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ICOPE-2026

International Conference on Power Engineering 2026

PROGRAM

April 9-12, 2026 | Hangzhou, China

CONTENTS

Welcome Address

On behalf of the organizing committee, it is my great honor to welcome you to the International Conference on Power Engineering 2026 (ICOPE-2026), which will be held in April 2026 in Hangzhou, China. ICOPE is jointly sponsored and organized by the Chinese Society of Power Engineering (CSPE) and Japan Society of Mechanical Engineers (JSME). Since its inaugural conference in Tokyo in 1993, ICOPE has grown into a globally respected platform for the exchange of ideas and innovations in power engineering. It brings together experts from around the world to explore a wide range of topics across the energy field, excluding nuclear power generation.

Over the past three decades, ICOPE has been held in cities such as Shanghai, San Francisco, Wuhan, Kyoto, and Charlotte. In 2026, the conference returns to China, continuing its tradition of international collaboration and technical excellence. We are delighted to welcome you to Hangzhou, one of China's most beautiful and historic cities. Famous for its scenic West Lake and deep cultural roots, Hangzhou has also become a modern hub of innovation and sustainability. The city offers a unique blend of ancient elegance and contemporary progress, making it an ideal setting for discussions on the future of energy and low-carbon solutions.

ICOPE-2026 will center around the theme "Low-Carbon Energy Transition", addressing the global imperative to decarbonize our energy systems. As the world faces complex challenges in achieving carbon neutrality, collaboration and knowledge sharing are more critical than ever. This conference aims to bring together researchers, engineers, industry professionals, and policymakers to share advances, spark ideas, and shape the future of energy.

We deeply appreciate the continued support and contributions of our authors, reviewers, session chairs, advisory board members, and all participants who make this conference possible. We warmly invite you to join us in Hangzhou for ICOPE-2026, and we look forward to a dynamic and rewarding gathering that advances both knowledge and global cooperation.

Welcome to ICOPE-2026. See you in Hangzhou!

Prof Jianhua Yan

Hosting chairman of ICOPE-2026

March 25, 2026

Conference Information

◆Conference Venue

Venue: Grand Parkray Hangzhou (杭州雷迪森铂丽大饭店)

Address: 108 Shixin North Road, Xiaoshan District, Hangzhou

◆Registration

The registration desk will be open in the lobby of Grand Parkray Hangzhou :

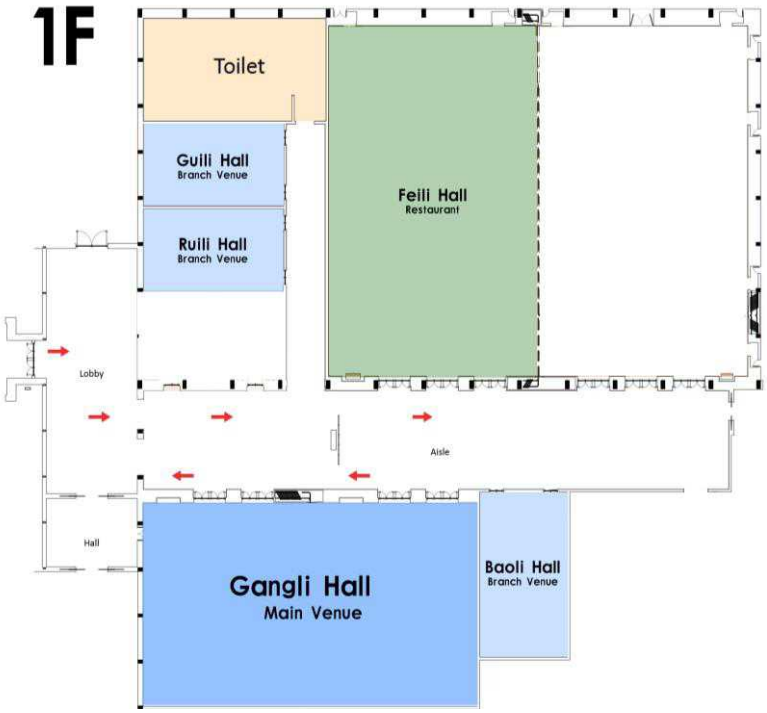
April 9th 13:00 – 22:00

◆Catering

Date	Time	Place
April 9	18:00-20:30 (Dinner)	Feili Hall（翡丽厅）
April 10	12:20-13:30 (Lunch)	Feili Hall（翡丽厅）
	18:20-20:00 (Banquet)	Gangli Hall（港丽厅）
April 11	12:10-13:30 (Lunch)	Feili Hall（翡丽厅）
	17:30-19:30 (Dinner)	Feili Hall（翡丽厅）

Please bring your meal voucher to the dining place.

Floor Map of Grand Parkray Hangzhou



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Conference Overview

Date	Time	Content
April 9	13:00-22:00	Registration
April 10	08:30-12:20	Opening Ceremony and Plenary Speech
	13:30-17:25	Parallel Sessions
April 11	08:30-12:10	Parallel Sessions
	13:30-16:25	Parallel Sessions
	16:30-17:30	Closing Ceremony and Award Ceremony --Best Oral Presentation & Best Poster
April 12	08:30-12:00	Technical Tour

Agenda

April 10 a.m.

Main Venue：Gangli Hall（港丽厅）

Time	Content
08:30-08:45	**Opening Ceremony**
08:45-09:25	**Plenary Speech 1** **Guangxi Yue (Tsinghua University)** New Breakthrough in CFB Coal Power for De-carbon
09:25-10:05	**Plenary Speech 2** **Hitoshi Asano (Kobe University)** Advances in Heat Pump Development for Climate Change Mitigation
10:05-10:20	Coffee Break
10:20-11:00	**Plenary Speech 3** **Jonathon Wong** **(Hong Kong Baptist University/ Dongguan University of Technology)** Valorization of Waste Biomass for Energy and Materials Production Achieving Carbon Neutrality
11:00-11:40	**Plenary Speech 4** **Min Soo Kim (Seoul National University)** Gradient Design Strategies for Improving Performance and Water Management in Polymer Electrolyte Membrane Fuel Cells
11:40-12:20	**Plenary Speech 5** **Qunxing Huang (Zhejiang University)** AI Technology for Waste-to-Energy
12:20-13:30	Lunch Buffet Room: Feili Hall（翡丽厅）

April 10 p.m.

P1：Power System and Equipment

Venue: Gangli Hall I（港丽厅 I）

Chairs：Qiang Liao Chongqing University

Shurong Wang Zhejiang University

Time	Content
13:30-13:50	**Keynote Speech** **Tianwen Li, Xing Luo*** Zhejiang University Numerical simulation of two-phase flow in flat channels under rotating system
13:50-14:05	**Kizuku Kurose** Yokohama National University Heat transfer characteristics of superheater and reheater in coal-fired thermal power plant radiant boiler
14:05-14:20	**Shifang Wu** Shanghai Electric Power Generation Equipment Co., Ltd, Shanghai Turbine Plant Analysis of Operation Characteristics of 300MW Air Turbine
14:20-14:35	**Pengfei Su** China Dongfang Electric Group Co., Ltd. Application of High-Fidelity LES Based on a Space-Time Expansion of Kinetic Energy Preserving Flux Reconstruction Method in Highly-Loaded HP Turbine Rotor CDA Profile Design and Validation
14:35-14:50	**Jingqi Sun** Zhejiang University CFD-guided optimization of airflow distribution to mitigate overheating in a CFB boiler under-bed ignition system
14:50-15:05	**Beichen Yu** Huazhong University of Science and Technology Experimental and Numerical Investigation of Multiscale Furnace Wall Temperature Prediction and Optimization in a Coal-Fired Boiler Coupled with a Supercritical CO_2 Power Cycle
15:05-15:20	**Shenglin Chai** Harbin Institute of Technology Preliminary Cooling Design and Optimization of a Radial-Inflow Turbine Rotor Blade
15:20-15:35	**Xikai Liu** Xi'an Jiaotong University Aerodynamic Design and Numerical Simulation of High and Low-Pressure Turbines for Distributed Compressed Air Energy Storage System
15:35-15:50	Coffee Break

Time	Content
15:50-16:10	**Keynote Speech** **Yoshinori Hamamoto** Kyushu University Predicting the influence of operating conditions and heat and mass transfer resistances on the heat output of an adsorption heat transformer cycle including a heat recovery process
16:10-16:25	**Ming Kang** Shanghai Electric Power Generation Equipment Co., Ltd, Shanghai Turbine Plant Analysis of high temperature flange & bolt temperature variation of the steam turbine based on in-service data
16:25-16:40	**Wang Yu** Huazhong University of Science and Technology Research on Parallel Topology Optimization Method of Thermal-Mechanical Coupling Problem for Turbine Disk
16:40-16:55	**Zhijie Zhu** Shanghai Jiao Tong University Thermodynamic performance analysis and key parameter influence of gas turbine with ammonia blended fuel
16:55-17:10	**Qilong Liu** Xi'an Jiaotong University Enhancing Heat Transfer Uniformity in S-Shaped Cooling Channels of Gas Turbine Rotors through Rib Structure Modifications
17:10-17:25	**Zeyu Lou** Nanjing University of Aeronautics and Astronautics Numerical Investigation of Radiative Cooling Characteristics in a Hydrogen-Fuelled Gas Turbine Stator Vane
18:20-20:00	Banquet Room: Gangli Hall（港丽厅）

April 10 p.m.

