunhonghe Group Kunming Cigarette Factory (alternative)
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Kunming Yunnei Power Co., Ltd is the pioneer of Chinese manufacturer of internal-combustion engine. It produces 400 thousand diesel engines and 30 thousand trucks annually. It also devotes to the R & D works for natural gas engine. Its annual turnover is over 10 billion CNY. The commercial vehicles from Yunnei Power have covered the car, bus, farm vehicle, other kinds of vehicles for different applications.

Hongyunhonghe Group Kunming Cigarette Factory is one of the famous tobacco companies that was founded in 1942, and its annual turnover is over 30 billion CNY. It has become an intelligent manufacturing with smart energy management systems. The energy sector in this company includes burner, boiler, steam system, heating system, and other related components.

Official Website

Please visit the conference website: <http://icope2019.kmust.edu.cn>

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1、大堂主楼
(Main Building Lobby)
2、3、5 标准间
(Standard Room)
6、8 公寓楼
(Apartment Building)

9、宴会厅
(Banqueting Hall)
10、国际会议中心
(International Conference Center)
11、天鹅湖餐厅
(Swan Lake Restaurant)

12、西山爽气多功能厅
(Western Hills Breeze Multi-Function Hall)
13、商务会馆
(Business Club)
15、健康中心 (温泉泡池)
Health Center (SPA-Swimming Pool)

16、公寓大堂
(Apartment Lobby)

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