P1：Power System and Equipment

Venue: Gangli Hall II（港丽厅 II）

Chairs：Stephan Kabelac Leibniz Universitat Hannover

Huiyan Zhang Southeast University

Time	Content
13:30-13:50	**Keynote Speech** **Shaozeng Sun** Harbin Institute of Technology Fundamental research of coal-based high-efficiency and low-carbon emission composite working media power cycle
13:50-14:05	**Xingang Liu** Harbin Institute of Technology Study of gas/particle flow and low-load combustion stability of an improved swirl burners in a 350 MW Zhundong coal-fired boiler under different loads
14:05-14:20	**Hao Ye** Beihang University Experimental investigation on the flow boiling heat transfer characteristics in rotating microchannels
14:20-14:35	**Genqi Tian** Shanghai Power Equipment Research Institute Co., Ltd. Systematic Investigation on Property Degradation and Damage Mechanisms of 9% Cr Steels Under Prolonged Aging
14:35-14:50	**Hongxia Yang** Shanghai Electric Power Generation Equipment Co., Ltd, Shanghai Turbine Plant Numerical Study on Leakage Characteristics of Blade Labyrinth Seals in Steam Turbines
14:50-15:05	**Yubing Pei** Dongfang Turbine Co., Ltd. Long term creep and stress-relaxation behavior of 11Cr-Co3-W3 martensitic heat-resistant steel
15:05-15:20	**Jiacheng Lou** Xi'an Jiaotong University A Model of Density Wave Instabilities in Helically Coiled Tubes Based on Frequency Domain Method
15:20-15:35	**Zhuoran Zhou** Xi'an Jiaotong University Parameter Correction and Diagnosis of Micro Gas Turbine Systems Based on Data Reconciliation
15:35-15:50	Coffee Break

Time	Content
15:50-16:10	**Keynote Speech** **Stephan Kabelac** Leibniz Universitat Hannover Integrated Fuel Cell Concepts for Hydrogen Powered Aircrafts
16:10-16:25	**Xingji Ma** Harbin Engineering University Supercritical CO_2 power cycles for marine nuclear applications: efficiency and compactness assessment
16:25-16:40	**Yuntao Mao** Harbin Engineering University Research on Multi-Configuration Electromagnetic Field and Needle Valve Motion Characteristics of Marine High-Flow Methanol Injection Valve
16:40-16:55	**Haochuan Bai** Zhejiang University Simulation of Controlled Supply Systems for Long-Endurance Unmanned Aerial Vehicles Powered by Liquid Hydrogen
16:55-17:10	**Yuming Li** Harbin Engineering University Study on the Dynamic Response Characteristics of High-Pressure Dimethyl Ether Injection Process
17:10-17:25	**Meisi Li** Harbin Engineering University Pressure fluctuation characteristics study of hydraulic amplification high-pressure methanol injection system
18:20-20:00	Banquet Room: Gangli Hall（港丽厅）

April 10 p.m.

P2：Intelligent Optimization and Diagnostics for Energy Systems

Venue: Guili Hall（瑰丽厅）

Chairs：Shuiqing Li Tsinghua University

Yan He Qingdao University

Time	Content
13:30-13:50	**Keynote Speech** **Huaichun Zhou** Xihua University Advanced combustion monitoring and intelligent optimized operation of coal-fired power generating units
13:50-14:05	**Yongfeng Shen** Chongqing University Online self-evolving modeling for long-term performance tracking of thermal systems
14:05-14:20	**Remma Sato** Kobe University Investigation of liquid leakage detection method in finned tubes of gas-gas heaters using acoustic emission techniques
14:20-14:35	**Jumma Tanaka** Institute of Science Tokyo Fundamental study on an intelligent ultrasonic acoustic framework for pipe leak detection and gas species identification
14:35-14:50	**Renhao Qu** State Key Laboratory of Clean and Efficient Turbine Power Equipment Development and demonstration of an anti-surge system for compressor test of gas turbine
14:50-15:05	**Zihan Jia** Chongqing University Furnace temperature field prediction method based on fusion of sensor measurement and CFD
15:05-15:20	**Lulu Dong** Zhejiang University Emission characteristics and clustering-based prediction of PCDD/Fs with a comprehensive dataset from multi large-scale MSW incinerators in China
15:20-15:35	**Shuai Wang** Xi'an Jiaotong University An intelligent diagnostic framework for boiler overheating in coal-fired power plants based on deep learning and dual-layer explainability
15:35-15:50	Coffee Break

Time	Content
15:50-16:10	**Keynote Speech** **Lunbo Duan** Southeast University Physical AI for Boiler Operation: From State Perception to Optimal Decision-Making
16:10-16:25	**Yiyan Hua** Zhejiang University Data-driven Residual Learning for Early Detection of Combustion Instability in the Transition Regime in Swirling Flames
16:25-16:40	**Xianyong Peng** China University of Mining and Technology A Deep Learning Framework for Real-Time Flame Stability Assessment in Flexible Coal-Fired Units Under High Renewable Energy Penetration
16:40-16:55	**Huangchang Ji** Zhejiang University A DNN model with uncertainty quantification and explainability for predicting diesel equilibrium combustion products and thermodynamic characteristics
16:55-17:10	**Haicui Sun** East China Electric Power Design Institute Co., Ltd Research on Temperature Prediction in Power Plants Based on Improved Wavelet Temporal Convolutional Network
17:10-17:25	**Xiaolin Hu** Chongqing University Research on the Energy Dynamics, CO_2 Emission Analysis and Energy Conservation & Efficiency Improvement Methods of Glass Fiber Drying Ovens
17:25-17:40	**Shuang Ye** Shanghai Tech University Topology Exploration and Optimization for SOFC-GT Systems: A Graph-Theoretic Approach with State-Mapping Modeling
17:40-17:55	**Peng Zhang** Zhejiang University Online prediction of dioxin emissions in municipal solid waste incineration based on process state reconstruction and adversarial evolution mechanism
18:20-20:00	Banquet Room: Gangli Hall（港丽厅）

April 10 p.m.

P3：Carbon Capture, Utilization, and Storage (CCUS)

Venue: Ruili Hall（瑞丽厅）

Chairs：Guanyi Chen Tianjin University of Commerce
Haoran Yuan Guangzhou Institute of Energy Conversion, Chinese Academy of Sciences

Time	Content
13:30-13:50	**Keynote Speech** **Xun Zhu** Chongqing University Challenges and progress in electrochemical synthetic fuel from CO_2 towards practical application
13:50-14:05	**Yunmiao Ma** **Xi'an** Jiaotong University Experimental mass transfer analysis of superhydrophobic PVDF/SiO_2 membrane enabling enhanced CO_2 capture
14:05-14:20	**Jingwen Lu** Huazhong University of Science and Technology Study on CO_2 Adsorption Performance of SBA-15 Modified with Chitosan and Amine
14:20-14:35	**Junjie Yuan** Zhejiang University Exceptional indoor carbon capture using epoxide-modified polyamine functionalized materials
14:35-14:50	**Zhang Junxia** Shaoyang University CO_2 removal by KOH-Ethanolamine solution using Venturi tube
14:50-15:05	**Hirotaka Isogai** Waseda University Comparative assessment of profitability and CO_2 avoided cost for thermal power with CCS via sensitivity analyses of key drivers
15:05-15:20	**Yikang Liu** Xi'an Jiaotong University Performance Analysis of a CO_2 Pressurization and Storage System Coupled with Geothermal-Driven Organic Rankine Cycle and Absorption Refrigeration
15:20-15:35	**Jiaxing Du** Huazhong University of Science and Technology Technical optimization and energy analysis of an advanced ammonia-based CO_2 capture process for coal-fired power plants
15:35-15:50	Coffee Break

Time	Content
15:50-16:05	**Jiahe Yue** Zhejiang University Preparation and performance study of calcium-based carbon capture materials suitable for potassium chlorine flue gas
16:05-16:20	**Zhen Du** Huazhong University of Science and Technology High-performance CaO-based microspheres CO_2 sorbents prepared via a facile spray pyrolysis method
16:20-16:35	**Yiwen Song** Xi'an Jiaotong University Investigation of the CO_2 Moisture Swing Ion Exchange Resins Membranes Performance
16:35-16:50	**Qi Liu** Zhejiang University Physically Mixed Hydrophobic Polymers and Fe Catalysts Promote CO_2 Hydrogenation to C_2^+ Hydrocarbons
16:50-17:05	**Haonan Niu** Chongqing University Mechanism Study of Pd-Fe/ZnO Photothermal Catalysis for CO_2 Conversion into High-Value Products: The Key Role of Bimetallic
17:05-17:20	**Wenjing Wang** Chongqing University of Science and Technology 1D/2D Heterojunction for Enhancing the Performance of Photothermal Catalytic Reduction of CO_2
17:20-17:35	**Yanhui Liu** Shandong University Integrated CO_2 capture-mineralization based on modified coal fly ash: mechanism, applications, and carbon footprint analysis
18:20-20:00	Banquet Room: Gangli Hall（港丽厅）

April 10 p.m.

P4： New Energy

Venue: Baoli Hall（宝丽厅）

Chairs：Mingming Zhang Harbin Institute of Technology
Bing Li Tongji University

Time	Content
13:30-13:50	**Keynote Speech** **Pingwen Ming** Tongji University H_2 Technology Innovation and Heavy-duty Fuel Cell Progress in China
13:50-14:10	**Keynote Speech** **Chung-Yu Guan** National Taiwan University Integrated Plant Microbial Fuel Cell Systems for Distributed Green Power Generation, Heavy Metal Remediation, and Resource Valorization
14:10-14:25	**Wen Yang** Jiangsu University of Science and Technology Mechanism of Individual Dust Particle Removal by a Rolling Droplet on Super-Hydrophobic Surface of Solar Photovoltaic Panel
14:25-14:40	**Zhiwei Zeng** Changsha University of Science and Technology Research on the photothermal performance of tube cluster heat absorber for a dish solar stirling engine
14:40-14:55	**Baigong Wang** Southeast University Numerical Study of Solar Radiation Effect on the Thermal Performance of Solar-Enhanced Natural Draft Direct Dry Cooling Tower
14:55-15:10	**Pedram Alamdari** James Cook University Thermal Loss Mitigation in Isothermal, Bladed Receivers for Concentrating Solar Power: A Parametric Evaluation
15:10-15:25	**Guo Chen** Zhejiang University Data-driven interpretable online prediction method for demulsibility of gearbox oil in wind turbine
15:25-15:40	**Junpeng Han** Xi'an Jiaotong University A Data-Physics Hybrid Surrogate Model for Fast Fault Diagnosis of Wind Turbine Systems
15:35-15:50	Coffee Break

Time	Content
15:50-16:05	**Keynote Speech** **Xin Li** Institute of Electrical Engineering, Chinese Academy of Sciences Thermochemical cycle fuel preparation driven by the coupling of solar energy and microwave
16:05-16:20	**Tian Zou** Zhejiang University Wake–load coupling and performance analysis of full-scale tidal current turbine array in tandem and parallel configurations
16:20-16:35	**Nosare Maika** James Cook University Numerical investigation using moving reference frame method on flow field and power output of a gravitational water vortex power system
16:35-16:50	**Wangkou Liu** Shanghai Jiao Tong University Optimization of Configuration and Scheduling for the Power-Hydrogen-Power Integrated Energy System Based on Hydrogen Gas Turbines
16:50-17:05	**Yusuke Tsuji** Kobe University Effect of Microbubbles on Flow and Heat Transfer Characteristics of Taylor-Couette Flow
17:05-17:20	**Junyi Tao** The University of Tokyo Numerical Analyses of Fuel Electrode Overpotentials in High-temperature H_2O Electrolysis and CO_2 Electrolysis
17:20-17:35	**Xufei Wang** China University of Petroleum Performance and Optimization of a Solar Ladder Thermal Storage-Based Clean Heating System for Oilfield Gathering Stations
18:20-20:00	Banquet Room: Gangli Hall（港丽厅）

April 11 a.m.

P1：Power System and Equipment

Venue: Gangli Hall I（港丽厅 I）

Chairs：Rundong Li Shenyang Aerospace University
Yutaka Oda Kansai University

Time	Content
08:30-08:50	**Keynote Speech** **Kazuhiro Domoto** Mitsubishi Heavy Industries, Ltd. Latest technologies for the improvement of boiler flexible operations
08:50-09:05	**Shiwei Chen** Huazhong University of Science and Technology Analysis of Vibration Characteristics in Cracked Long Steam Turbine Blades with Damping Lacing Wires
09:05-09:20	**Haitao Wang** Shanghai Electric Power Generation Equipment Co., Ltd, Shanghai Turbine Plant Scheme and Application Investigation of New Wide-Load and High-Efficiency and Flexible Steam Turbine
09:20-09:35	**Xunyu Li** Kansai University Large-eddy simulation of film cooling over a flat surface with riblets
09:35-09:50	**Guojia Li** Xi'an Jiaotong University Probabilistic LCF Life Assessment of Gas Turbine Disk Using Deep Learning Method
09:50-10:05	**Kairui Zhang** North China Electric Power University (NCEPU) Research on Flow Characteristics of Different Back Pressure in the Last Stage of Steam Turbine under Low Flow Conditions
10:05-10:20	**Hao Ye** Beihang University (BUAA) Simulation of single-phase heat transfer in a rotating droplet-shaped pin-finned channel
10:20-10:35	Coffee Break
10:35-10:55	**Keynote Speech** **Yutaka Oda** Kansai University Unsteady film cooling effectiveness measurements using fast-response PSP on the pressure and suction sides of a turbine vane in a linear cascade

Time	Content
10:55-11:10	**Yichao Chen** Tsinghua University The influence of dimples and protrusions on the cooling characteristics of body-centred cubic lattices
11:10-11:25	**Yang Yang** Shanghai Electric Power Generation Equipment Co., Ltd, Shanghai Turbine Plant Flexible Operation Technology for Steam Turbine Low-Pressure Cylinder under Deep Peak Regulation and Thermal-Electric Decoupling
11:25-11:40	**Jiajun Xie** Shanghai Jiao Tong University Turbulence model development for TPMS effusion cooling based on gene expression programming (GEP)
11:40-11:55	**Yibo Zhang** Civil Aviation Flight University of China Phase-dependent separation control using large-spacing dual pulsed jets in a high-diffusion planar compressor cascade
11:55-12:10	**Ruifeng Cao** Northeast Electric Power University Thermodynamic analysis of a novel combined cycle gas turbine power plant coupled with compressed air extraction-storage-reinjection and bio-mass gasification
12:10-13:30	Lunch Break Room: Feili Hall（翡丽厅）

April 11 a.m.

P5：Energy Storage Technologies

Venue: Gangli Hall II（港丽厅 II）

Chairs：Xiaodong Wang Technical Institute of Physics and Chemistry, Chinese Academy of Sciences
Zheng Bo Zhejiang University

Time	Content
08:30-08:50	**Keynote Speech** **Shuichi Umezawa Electric Power Company Holdings,Inc** Experiments on Heat Storage using High-temperature Molten Salt in a Single-tank Heat Storage System with Natural Circulation of Heat Medium
08:50-09:05	**Baofeng Li** Liaoning Technical University Mechanisms of enhanced phase change thermal energy storage performance regulated by biomimetic flow structures
09:05-09:20	**Ashutosh Sharma** James Cook University CFD Analysis of Trident Fin Designs for Improved Solidification in Latent Heat Storage Systems
09:20-09:35	**Xuezhi Shi** China University of Petroleum Numerical Investigation on Heat Storage/Release Performance of PCMs in Pin-Finned Shell-and-Tube Heat Exchangers
09:35-09:50	**Keisuke Yamaguchi** Kyushu University Heat flow simulation model and its verification for a single-tank thermal storage system with natural circulation of heat medium
09:50-10:05	**Ruolin Zhao** Zhejiang University Fe-Mn modified CaO-based pellets from steel slag for enhanced thermochemical heat storage
10:05-10:20	**Antony Jobby** James Cook University Waste heat recovery from rack mounted electronics using thermoelectric generators
10:20-10:35	Coffee Break
10:35-10:50	**Munemichi Kawaguchi** Hokkaido University Development of High-Performance Molten-Salt Thermal Energy Storage Systems

Time	Content
10:50-11:05	**Zegang Zheng** Xi'an Jiaotong University Dynamic performance analysis of a Joule-Brayton Carnot battery system under distinct load input/output
11:05-11:20	**Weichen Zhang** Institute of Science Tokyo Evaluation Research on Batteries for Remote Robotics in Nuclear Decommissioning
11:20-11:35	**Jihui Wang** Xi'an Jiaotong University Enhancing operational flexibility of solar-coal hybrid power system: a new control strategy using co-stored energy from solar and steam extraction
11:35-11:50	**Xiaolong Lin** Xi'an Jiaotong University Facilitating renewable energy grid integration through flexible operation of coal-fired units coupled with molten salt thermal energy storage
11:50-12:05	**Changyou Geng** Shanghai Jiao Tong University Joint Optimization of State of Charge and State of Health in Reconfigurable Battery Systems using Deep Reinforcement Learning
12:05-13:30	Lunch Break Room: Feili Hall（翡丽厅）

April 11 a.m.

P2：Intelligent Optimization and Diagnostics for Energy Systems

Venue: Guili Hall （瑰丽厅）

Chairs：Gang Xiao Zhejiang University
Hideki Murakawa Kobe University

Time	Content
08:30-08:50	**Keynote Speech** **Hideki Murakawa** Kobe University Measurement of flow rate and evaluation of wetness fraction of wet steam flow using a clamp-on ultrasonic method
08:50-09:05	**Qian Xu** Shanghai Jiao Tong University Multi-objective Optimization Design of Gas Fuel Control Valve Using the NSGA-II Genetic Algorithm
09:05-09:20	**Zhiqian He** China University of Mining and Technology Prediction of Boiler Superheater Wall Temperature Based on Broad Convolutional Neural Network
09:20-09:35	**Junbo Yu** Xi'an Jiaotong University Hybrid LSTM-based Thermomechanical State Prediction of the Steam Drum under Flexible Operation
09:35-09:50	**Jiamin Ding** Zhejiang University Predicting the environmental risks of heavy metals in mechanochemically treated fly ash using machine learning
09:50-10:05	**Yibo Wang** Xi'an Jiaotong University Study on combustion-hydrodynamic coupling wall temperature characteristics of 1000MW ultrasupercritical boiler during deep peak shaving
10:05-10:20	**Xudong Zhong** Shanxi Research Institute of Huairou Laboratory Transient Heat Transfer Characteristics in CFB for Flexible Power Generation
10:20-10:35	Coffee Break
10:35-10:50	**Wei Gao** Shanxi Research Institute of Huairou Laboratory Dynamic Performance of Control Strategy for PC-CFB Power Plants from a Safety Perspective: Flexibility Enhancement

Time	Content
10:50-11:05	**Yuran Han** Xi'an Jiaotong University Study on low-load combustion-hydrodynamic coupling characteristics of a 1000MW ultra-supercritical boiler
11:05-11:20	**Jingli Huang** Zhejiang University Physics-Informed Deep Learning for Combustion Instability Diagnosis of an Acoustic-Forced Spray Swirling Flame
11:20-11:35	**Bing Xia** Shanghai Electric Power Generation Equipment Co., Ltd, Shanghai Turbine Plant Control Optimization of Peak Regulation and Frequency Modulation Operation for Ultra-Supercritical Thermal Power Units Under the Background of Deep Peak Regulation
11:35-11:50	**Xin Yu** Shanxi Research Institute of Huairou Laboratory Thermo-mechanical response and safety assessment of asuperheater under variable load rates: Afinite element simulation study
11:50-12:05	**Luca Bernardini** Leibniz University Hannover A Practical Guide to the Uncertainty and Sensitivity Analysis of Complex Experimental and Energy Systems
12:10-13:30	Lunch Break Room: Feili Hall（翡丽厅）

April 11 a.m.

P6： Thermal Conversion and Emission Control

Venue: Ruili Hall（瑞丽厅）

Chairs：Hong Yao Huazhong University of Science and Technology
Wei Fan Northwestern Polytechnical University

Time	Content
08:30-08:50	**Keynote Speech** **Junjun Guo** Huazhong University of Science and Technology Soot Formation and Radiation in Ammonia/Hydrogen Blended Hydrocarbon Flames
08:50-09:05	**Yaqi Peng** Zhejiang University Mechanochemically Synthesized Bifunctional Catalysts for the Degradation of CVOCs and NOx in Incineration Flue Gas
09:05-09:20	**Qian Deng** Huazhong University of Science and Technology Investigating reaction kinetics and product distribution of oxidative pyrolysis of typical traditional Chinese medicine residues
09:20-09:35	**Yirou Zhou** Zhejiang University Microwave Pyrolysis of Wind Turbine Blade: Process Optimization and Reaction Mechanism
09:35-09:50	**Dianhao Zhang** Harbin Engineering University Effects of Methanol Injection Rate Shape on Combustion and Emission Characteristics of a Methanol-Diesel Dual-Direct Injection Engine
09:50-10:05	**Fanxiang Meng** Zhejiang University Pollutant Elimination and Transformation: From Thermal Catalysis to Electrothermal Catalysis
10:05-10:20	**Mengxia Xu** University of Nottingham Ningbo China Effect of pretreatment on the transformation of PCDD/Fs in MSWI fly ash during blast furnace co-processing
10:20-10:35	Coffee Break
10:35-10:55	**Keynote Speech** **Weiming Yi** Shandong University of Technology Pyrolysis behavior of biomass under flow-enhanced heat transfer
10:55-11:10	**Zhen Chen** Harbin Institute of Technology Cold-State Study on Low-Load Stable Combustion under the Coupling of Swirl and Direct Current Tangential Burners

Time	Content
11:10-11:25	**Lirong Cao** Huazhong University of Science and Technology Experimental and DFT Study on the Adsorption of Cr2O3/CrCl3 by Iron-Based Mineral Sorbents in Simulated Flue Gas
11:25-11:40	**Ling Wang** Zhejiang University Low-temperature catalytic degradation of short-chain alkanes: The enhancing effect of acid sites on the water and sulfur resistance of the catalyst
11:40-11:55	**Jingji Zhu** Huazhong University of Science and Technology Oxidation Behavior and Thermodynamic Simulation of Pyrite in Ammonia at High Temperature
11:55-12:10	**Keisuke Shibata** Gifu University Reaction characteristics of pre-decomposed $NH_3/H_2/N_2$ blends under isothermal conditions: effects of equivalence and decomposition ratio
12:10-13:30	Lunch Break Room: Feili Hall（翡丽厅）

April 11 a.m.

P7: Waste to Resource

Venue: Baoli Hall（宝丽厅）

Chairs：Tianhua Yang Shenyang Aerospace University
Kaige Wang Zhejiang University

Time	Content
08:30-08:50	**Keynote Speech** **Qiang Lu** North China Electric Power University Pyrolysis Recycling Technologies and Equipment for End-of-Life New Energy Devices: Development and Application
08:50-09:05	**Yueliang Zhang** Shanghai Jiao Tong University Study on Flow and Heat Transfer Characteristics of Additive Manufacturing TPMS Structures
09:05-09:20	**Yaqian Shi** Zhejiang University Hydrothermal activation of incinerated sewage sludge ash for sustainable construction blocks preparation
09:20-09:35	**Wenyu Mo** Huazhong University of Science and Technology Experimental Investigation on Bio-Slurry Gasification: Effects of Operating Parameters on Syngas Production and Tar Evolution
09:35-09:50	**Monika Raczkiewicz** Maria Curie-Sklodowska University Comparative assessment of nanoscale and conventional biochar in the remediation of PAH-contaminated soil
09:50-10:05	**Bingyi Zhang** Zhejiang University Effects of fly ash vitrified slag (FVS) dosage and alkali content on the reaction of alkali-activated material (AAM)
10:05-10:20	**Yuhao Qian** Zhejiang University Co-electrocatalytic Nitrate Reduction and Carbon dioxide via Nanobubble-Enhanced Membrane Electrode Assembly Electrolyzer
10:20-10:35	Coffee Break
10:35-10:55	**Keynote Speech** **Wenlong Wang, Yong Dong** Shandong University Transition from Solid Waste to Green S-Al-Fe Cementitious Materials through Low-carbon Calcination

Time	Content
10:55-11:15	**Keynote Speech** **Su Shiung Lam** Universiti Malaysia Terengganu Microwave-Assisted Conversion of Biomass and Waste: A Circular Strategy for Energy and Resource Recovery
11:15-11:30	**Wuyang Xiao** Huazhong University of Science and Technology Elucidating the removal and transformation mechanisms of organic pollutants in pharmaceutical waste salts during molten bubble-enhanced oxidation process
11:30-11:45	**Yang Han** Zhejiang University Machine learning-driven prediction and interpretation of biodiesel properties for rational biomass-based fuel design
11:45-12:00	**Hui Liu** Tongji University / Guangzhou Institute of Energy Conversion, Chinese Academy of Sciences Towards improved recovery of lithium from spent nickel–cobalt–manganese cathodes via carbon thermal reduction coupled with water leaching
12:10-13:30	Lunch Break Room: Feili Hall（翡丽厅）

April 11 p.m.

P1：Power System and Equipment

Venue: Gangli Hall I（港丽厅 I）

Chairs：Zhifeng Wang Institute of Electrical Engineering, Chinese Academy of Sciences
Zuchao Zhu Zhejiang Sci-Tech University

Time	Content
13:30-13:50	**Keynote Speech** **Waqas Ahmad, Wei Li*** Zhejiang University Experimental investigation of crystallization fouling characteristics of $CaSO_4$ in a micro-channel under two-phase flow on multiple surfaces
13:50-14:05	**Qilong Guo** Zhejiang University Prediction of boiling pressure drop in horizontal pipes based on machine learning
14:05-14:20	**Menglei Wang** The University of Electro-Communications Improvement in thermal performance by a nanoparticle layer in the oscillating heat pipe
14:20-14:35	**Zichen Wang** Xi'an Jiaotong University Experimental study on the effect of non-condensable gas on the performance and mechanism of steam-water two-phase injector boosting
14:35-14:50	**Zhaoyuan Shi** Shanghai Electric Power Generation Equipment Co., Ltd. Shanghai Turbine Plant Research on the Heat Supply Control Scheme for the Turbine Control System of Pressurized Water Reactor Nuclear Power Units
14:50-15:05	**Li Zhao** Shanxi Research Institute of Huairou Laboratory Heat Transfer Analysis of the Tubular Moving Bed in a CFB Boiler Ash Cooler Using CFD–CGDEM
15:05-15:20	**Kai Wang** Shanghai Jiao Tong University Experimental Study on Supercritical Carbon Dioxide Triply Periodic Minimal Surface Heat Exchanger
15:20-15:35	**Jasim Mehmood** Zhejiang University Numerical simulation of the flow and heat transfer in a droplet-shaped pin-fin channel under both stationary and rotatory conditions

April 11 p.m.

P5： Energy Storage Technologies

Venue: Gangli Hall II（港丽厅 II）

Chairs：Chuanchang Li Changsha University of Science and Technology
Huachao Yang Zhejiang University

Time	Content
13:30-13:45	**Jiaqi Feng** Xi'an Jiaotong University Peak shaving with CO_2 energy storage system in wind and solar power
13:45-14:00	**Md. Hasibur Rahman Hamim** Islamic University of Technology Quasi-Steady Modelling of Organic Rankine Cycle based Energy Storage System
14:00-14:15	**Linyu Chen** Xi'an Jiaotong University Thermal Runaway and Gas Venting Characteristics of a 75 Ah Sodium-Ion Battery Induced by Over Heating
14:15-14:30	**Takahiro Yamagiwa** Kyushu University Numerical analysis of heat and mass transfer in an adsorbent filled compressed hydrogen storage tank and the effect of heat exchange performance on storage capacity
14:30-14:45	**Ding Wang** Xi'an Jiaotong University Design and Performance Evaluation of a Novel Compressed Air Energy Storage System for Combined Cooling, Heating and Power Supply
14:45-15:00	**Liangchen Yue** Xizi Clean Energy Equipment Manufacturing Co., Ltd Engineering Progress of Heat Storage Technologies: Product Development and Project Practice

April 11 p.m.

P8： Low- and Zero-Carbon Fuels

Venue: Guili Hall（瑰丽厅）

Chairs：Jun Cheng Chongqing University
Qunxing Huang Zhejiang University

Time	Content
13:30-13:50	**Keynote Speech** **Jae-Yup Kim** Konkuk University Emerging Approaches to Low-Cost Green Hydrogen Production: Quantum Dot-Based Photoelectrochemical Systems and Hydrovoltaic Power Generation
13:50-14:05	**Yuxiang Mao** Zhejiang University Coral-like porous structure constructed by phosphorus-doped CoFeLDH to promote the exposure of active sites for hydrogen evolution
14:05-14:20	**Alberto Alamia** Aarhus University Stochastic Optimization of Methanol Production Pathways in a Reference Biogas Plant. Comparison of Spain and Denmark conditions
14:20-14:35	**Shengxuan Luo** Zhejiang University Kinetic Insights into CO_2 Hydrogenation to Methanol over Zn-Modified MoS_2 Catalysts
14:35-14:50	**Bingjun Du** Tsinghua University Experiments on Pure Ammonia Conversion Characteristics in a Lab-scale Fe/Al_2O_3 Bubbling Fluidized Bed Reactor
14:50-15:05	**Zijiang Zhao** Zhejiang University Electronic Metal-Support Interaction between MXene andCu for CO_2 Hydrogenation to Methanol
15:05-15:20	**Liboting Gao** Zhejiang University Facet-Dependent Tuning of Product Selectivity during CO_2 Hydrogenation over Ni/TiO_2 Catalysts
15:20-15:35	**Ruihan Jin** Zhejiang University Boosting Acidic Oxygen Evolution Kinetics through Defect-Induced Reconstruction of IrOx Nano-Island/Layer on CoMn Spinel

April 11 p.m.

P6： Thermal Conversion and Emission Control

Venue: Ruili Hall（瑞丽厅）

Chairs：Fei Wang Zhejiang University
Tong Chen Zhejiang University

Time	Content
13:30-13:45	**Xiang Shi** Huazhong University of Science and Technology A Novel Thermal System for Straight Grate Induration Process Using Low-Calorific-Value Gas
13:45-14:00	**Hao Cheng** Zhejiang University Dynamic response of an ethanol spray swirling flame to acoustic excitation
14:00-14:15	**Chenglong Wang** Harbin Institute of Technology Experimental Study on NO_x Formation and Regulation in the Oxygen-lean Stage of Coal Graded Pressurized Oxygen-enriched Combustion
14:15-14:30	**Zhixiang Zhu** Gifu University Combustion characteristics of partially decomposed NH3/H2/N2 blends in a vertical flow reactor
14:30-14:45	**Jingyan Wang** Huazhong University of Science and Technology Characteristics of OH formation and volatile flame evolution during ammonia co-combustion with coals of different ranks
14:45-15:00	**Qiuxiao Wang** Shanghai XuanYuan Power Technology Co., Ltd. Linear Stability of Hydrogen-Air Premixed Jet Flames from Circular and Annular Nozzles
15:00-15:15	**Zhou Fang** Zhejiang University Effects of nozzle configurations of passive pre-chamber on the combustion process of methanol TJI engine
15:15-15:30	**Yirong Li** Shenyang Aerospace University Divergent regulatory mechanisms of CuO and SiO_2 nanoparticles on biodiesel soot formation: Chemical catalysis versus physical isolation

April 11 p.m.

P7: Waste to Resource

Venue: Baoli Hall（宝丽厅）

Chairs：Su Shiung Lam Universiti Malaysia Terengganu
Shengyong Lu Zhejiang University

Time	Content
13:30-13:50	**Keynote Speech** **Patryk Oleszczuk** Maria Curie - Skłodowska University Downsizing waste-derived biochar into nanoscale adsorbents for soil remediation and contaminant immobilization
13:50-14:05	**Liang Ghen** New York University Enhancing the flowability and strength of biochar concrete through surface oxidation of biochar
14:05-14:20	**Pengcheng Qin** Zhejiang University Energy–exergy–economic–environmental (4E) analysis of different energy supply modes in waste-to-energy plants
14:20-14:35	**Ying Ma** Shenyang Aerospace University In situ H2 generation via water-gas shift reaction enabling selective hydrodeoxygenation of guaiacol to phenol: structure-performance relationships and mechanism of FeNi catalysts
14:35-14:50	**Mengli Zhou** Huazhong University of Science and Technology Mechanochemically Triggered Solid-Phase Chlorination for Sustainable and Selective Lithium Extraction from Spent LiMn2O4 Batteries
14:50-15:05	**Xin Xiao** Zhejiang University Recycling of MSWI fly ash into a supplementary cementitious material via synergistic mechanochemical
15:05-15:20	**Xin Yang** Harbin Institute of Technology Study on the Structure-Activity Relationship between the Physicochemical Structure of Residual Carbon in Coal Gasification Fine Slag and Its Combustion Characteristics
15:20-15:35	**Shuyang Zhang** Zhejiang University A cascaded Joule heating strategy for full-component valorization of glass fibre reinforced plastic
15:35-15:50	**Xinlin Yang** Shenyang Aerospace University Study on the preparation of 5-methylfuranal by gurfural photothermal catalysis
15:50-16:05	**Junxia Zhang** Shaoyang University Enhancing gas quality from Co-gasification of biomass and polypropylene using raw gas
16:05-16:20	**Fucheng Wang** Heilongjiang Bayi Agricultural University Research on Resource Utilization of Rice Straw Ash

Poster Session

No.	Title	Subject	All Authors	Corresponding Affiliation
P01	Study of Boiling Heat Transfer in Tubes Using Mechanical Learning	Power System and Equipment	Wenchao Yao	Zhejiang University
P02	Heat Transfer Inside Internal Helically Ribbed Tubes with Condensation of Refrigerant Occurring Outside Tubes	Power System and Equipment	Wenchao Yao	Zhejiang University
P03	Comparative Analysis of the Performance of Several Water Erosion Resistance Processes for Last-Stage Steam Turbine Blades	Power System and Equipment	Di Meng, Haocheng Cui , Chunxiang An	Shanghai Electric Power Generation Equipment Co., Ltd, Shanghai Turbine Plant
P04	A One-Dimensional Adaptive Optimization Method for Turbines Under Off-Design Conditions	Power System and Equipment	Yun Li, Ting Chen	Shanghai Xuan Yuan Power Technology Co., Ltd.
P05	Experimental Study on the Influence of Bearing Configuration on Rotor Dynamic Stability in a Gas Turbine	Power System and Equipment	Wenpeng Jiang	Hangzhou Turbine Power Group Co., Ltd
P06	Internal Energy Storage Characteristics of Ultra-Supercritical Coal-fired Units during Dry-Wet State Conversion Process	Power System and Equipment	Xiaoyang Hu, Shuai Wang, Zhu Wang, Binbin Qiu, Jinshi Wang	Xi'an Jiaotong University
P07	Quantitative Assessment of Erosion and Corrosion on Turbine Blades via Multi-Source 3D Point Cloud Fusion	Power System and Equipment	Yifan Zhang	Huazhong University of Science and Technology
P08	A Coupled Simulation Approach for Analyzing Dynamic Flow Instabilities in a Pump-Turbine During Load Rejection Process	Power System and Equipment	Yuanyu Li, Rong Lu, Jianfu Chen, Xuliang Yao, Xianzhu Wei, Qi Hu	Harbin Electric Machinery Company Limited
P09	Bi-level capacity optimization on a hybrid system integrating wind, photovoltaic, gas turbine and compressed air energy storage for isolated operation in oilfield	Power System and Equipment	Ruifeng Cao, Yuxin Wang	Northeast Electric Power University

No.	Title	Subject	All Authors	Corresponding Affiliation
P10	Modeling and Performance Analysis of Compact Marine Supercritical Carbon Dioxide Simple Brayton Cycle Power Generation System	Power System and Equipment	Chunbin Lu	Shanghai Steam Turbine Works Company
P11	Heat-Treatment-Enhanced PbS Quantum Dot-Sensitized Photoanodes for High-Performance PEC Hydrogen Production	New Energy	Binh D. Nguyen, Jae-Yup Kim	Konkuk University
P12	Prediction of performance degradation in 100 kW PEMFC stacks using a BiLSTM-Attention model and MAF method	New Energy	Zhihu Zhang, Shixue Wang and Yu Zhu	Tianjin University
P13	Research on the Enhanced External Heat Transfer Performance of Intermediate Heat Exchangers in High Temperature Gas-cooled Reactors	New Energy	Qunxiang Gao	China Electric Power Planning and Engineering Institute
P14	Research on the Application of Titanium Nanocoating in the Anticorrosion Field of Heat Exchanger Tubes for Novel Compressed Air Energy Storage Systems	Energy Storage Technologies	Ting Wang	Harbin Turbine Company Limited
P15	Experimental investigation on the thermal performance of a 45-kWh novel packed-bed cryogenic energy storage platform	Energy Storage Technologies	Yicheng Hou	Harbin Institute of Technology
P16	Energy and exergy analysis of liquid air energy storage system based on different liquefaction cycles	Energy Storage Technologies	Ruifeng Cao Hailong Jia	Northeast Electric Power University
P17	Cooperative Control Strategy and Simulation Study for Charging and Discharging Energy in a 150MW Compressed Air Energy Storage System	Energy Storage Technologies	Chenyuan Li	Shanghai Power Equipment Research Institute Co.Ltd
P18	Research on Variable-Condition Characteristics and Dispatch Optimization of Compressed Air Energy Storage Systems Based on Mechanism-Data Fusion Models	Energy Storage Technologies	Ning Hao	Shanghai Power Equipment Research Institute

No.	Title	Subject	All Authors	Corresponding Affiliation
P19	Self-adaptive Control Strategy for Battery Thermal Management System with Phase Change Materials and Cold Plates	Energy Storage Technologies	Zhirong Duan, Shuangfeng Wang, Kai Chen	South China University of Technology
P20	Performance analysis and optimization research of a 350MW A-CAES	Energy Storage Technologies	Liuliu Zhang, Shifang Wu, Xiaorui Zhang	Shanghai Steam Turbine Works Company
P21	Surrogate-based comprehensive performance evaluation and multi-objective optimization of a molten-salt thermal storage and steam supply system considering long-term high-temperature ageing	Energy Storage Technologies	Xi Xia	Xi'an Jiaotong University
P22	Eliminating High-Frequency Inductive Artifacts for Accurate Distribution of Relaxation Times Analysis in Water Electrolysis	Energy Storage Technologies	Shihao Li, Qiang Cheng, Zixue Luo	Huazhong University of Science and Technology
P23	Advances in the design and optimization methodology for plate-type liquid cooling channels in high-capacity energy storage systems	Energy Storage Technologies	Shuping Hao, Zi Wang and Fei Xu	Shanghai Dixi New Energy Co., Ltd.
P24	Performance analysis and optimization of a novel AA-CAES system with staged thermal energy storage	Energy Storage Technologies	Jingchen Zhou, Qiang Cheng, Zixue Luo	Huazhong University of Science and Technology
P25	Recent developments of electrocatalysts for the hydrogen production by electrolyzing water with anion exchange membrane electrolysers	Energy Storage Technologies	Mohan Li, Zixue Luo, Qiang Cheng	Huazhong University of Science and Technology
P26	Life cycle greenhouse gas emissions from green hydrogen production via water electrolysis	Energy Storage Technologies	JieYang	Huazhong University of Science and Technology
P27	Towards Efficient and Flexible Coal Utilization: A Comprehensive Review of Pulverized Coal Modification Technologies for Enhanced Combustion Performance and Operational Flexibility	Thermal Conversion and Emission Control	Kun Su	Harbin Boiler Company Limited

No.	Title	Subject	All Authors	Corresponding Affiliation
P28	Investigation of Disturbance Wave Characteristics in the Premixing Zone of an Ejector	Thermal Conversion and Emission Control	Jingxuan Yang	Xi'an Jiaotong University
P29	Elucidating the Role of Porous Media in Augmenting Heat Transfer and Phase Separation for Spray Cooling Systems	Thermal Conversion and Emission Control	Jingxuan Yang, Kai Zhao, Quanbin Zhao, Daotong Chong, Junjie Yan	Xi'an Jiaotong University
P30	Catalytic Low-Temperature Pyrolysis for Synchronized Dioxin Decomposition in Fly Ash Using Ni-Modified N-Doped Hierarchical Porous Carbon	Thermal Conversion and Emission Control	Chenyang Liu	University of Shanghai for Science and Technology
P31	Synergistic Mechanism of Ce/P Co-doping in Broadening Temperature Window and Enhancing Chlorine Resistance of VW/Ti Catalysts: An Integrated Experimental and Machine Learning Study	Thermal Conversion and Emission Control	Jiaojiao Liu	University of Shanghai for Science and Technology
P32	Experimental Study on Co-Firing Characteristics of Biomass with Pulverized Coal in a Drop Tube Furnace: Effects of Co-Firing Ratios and Feeding Methods	Thermal Conversion and Emission Control	Jiaxing Song	Shanghai Boiler Works Ltd.
P33	O_{α} dominated surface chemistry engineered by Al incorporation enables efficient low-temperature NO–Hg^0 co-removal	Thermal Conversion and Emission Control	Guangyao Wanga, Yanqing Niua	Xi'an Jiaotong University
P34	Optimization of Waste Heat Utilization System Configuration in Industrial Parks	Thermal Conversion and Emission Control	Jianmei Wang	Wuhan University
P35	NO Emission and Reduction by Burner Configuration Optimization in Anode Baking Furnace	Thermal Conversion and Emission Control	Siyu Liang	Huazhong University Of Science And Technology

No.	Title	Subject	All Authors	Corresponding Affiliation
P36	Digital Trading Mechanisms for Construction Waste Management: A Mechanism-Based Analysis	P5: Waste to Resource	Yi Yang, Jianli Hao, Jingfeng Yuan, Lei Zhang, Bowen Xu	Xi'an Jiaotong-Liverpool University
P37	Transforming Biomass Waste into High-Performance Fluorescent–Magnetic and Antimicrobial Carbon Materials	Waste to Resource	Ye Gao	Zhejiang University
P38	Upcycling Waste Fishing Nets into High-value Gases by Microwave Pyrolysis	Waste to Resource	Fang Liu, Lei Ren, Lei Wang, Jianhua Yan	Zhejiang University
P39	Thermal conversion pathway of oil sludge via microwave pyrolysis	Waste to Resource	Jinpeng Wu, Lei Ren, Jianhua Yan, Lei Wang	Zhejiang University
P40	Furnace modification and optimization of operating conditions in industrial circulating fluidized bed biomass gasification	Waste to Resource	Zerun Yan, Qiang Cheng, Zixue Luo	Huazhong University of Science and Technology
P41	Multiphase Reaction and Sintering Characteristics of SiO_2-Al_2O_3-Fe_2O_3-CaO-MgO-Na_2O Mineral System with Varied Na_2O Content	Waste to Resource	Shichao Li	Huazhong University of Science and Technology
P42	Ionic Liquid-Assisted Ionomers for Tailoring the Local Microenvironment in CO_2 Electroreduction to Multi-Carbon Productss	Low-carbon and Flexible Transformation of Energy Systems	Yan Ma, Angjian Wu	Zhejiang University
P43	Suppression of Hydrogen Poisoning on Ru/LaxCe$_{1-x}O_y$ Catalysts for Efficient Ammonia Synthesis under Mild Pressure	Low-carbon and Flexible Transformation of Energy Systems	Wei Mao	Zhejiang University
P44	Interface Modulation Strategy for Enhanced CO_2 Electroreduction in Acidic Electrolytes Using Imidazolium-Based Ionomers	Low-carbon and Flexible Transformation of Energy Systems	Zhuansun Mengjiao	Zhejiang University

No.	Title	Subject	All Authors	Corresponding Affiliation
P45	Progress in swirl pulverized coal combustion technologies for utility boilers under deep peak-load regulation	Low-carbon and Flexible Transformation of Energy Systems	Chunchao Huang, Jingjie Wang, Zhengqi Li, Huacai Liu, Yue Lu	Harbin Boiler Company Limited
P46	Study on Simplified Mechanistic Modeling of Superheated Steam Temperature System in Ultra-Supercritical Units	Low-carbon and Flexible Transformation of Energy Systems	Yongqiang Wang, Yali Xue	Tsinghua University
P47	Atomistic Modeling of Intrinsic Diffusion of Iodine and Cesium in Non-stoichiometric Uranium Dioxide A DFT+U study	Low-carbon and Flexible Transformation of Energy Systems	Chenxi Yu	Xi'an Jiaotong University
P48	Numerical Investigation of a Fuel-Activation-Enhanced Swirl Pre-Combustion-Chamber Burner Integrated with Direct-Flow Corner Burners for Ultra-Low-Load Stability in Tangentially Fired Boilers	Low-carbon and Flexible Transformation of Energy Systems	Yihui Zhu, Qiang Cheng, Zixue Luo	Huazhong University of Science and Technology
P49	Optimized Chemical Removal of Oxide Films on FSX-414 Alloy	Low-carbon and Flexible Transformation of Energy Systems	Junjie Wu, Liping Nie, Zhenhuan Gao, Xiufang Gong	State Key Laboratory of Clean and Efficient Turbomachinery Power Equipment
P50	Ga-Induced Construction of LaGaOx/Cu Interfacial Sites for CO_2 Hydrogenation to Methanol over $La_2O_2CO_3$-Supported Catalysts	Low-carbon and Flexible Transformation of Energy Systems	Yonggang Gang, Hao Zhang	Zhejiang University
P51	A Technical Route for Low-Cost Green Methanol Production Based on Biogas and High-efficiency Catalysts	Low-carbon and Flexible Transformation of Energy Systems	Zhixiang Feng, Jingyuan Sima , Gang Mao	China United Engineering Corporation Limited

Plenary Speakers

Guangxi Yue

New Breakthrough in CFB Coal Power for De-carbon

Biography

Prof. Yue Guangxi is a Professor at Tsinghua University and an Academician of the Chinese Academy of Engineering (elected in 2009). He graduated from Tsinghua University in 1970 and was a visiting scholar at the Massachusetts Institute of Technology (MIT) from 1987 to 1988. Prof. Yue is an internationally renowned expert in circulating fluidized bed (CFB) combustion and coal gasification, and a leading figure in China's clean coal technology field. He established a theoretical framework for CFB boilers centered on fluidization regime design, developed a series of products with independent intellectual property rights, and achieved large-scale industrial application and overseas exports. He pioneered research on supercritical CFB boilers, guiding his team to complete the development of the world's largest 600 MW supercritical CFB unit—recognized by international energy organizations as a milestone in CFB technology development. The series of coal-water slurry gasification technologies he developed have achieved international leadership and rapid industrialization. His honors include the International CFB Achievement Award, the Guanghua Engineering Science and Technology Prize, one First-Class and one Second-Class State Scientific and Technological Progress Award, among others.

Hitoshi Asano

Advances in Heat Pump Development for Climate Change Mitigation

Biography

Prof. Hitoshi Asano is a Professor in the Department of Mechanical Engineering at Kobe University, Japan. He received his Doctorate from Kobe University in 2000 and was a Visiting Researcher at the Institute of Fluid Science, Tohoku University, and a Visiting Professor at the École Polytechnique Fédérale de Lausanne (EPFL), Switzerland. His honors include the JSME (Japan Society of Mechanical Engineers) Fellowship, the Asian Academic Award jointly presented by the refrigeration societies of Japan, Korea, and China, and multiple Best Paper Awards from the Heat Transfer Society of Japan, among others. Prof. Asano is a world-renowned expert in boiling and two-phase flow heat transfer, and a leading figure in Japan's thermal engineering community. He established advanced experimental methodologies for visualizing and modeling phase-change phenomena, and pioneered research on two-phase flow dynamics under microgravity conditions. As a key contributor to the JAXA (Japan Aerospace Exploration Agency) project, his international team successfully conducted the world's first boiling and two-phase flow experiments aboard the International Space Station "Kibo"—recognized by global space agencies as a breakthrough in understanding gas-liquid interface behavior in zero gravity for future spacecraft thermal management. His research on compact heat exchangers for HVAC systems and cooling technologies for electric power equipment has achieved wide industrial application and international recognition.

Jonathon Wong

Valorization of Waste Biomass for Energy and Materials Production Achieving Carbon Neutrality

Biography

Prof. Jonathon Wong is a Distinguished Chair Professor and Director of the Research Center for Eco-Environmental Engineering at the Dongguan University of Technology, and an Emeritus Professor at the Hong Kong Baptist University. He serves as Director of the Hong Kong Organic Resource Center and holds honorary/visiting professorships at the University of Queensland, RMIT University, and Murdoch University. He is an Academician of the European Academy of Sciences and Arts, a Clarivate Highly Cited Researcher (2024), and a Fellow of the International Biotechnology Association. Prof. Wong received his B. Sc. and M. Phil. in Biology from The Chinese University of Hong Kong, and his Ph.D. in Environmental Science from Murdoch University, Australia. Prof. Wong is an internationally renowned expert in solid waste management and bioconversion, and a pioneering figure in biomass valorization in Hong Kong. He has made seminal contributions to organic waste treatment technologies, including composting and anaerobic digestion, and designed and built the Hong Kong government's animal waste composting facilities. He established the first independent third-party organic certification system in Hong Kong and founded the Hong Kong Organic Resource Center to promote sustainable agriculture. His research has secured over HK$200 million in funding, resulting in more than 550 SCI papers (H-index 94, >31,500 citations), 12 patents, and numerous keynote lectures. His work on waste separation in mainland China has influenced national policy, and he led the development of Hong Kong's first university-wide low-carbon policy.

Min Soo Kim

Gradient Design Strategies for Improving Performance and Water Management in Polymer Electrolyte Membrane Fuel Cells

Biography

Prof. Min Soo Kim is a Professor in the Department of Mechanical Engineering at Seoul National University, President of the International Institute of Refrigeration (IIR), and a Fellow of the National Academy of Engineering of Korea (NAEK). He received his B.S. (1985), M.S. (1987), and Ph.D. (1991) in Mechanical Engineering from Seoul National University. He was a visiting researcher at NIST (1992–1994, 2001–2002) and a visiting professor at the University of Paris XIII (2000) and CNR ITeF in Italy (1999). Prof. Kim is an internationally renowned expert in refrigeration and heat pump systems, and a leading figure in Korea's thermal and refrigeration engineering. His research focuses on dynamic analysis and control of heat pumps, integrated thermal management for electric vehicles, low-GWP refrigerants (CO_2, isobutane), PEM fuel cells, and AI-based fault detection and diagnostics. He has made seminal contributions to improving system performance and reliability, with results directly applicable to industry. He has authored over 250 international journal papers and holds about 50 patents. As President of SAREK (2021) and Chair of ISO/TC86, he has significantly advanced refrigeration standards and Korea's global standing in the field. His honors include the IEA Peter Ritter von Rittinger International Heat Pump Award (2023), the Presidential Commendation from the Ministry of the Interior and Safety (2017), the Outstanding Academic Award from KSME (2013), and the Best Scientific Paper Award from the Korean Federation of Science and Technology Societies (2002).

Qunxing Huang

AI Technology for Waste-to-Energy

Biography

Prof. Qunxing Huang is “Qiushi” Distinguished Professor of Zhejiang University and his research interests include the efficient and clean thermal treatment of solid waste, including municipal solid waste (MSW), sludge, waste plastics and oily sludge. He is also interested in AI technology for combustion optimization. He is the senior expert of the National Key Research and Development Program in China. He is also the principal investigator for over 30 research projects, including funded by the National Key Research and Development program, the 973 Program, the High Technology Development Program project, the National Natural Science Foundation of China, and numerous projects supported by industrial companies. He has published over 90 articles in international peer-reviewed journals papers. He has been awarded the National Science and Technology Progress Team Award, the Second Prize of National Science and Technology Progress, and the First Prize of Zhejiang Science and Technology Progress.

Travel Information

a. Hangzhou Xiaoshan International Airport → GRAND PARKRAY HANGZHOU （杭州雷迪森铂丽大饭店）

(1) By Taxi

· Distance by Taxi : 19.5km
· Time by taxi: 23 minutes
· Taxi Charge (one way): About 66 CNY

(2) Public Transport

· Take Subway Line 7 (towards Wushan Square) to Jianshesan Road Station--Exit C.
· Walk 452m to GRAND PARKRAY HANGZHOU.
· It takes about 35 minutes and costs about 5 CNY.

b. Hangzhou East Railway Station → GRAND PARKRAY HANGZHOU

(1) By Taxi

· Distance by Taxi : 13.8km
· Time by taxi: 29 minutes
· Taxi Charge (one way): About 56 CNY

(2) Public Transport

· Take Subway Line 6 (towards West Guihua Road) to Qianjiang Century Road Station.
· Transfer to Line 2 (towards Chaoyang) to Jianshesan Road Station--Exit C.
· Walk 452m to GRAND PARKRAY HANGZHOU.
· It takes about 47 minutes and costs about 6 CNY.

c. Hangzhou South Railway Station → GRAND PARKRAY HANGZHOU

(1) By Taxi

· Distance by Taxi : 6.4 km
· Time by taxi: 15 minutes
· Taxi Charge (one way): About 30 CNY

(2) Public Transport

· Take Subway Line 5 (towards East Nanhu) to People's Square Station.

· Transfer to Line 2 (towards Liangzhu) to Jianshesan Road Station--Exit C.

· Walk 452 m to GRAND PARKRAY HANGZHOU.

· It takes about 22 minutes and costs about 3 CNY.

d. Jianshesan Road Station--Exit C (Nearest subway station) → GRAND PARKRAY HANGZHOU

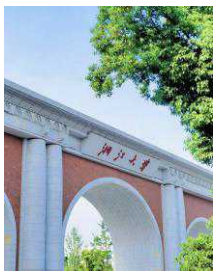
· Walk 452 m to GRAND PARKRAY HANGZHOU.

Zhejiang University

Founded in 1897 as Qiushi Academy, Zhejiang University is one of China's oldest and most prestigious institutions of higher education. Guided by the motto "Seeking Truth and Pursuing Innovation," ZJU is committed to advancing knowledge creation and cultural leadership, educating the next generation of scholars and leaders, and contributing to national development and human progress.

Zhejiang University offers programs across 13 disciplines: philosophy, economics, law, education, literature, history, science, engineering, agriculture, medicine, management, art, and interdisciplinary studies. The university comprises 7 faculties, 41 schools and departments, 1 polytechnic institute, 2 joint institutes for transnational education, and 7 directly affiliated hospitals. Twenty-one disciplines have been selected for China's "Double First-Class" Initiative, while 15 disciplines rank in the top 0.1% globally according to ESI, with 5 in the top 0.01% (Agricultural Sciences, Chemistry, Engineering, Materials Science, Pharmacy & Pharmacology). The university operates seven campuses—Zijingang, Yuquan, Xixi, Huajiachi, Zhijiang, Zhoushan, and Haining—covering a total area of 7.39 million square meters. As of 2025, ZJU enrolls 70,918 full-time students, including 6,787 international students, and employs 9,787 faculty and staff.

Throughout its history, Zhejiang University has educated leaders across science, culture, and public service, including one Nobel laureate, five State Preeminent Science and Technology Award winners, and over 230 members of the Chinese Academy of Sciences and the Chinese Academy of Engineering. The university maintains a robust research enterprise with numerous platforms for interdisciplinary collaboration. Notable achievements include multiple State Scientific and Technological Progress Award Special Prizes. In the humanities and social sciences, ZJU has produced landmark scholarly works such as *A Comprehensive Collection of Ancient Chinese Paintings*, *Corpus of Chinese Ritual Traditions*, and significant contributions to Dunhuang Studies, all recognized internationally for their scholarly impact.



College of Energy Engineering
（Zhejiang University）

The College of Energy Engineering was established in 1978 as the Department of Thermophysics Engineering and renamed the Department of Energy Engineering in 1989. After merging into the College of Mechanical and Energy Engineering in 1999, it regained independence in 2009 and was formally renamed the College of Energy Engineering in 2014.

Engineering Thermophysics was approved as a national key discipline in 1987. In 2007, Power Engineering and Engineering Thermophysics was designated as a first-tier national key discipline and later included in the “Double First-Class” initiative. The College has built a strong innovation platform, supported by first-tier Ph.D. programs and multiple national-level research and teaching centers.

The College offers three undergraduate majors: Energy and Environment Systems Engineering, Process Equipment and Control Engineering, and Vehicle Engineering. At the postgraduate level, the discipline of Power Engineering and Engineering Thermophysics is authorized to confer both master’s and doctoral degrees. It comprises nine sub-disciplines: Energy and Environmental Engineering, Renewable Energy Science and Engineering, Engineering Thermophysics, Thermal Power Engineering, Refrigeration and Cryogenics Engineering, Power Machinery and Engineering, Fluid Machinery and Engineering, Process Equipment Engineering, and Energy Storage Science and Technology, along with two interdisciplinary fields: Vehicle Engineering, and Heating, Gas Supply, Ventilation and Air Conditioning Engineering.

The College consists of five institutes: Thermal Power Engineering, Process Equipment, Refrigeration and Cryogenics, Power Machinery and Vehicle Engineering, and Thermal Science and Power Systems. It currently has 169 faculty and staff members, including 61 full professors, 9 tenured associate professors, 3 members of the Chinese Academy of Engineering, and 1 member of the US National Academy of Engineering.

The College undertakes a wide range of major research projects, including the National Key R&D Program, National Natural Science Foundation programs, as well as international cooperation and interdisciplinary projects. Over the past three years, total research funding has exceeded 1 billion.

State Key Laboratory of Clean Energy Utilization（Zhejiang University）

The State Key Laboratory of Clean Energy Utilization (upgraded to the National Key Laboratory of Efficient and Clean Energy Utilization in 2023) originated from the “Open Research Laboratory of Clean Combustion Technology” established in 1993 and was approved as a State Key Laboratory in 2005.

Oriented toward national needs in efficient and clean energy utilization, the laboratory focuses on key scientific and technological challenges in low-carbon, high-efficiency, clean, and resource-oriented coal utilization. Its research covers combustion modeling, optimization and control; multi-fuel coupled combustion; synergistic pollution and carbon reduction; and integrated coal pyrolysis–semicoke utilization, aiming to provide theoretical guidance and technical support for major energy applications and to advance new processes, technologies, and equipment for clean coal utilization.

The laboratory has 164 permanent staff, including 2 members of the Chinese Academy of Engineering and 1 member of the US National Academy of Engineering, as well as a strong cohort of nationally recognized talents, including Changjiang Scholars, Distinguished and Excellent Young Scientists, and chief scientists of national programs.

It has received numerous national and provincial-level awards, including 1 National Science and Technology Progress Award (Innovation Team), 1 First Prize of the National Technological Invention Award, 2 First Prizes of the National Science and Technology Progress Award, 1 Second Prize of the National Natural Science Award, 3 Second Prizes of the National Technological Invention Award, 7 Second Prizes of the National Science and Technology Progress Award, and 2 China Patent Gold Awards.

Through sustained development, the laboratory has become an internationally recognized center for applied basic research, a platform for high-level talent cultivation, a key source of energy technology innovation, and an important hub for academic exchange.

Ningbo Global Innovation Center, Zhejiang University

The Ningbo Global Innovation Center, Zhejiang University serves as a comprehensive innovation platform integrating scientific research, technology transfer, and graduate education, and coordinates the University's innovation resources in Ningbo. It follows a "Four-New" development model characterized by new goals, new systems, new teams, and new platforms.

The Center has introduced more than ten Double First-Class disciplines of Zhejiang University and focuses on key areas including quantum technology, artificial intelligence, embodied intelligence, carbon neutrality technologies, green petrochemicals, advanced materials, and intelligent manufacturing.

It has established several high-level innovation platforms, including the Future Computing Technology Innovation Center, the Industrial Software Collaborative Innovation Center, the Ningbo Digital Twin Research Institute (ZJU), and the Ningbo Research Institute of Zhejiang University, as well as the Zhejiang University Ningbo Industrial Park, to promote the local commercialization of research outcomes and support the development of Ningbo's major industrial clusters through deep integration of science, education, and industry.

The Ningbo branch of the Polytechnic Institute enrolls approximately 130 graduate students annually and has jointly established nine industry–education integration bases with leading enterprises such as Junsheng Group and Yongxin Optics. The international branch has admitted 101 students from Belt and Road countries.

Zhejiang University and Ningbo have established a long-term strategic partnership, jointly developing multiple platforms in research, education, healthcare, and technology transfer, including the Ningbo branch of the National University Science Park, NingboTech University, and the Software Institute of Zhejiang University, yielding substantial outcomes.

Taizhou Institute of Zhejiang University

Taizhou Institute of Zhejiang University was jointly established by Zhejiang University and the Taizhou Municipal People's Government in 2004 and officially registered in 2007 with the approval of the Zhejiang Provincial People's Government. It is the first university-local science and technology innovation platform established by Zhejiang University within the province.

Taizhou Institute has been recognized as one of the Top 10 Institutions for Patent Creation in Zhejiang Province and a Zhejiang Provincial New-type Research and Development Institution. It co-develops the Zhejiang Advanced Computer Numerical Control Machine Tool Technology Innovation Center and leads the construction of Zhejiang Key Laboratory of Advanced Solid-State Energy Storage Technology and Application and Zhejiang Key Laboratory of Medical Intelligent Decision-Making, and participates in the construction of five other Zhejiang Key Laboratories. Taizhou Institute also hosts a provincial proof-of-concept center and one pilot test platform that has been included in the first preliminary list of key cultivated pilot platforms by Ministry of Industry and Information Technology.

Leveraging the academic and talent strengths of Zhejiang University and focusing on the industrial landscape of Taizhou, Taizhou Institute operates four research centers: AI Manufacturing, Optoelectronic Information, Advanced Materials, and Pharmaceuticals and Health.

Taizhou Institute has 166 full-time staff, including 38 adjunct professors, 72 Ph.D. holders, and recruited 31 national or provincial-level experts. It has trained 541 postgraduates and undertaken over 1,800 research projects, including 41 national and provincial-level programs, with total research funding exceeding 470 million. Taizhou Institute holds 367 authorized invention patents, has served over 5,000 enterprises, generated more than 20 billion in economic output, and incubated 160 enterprises.

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Notes